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## **An outline for the right to economic development in the Arab World**

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At this juncture in Arab history, there is an opportunity to be grasped. Unless there is a successful transition from the political to the social revolution in the Arab world, the sacrifice made by the Arab working classes will be betrayed. The following is a proposal to expose some of the previous aspects of development and economic performance in the Arab world with the aim to infuse the development debate with the idea of development as a human right. It need not be said, the present struggle is a struggle for rights. The idea of rights empowers people; it gives them a sense of self-affirmation. The language of rights establishes a framework for the allocation of resources. Without the rights rhetoric we will end up with a totally uncaring market system that will not solve our problems.<sup>2</sup>

### **Introduction**

Development is about unleashing human potentialities and broadening the choices of people. It is a fair and balanced outcome combining the rights to food, shelter, universal health care, work, the right to politically organise and vote. It is freedom from hunger, from oppression and all that stands in the way of people participating fully and unhampered in shaping their future.<sup>3</sup> On a more concrete level, development is also the infusion of knowledge in production, incremental growth in capital and progressive institutional change that responds to the demand of working people. Development, in the broad sense, combines the freedom paradigm and capital accumulation – but, not in a static combination. It is the mediation by which the agent, or the subject of history, interacts with the totality of the social condition for the purpose of development. Development therefore becomes the articulation of the social forces that shape capital accumulation or the process by which society reproduces itself. It is the outcome of peoples' struggles, in particular, class struggle, to improve their lives through the political process.

Choosing the appropriate development strategy is not independent of the overall vision for the future of the economy and society and the context defining the parameters within which the strategy will be articulated. It is crucial to start with a correct appreciation of the social forces shaping the present and the full legacy of the past without losing sight of the fact that development is a long term process. The moment development is situated in the long term, the developing world transcends the idea that developing countries are emerging markets that have to report financial gains on quarterly basis, as if they had become the country-cousin counterpart of Morgan-Stanley. Long term development is about placing the social agenda before the credit ratings of global and Breton-woods short-term financial accounting. It is the deployment of real national resources in a developmental project. This

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<sup>2</sup> These are the words of the late South African Justice, Albie Sachs.

<sup>3</sup> Sen, A.K. *Development as Freedom*, (1999) Oxford University Press.

longer horizon perspective and a thorough assessment of the undercurrents of this particular revolutionary historical process form the connecting grounds that allow the pursuit of development objectives. It, more decisively, reorients policy in a way that redresses the baleful costs of neoliberal experiments that toyed with people's lives in the past, fosters an agenda that cuts across the divide of economic efficiency and social values, and promotes the idea of development as a human right.<sup>4</sup>

The intrinsic value of the right to development has been widely recognised. In essence, '[t]he right to development is an inalienable human right by virtue of which every human person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development, in which all human rights and fundamental freedoms can be fully realized.'<sup>5</sup> The right includes:

- full sovereignty over natural resources, including self-determination and popular participation in development;
- the right to work;
- equality of opportunity, which is preceded by equality of condition;
- the creation of favourable conditions for the enjoyment of other civil, political, economic, social and cultural rights;
- peace and security are essential elements for the realisation of the right to development.

The individual and the collective rights – the latter is the mediation of the former right – are identified as the beneficiaries of the right to development, as of all human rights. The right to development can be invoked both by individuals, by communities and by peoples. It imposes obligations both on individual States - to ensure equal and adequate access to essential resources - and on the international community - to promote fair development policies and effective international cooperation.<sup>6</sup> The state, which recognises the right to development and the international covenant on economic, social and cultural rights, economic policies, should bridge the wealth divide, furbish the right to decent work and the right to a decent standard of living.

In the Arab world, economic policies are concentrated in the competence of the state. It is the efficiency and practicality of public policies that should be accountable and come under independent public scrutiny. The role of economic policy and, more specifically, fiscal and monetary policy is to find the appropriate regime that mediates disparate developments and puts interest back in the national and regional economies. Under the right to development rubric, economic growth should meet basic needs and not be a trickle down arrangement.

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<sup>4</sup> Development, in this context, is regarded as a process of economic growth, with expanding output and employment, institutional transformation and technological progress of a country that steadily improves the well-being of all people. When that well-being is regarded as the fulfillment of human rights and fundamental freedoms that enhance the capabilities of the people to realize their full potential, the process of development that leads to the improvement of that well-being can be claimed as a human right. The realization of the right to development is seen as the fulfillment of a set of claims by people, principally on their State but also on the society at large, including the international community, to a process that enables them to realize the rights and freedoms set forth in the International Bill of Human Rights. Economic and Social Council, COMMISSION ON HUMAN RIGHTS, Working Group on the Right to Development, Geneva, 11-20 February 2004.

<sup>5</sup> <http://www.unhchr.ch/development/>

<sup>6</sup> Ibid.

Also, the Arab world is a world that is so interlocked with the global economy, such that, it would not be possible to lock in resources for development without international cooperation. The international community, comprising countries and institutions at the international level, has the responsibility to create a global environment conducive for development.

By virtue of their acceptance and commitment to the legal instruments, the members of the international community have the obligation to support effectively the efforts of Arab States that set for themselves the goal of realizing human rights, including the right to development, through trade, investment, financial assistance and technology transfer.<sup>7</sup> Without this rudimentary cornerstone of an economic strategy designed to reduce poverty and unemployment, it is unlikely that any economic program of action can meet the basics of human rights, compensate working people for their suffering under the combined assault of neoliberalism and Arab autocracy and, generally, to secure the right to development.

### **The economy of the Arab world in perspective**

Oil prices are set to remain high in 2011 and, consequently, economic growth in the Arab world as a whole is expected to be higher than usual once more. High growth rates over the last nine years signify a departure from a poor growth trend that started in the early eighties. Growing demand for oil from developing countries continues and world demand for oil is set to grow into 2012. Higher quantities and prices imply that the share of oil in Arab GDP will remain high. In 2009, the share of oil constituted nearly 40 and 55 per cent of Arab world and GCC GDP respectively. But, despite a solid growth performance in 2003-2010, poverty levels rose, income inequality widened and unemployment rates responded poorly to economic growth and remained critically high. There was roughly a two-three percentage point drop in unemployment over a seven-year period (2003-2009) that witnessed a cumulative growth rate of 35 percent – here I am only referring to the official rates, which are way underestimated. In an area that exhibits the highest rate of unemployment globally (15 percent) and, incidentally, the lowest rate of investment, this weak response in job creation to growth makes anomalous the law of labour demand as derived demand and stands counter to the right to work as per the universal declaration of human rights.

This otherwise chronically low income elasticity of labour demand vis-à-vis other regions springs from the fact that much of income is derived from oil or geopolitical rents. It is income earned without effort by the US backed ruling elite that controls the state via the security apparatus. It is also income that is funnelled abroad, namely to shore up US debt and, what stays at home supports affluent consumption. Arab financial wealth does not get re-ploughed back on the productive side of national economies because development, which empowers the Arab people is prohibited by a collusion of US imperial interests in and Arab regimes. Mainstream economists cite fear of risk and an alleged lack of national absorptive capacity or, evidently, both conditions as false alibis for diverting resources abroad. Just the idea of lack of absorptive capacity in underdeveloped economies calls for ridicule. Even the

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<sup>7</sup> "Review of progress and obstacles in the promotion, implementation, operationalisation, and enjoyment of the right to development." E/CN.4/2004/WG.18/2, 17 February 2004.

Gulf, with more than a five trillion dollars surplus in unrequited transfers over forty years, is still categorised as underdeveloped.<sup>8</sup>

In the Arab world there are deep seated reasons associated with the nature of the accumulation process that disrupt the intermediation between economic expansion and social development and, consequently, vitiate a plethora of U.N. covenants and declarations relating to development as a human right.<sup>9</sup> Foremost among these reasons, is the continued US led assault on the Arab people, either directly through occupation, or indirectly, by supporting Arab dictators. To control oil, and through that, lay stake to the global accumulation process, the US has to strip the Arab people of their will and of their right to own their human and natural resources, albeit, in close collaboration with an Arab comprador bourgeoisie that has long ruled by outright tyranny and brutality.

There are no accurate estimates of the actual rates of unemployment in the Arab world. But, anecdotal estimates place the figures at above fifty percent. The high rate of Arab unemployment is the accumulated product of about three decades of de-socialisation, class restructuring, declining investment rates, cyclical contraction and a production process that is labour saving. Since the early 1980's, the economies of the Arab world have been subjected to a neoliberal offensive and performing way below potential. While the real GDP per capita, for the region as a whole, was growing annually at a respectable rate during the 1970s (4.5 per cent), it declined at the annual rate of negative three per cent during the 1980s, and grew at the staggeringly low rate of 0.34 per cent during the 1990s. This prolonged contraction in economic activities was associated with a systematic disengagement of national industry and an extirpation of subsistence agriculture, which had forced millions into emigration and urban squalor and further exposed working class security. Despite a buoyant recent performance, which started in 2002 when oil prices began to rise again, unemployment remains at astonishingly high levels. As a case in point, it is meaningless to speak of the official unemployment rate when half the population resides below the poverty line.<sup>10</sup>

When the cornerstone of development, namely the creation of decent jobs, fails to be met, the causes have to be explored not so much in the slow rate of build-up in machinery, physical plant and equipment, but in the way power, control and decision making are articulated between the Arab and extra-regional social formations. The failure to meet the target of jobs and poverty alleviation under the right to development to which all Arab countries are signatories points to shortcomings in the way various national institutions, which are dominated by comprador classes allied with the US ruling elites, relate to each other and to the outside world. It is at this fundamental level that disparities in development have to be explored and the causal mechanisms should be laid bare.

As to the unavoidable issue of responsibility, when development is enshrined as a human right, it becomes the responsibility of all participants, national and as extra national. Furthermore, in a closely integrated world, the accountability for crisis of underdevelopment

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<sup>8</sup> For a detailed account of capital flight and unemployment, see *The Survey of economic and social conditions in western Asia*, 2007-2008.  
<http://www.escwa.un.org/information/publications/edit/upload/edgd-08-3-e.pdf>

<sup>9</sup> A/RES/56/150 The right to development, A/RES/55/2 United Nations Millennium Declaration, A/RES/55/110 Human rights and unilateral coercive measures, A/RES/55/108 The right to development, A/RES/54/175 The right to development, A/RES/53/155 Right to development, A/RES/52/136 Right to development, A/RES/52/120 Human rights and unilateral coercive measures, A/RES/51/99 Right to development, A/RES/50/184 Right to development.

<sup>10</sup> The Unified Arab Report, League of Arab States, Cairo, various years.

cuts across national boundaries, and responsibility falls squarely on the shoulders of the ruling elite in the United States and its despotic Arab allies. It is not a country, a nationality or a people that are responsible for the crime of poor development, it is a cross-border alliance of social classes. There is no nationalism that is not laced with racism. Therefore, rebuilding the Arab world under the development as a human right edict should be a combined regional and international effort aligning the interest of working social classes across borders.

Arab oil rents have dichotomised economies in a very unproductive way. A highly capitalised oil sector created few jobs relative to the capital invested in it and, in an adjunct manner, decent job expansion occurred through patronage in the public sector. The latter sector, however, was not deployed to absorb the high rate of young entrants into socially useful activity, because the fiscal policy of the state did not mediate the interests of the broader working class. It is only in the Arab world where the highest income inequality exists, whilst income taxes are absent. Public sector employment was used to generate consent via clientalism and divisiveness of the working class via favouritism by pitting one social group over another, in order to pre-empt working class solidarity. As to the private sector, the presence of weak financial intermediation between money assets that accrue from oil or geopolitical rent and physical capital, the absence of a healthy rise in income associated with rising productivity, and the uncertainty that engulfs the future made the rest of economy lean ever more heavily towards ephemeral entrepreneurial endeavours, the service and informal sectors.<sup>11</sup> As of today, poverty stricken informal sectors employ the majority of the Arab labour force.

In the Arab world, a shallow financial market and declining productivity were a blessing in disguise. In so far as the former is concerned, when the global financial crisis arrived, little did it affect the growth rates of national economies because money assets were rarely channelled into financing industry or development. As to the latter, non productive employment in the public sector, which was meant to buy loyalty from a dispossessed population, acted as a welfare cushion for people who would have otherwise been living at levels far below subsistence. The desired virtuous developmental circle, which is for people to generate an income from productive employment, earn and support a decent living standard from national jobs, was obviated principally because profits are drawn from short-term merchant and rent-seeking activity tapping into oil rents as opposed to an increasing returns based development path. If volatile oil prices tumble or settle to a lower plateau, they will put in check a whole mode of development that is namely based on oil revenues, which are incidentally empirically shown to be highly vulnerable to high fluctuation.<sup>12</sup>

The Arab mode of development is oil/geopolitical rent determined and precarious at best. It is not difficult to foresee that the oil rush is not sustainable. An oil related crisis already happened once, starting in 1981 and lasting well into 2002. In this span of time real per capita GDP as reported by the world Bank (WDI) for Saudi Arabia fell from around 18,000 US\$ to about 6000 US\$.<sup>13</sup> By 2002, the rate of Saudi persons living below the national poverty line, even in supposedly wealthy Saudi Arabia, rose to around twenty percent of the population.

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<sup>11</sup> Keynes differentiated between calculable risk and incalculable uncertainty. In the Arab world, every state is potentially a failed state, hence, the time horizon cannot be subjected to continuous probability estimation.

<sup>12</sup> [http://www.unctad.org/en/docs/dp\\_159.en.pdf](http://www.unctad.org/en/docs/dp_159.en.pdf), "Dynamic Products IN World Exports", Jörg Mayer, Arunas Butkevicius and Ali Kadri, No. 159, May 2002

<sup>13</sup> As calculated from the WDI.



Although at no time there existed a balance of payments problem, wealth under the existing elite-dominated institutional arrangement was trickling up and not down.

Uneven development and deepening labour force differentiation represent the mainstay of state policy in the Arab world. The process is aided and abetted by a preponderance of US military bases and open regional conflicts, which altogether obviate the very idea that development can be the long-term process, which it should. So not only are internal national policies prohibiting development, but the risk of conflict spilling over at any time vitiates the future and annuls the long-term prospects. Developmental projects, which require long gestation periods, are no longer considered. Short term rents in all the economic sectors prevail, making the present more valuable than the future. A FIRE economy flourishes (FIRE stands for finance, insurance, and real estate). But still, it may be relevant to recall that the overarching condition of imperialistically imposed geopolitical risk and its impact on inter-temporal preferences, institutional anti-working class bias, and the already inherent uneven developmental state of Arab countries come together to further thwart the path of development as defined under the rights discourse. That is why the struggle for development shifts almost entirely to the political sphere. Development in the Arab world becomes the struggle against the local ruling despots and their imperialist patrons.

Uneven development and inequitable income distribution are remarkable in the Arab world. To illustrate the unevenness: on one end, densely populated Yemen is an LDC with a median monthly income of 100 US\$ per family of seven, and sparsely populated Qatar's comparable median income is near the 4000 US\$ mark.<sup>14</sup> Within the existing rent and rentier class based and biased institutional context, presumptive redistribution allowing for lesser concentration of private wealth and greater interest in regional development is highly unlikely either within or across Arab countries. Progressive income taxes are practically non-existent and inter-Arab capital transfers are minimal.<sup>15</sup> Oil rentiers reinvest little in their countries for the purpose of capitalising productive capacity because their earnings, which are effortless, are generated from the sale of natural assets found in their respective countries and do not depend on capitalising and educating labour. To date much of the Gulf region excess savings, some five trillion dollars over 40 years, are divested abroad, principally in US T-bills.

The inter/intra wealth and income divide between lower and highest quintiles/deciles is highest globally in the Arab world (Texas income inequality data project). Facing these tremendous distributional rifts and a systemic policy of working class differentiation, working classes in the Arab world, tend, in times of labour-ideological retreat, to exhibit confessional, ethnic and tribal fault lines. These lingering forms of social bonding were purposefully reinforced by the rise of a rent-seeking comprador bourgeoisie and the constraints imposed on post-independence state institutions from the imperialist centre. The sole purpose of these policies is to divide working people and to strengthen the hold of pro-imperialist regimes. There rose as a result of this, a higher degree of disjuncting between the social and economic condition, which is common to what people experience under a market economy. Working people are forced by state policy to identify and belong socially to some repressive social hierarchical institution like a tribe or sect, whilst their incomes and livelihood are being decided on the commodities future market of the twenty-first century.

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<sup>14</sup> This data was gathered whilst on field missions in the UN.

<sup>15</sup> See: "Inter-Arab Investment Guarantee Cooperation, Investment Climate in Arab Countries 2008 and 2009".

In the Arab world moreover, the level of despondency resulting from the rising insecurity of life under the market system, drove people to idolise the distant past in a way that did not correspond to the actuality of history. Arab/Islamic history was fantasised in a manner that generated escapism or fanaticism. And in both situations, the goals of working people were not served. Their expropriation proceeded steadily and their welfare concerns were not addressed. That is why the revolutionary process should resituate sovereignty in the purview of the people and in the acknowledgment of their inalienable human rights and their rights of citizenry. Power, under the right to development proclamation, belongs to the people, not to oppressive institutions that strip people of their rights. Little will happen in the way of putting a common denominator across national or neighbouring social classes unless the mechanisms and the payoffs, including the questionable role of NGOs that are sponsored by the World Bank, which have gone to breed divisiveness among working people, are halted.

The alienation of the population, especially its prohibition from partaking in political life, had weakened the security of Arab working people and excluded long-term stability, which is needed to redress frail investment in increasing returns activity, the social and physical infrastructure, and plant and equipment. Risky small markets represent the context in which a development strategy has to be addressed. Small markets lead to little capital accumulation and vice versa.<sup>16</sup> Security exposed social formations circularly hinder the formation of development friendly capital. That is why regionalism and Arab integration, which provide the larger market and the security depth, are key operational solutions to the paradox of small markets and risk.

The Arab world is a record holder in certain economic variables. It exhibits the lowest rate of investment, the highest rate of unemployment and the widest spread in income distribution. Political regime and elite insecurity shifted the accent away from development to regime stabilization efforts and squandered resources. So long as the working classes were insecure in their living conditions, so was the totality of the national arrangement *qua* state. The growing gap between peoples and their ruling regime shifted the balance of forces gravely in favour of external powers who were willing to reap the benefits of imperial control over a strategic region. There is in fact, no Arab leader who could retire in his own country unless protected by military tanks. Institutions remoulded with security concerns in mind and developing under the onus of sluggish and highly erratic oil determined economic growth distort income distribution and wealth, in favour of political strongholds, hence, the euphemism 'the privately owned public sector in the Arab world.' A weak post independence starting point and successive defeats of Arab socialist regimes in wars against Israel and the United States, especially the occupation of Iraq, exposed the security of the labouring classes across the region, weakened publicly accountable institutions and sapped resources to the point where the goal of development fulfilling basic needs under human rights became untenable.

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<sup>16</sup> In reference to the Nurkse paradox, see Nurkse, Ragnar (1952) 'Growth in Underdeveloped Countries: Some International Aspects of the Problem of Economic Development,' *American Economic Review*, Vol.42, No.2: 571-583.



## Policy issues for the future

The revolutionary vanguard in the Arab world has a commitment to the Arab working people to part with the politically biased economic policies of the IMF and World Bank that have wrought havoc. For more than two decades, the mode of analysis in the Arab world was based on the claim that economic development depends primarily on the creation of an enabling environment for the private sector, including free markets, and free flows of trade and finance. Given these conditions, presumably, economies will naturally grow. But, this begs the question – is the ‘given’ market there to be freed, or is it there at all to begin with? One need not discuss all the institutional underpinnings of the market ‘ideal,’ but consider, for instance, some aspects in one of the markets in the Arab world, the labour market, a place where productive labour services are exchanged for money value. Here are some snippets of an Arab labour market: labour share forms 20 to 25 per cent total income (it is around 70 per cent in advanced economies), productivity is always near zero by standard ILO projections, and, if a more comprehensive form of assessing unemployment is carried out, more than half of the labour force could be considered unemployed; more importantly, most of those remaining employed will be clients of the rentier state (i.e., not workers who exchange labour service for a money wage but persons who are paid money for their allegiance to the regime). To construct an imaginary market as a lifebuoy of development represents a form of deceit based on misrepresentation of fact. Not only is the labour market so unusually different from the typical market, but in every nook and cranny of analysis provided about the Arab world, a salvo of lies is fired, and mystification of facts represents the mainstay of imperial strategy towards the Arab people. It is part and parcel of an imperial ideological offensive, which is always aimed at the dispossession of the Arab people.

There is at an essential level of irreconcilability of interest between imperialism and its regional allies, on the one hand, in the interest of the Arab working people, on the other. Here reigns a process of accumulation, long ago described by Rosa Luxemburg, to proceed by expropriation and dislocation of the Arab people. It is distinct from accumulation by commodity realisation or market expansion by peaceful means.<sup>17</sup> Thus, before resorting to technical economic jargon on the matter, there need be an exposition of the ways in which different social classes and their representative institutions, regional and extra-regional relate to each other and are situated vis-à-vis the allocation of national or regional resources. In a context of continuing dependency, deepening social rifts hollow out the role of the state as the realisation of common will and accentuate the already welfare-negative impact of the international division of labour. When sovereignty as the embodiment of social and political rights weakens, sovereignty over national resources also weakens. The national ownership of domestic resources, which is a concept that is enshrined in the covenant on economic and social rights, squarely means that Arab working people own their resources and that the institutional context is one to facilitate the process of turning financially earned resources into real wealth.<sup>18</sup> The present arrangement, by which the United States supports regimes that deprive their own working people of their rights, represents a blatant violation of human rights.

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<sup>17</sup> See lecture by Soula Avramidis at the Historical materialism conference, London, 2006. <http://mercury.soas.ac.uk/hm/pdf/2006confpapers/papers/Avramidis.pdf>

<sup>18</sup> Under Article 1, it says: ‘all peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic co-operation, based upon the principle of mutual benefit, and international law. In no case may a people be deprived of its own means of subsistence.’ <http://www2.ohchr.org/english/law/ceschr.htm>

Extreme notions of orientalism go as far as dubbing the issue of Arab underdevelopment as a culturally caused fiasco. The issue of 'good governance' emerges as a *deus ex machina* or as an antidote to corruption, which is instead of characterising wasteful utilisation of resources, gets insinuated as a cultural stigma relating to an Arab persona. Good governance is flaunted as an operational remedy for underdevelopment, when the very idea of working people rights being mediated by the Arab state will involve a social revolution that will deconstruct ancien-regime structured institutions. There are two virulent critiques to this dictum. The first is from an article which describes three US approaches to understanding and dealing with China and other Third World countries under the umbrella of 'containment', 'nation building', and 'totalitarianism.' The following is James Peck's description of the 'nation building' approach.

The reverse side of the containment policy was the 'total penetration' approach to foreign affairs, 'diplomacy in depth.' Assist the elites of underdeveloped countries to 'modernize' their societies, demand 'reforms' that undercut the appeal of revolutionaries, and link such nations with the 'international community.' Then revolutionary solutions and 'communists' will lose their appeal. It was, in essence, the Freud plus Santa Claus concept of foreign relations. Persuade countries that underdevelopment was *sui generis* to the society instead of part of a world system which sustains it or an immediate American presence which reinforces it. And then portray a benevolent, gift-giving U.S. bestowing technical assistance for the benefit of others.<sup>19</sup>

James Sellers followed up on the Freud plus Santa concept with these remarks:

Far from being the World's lifeboat, America and the West lacking any new self-understanding, will turn out to be the world's Titanic, dragging down with us the remainder of global society.

As to how it will be possible for the developing world to accept any of the Western values when it is being jointly repressed by it in cahoots with their 'modernising' dictators, Sellers attaches the condition

that America and the Western world must reinvent themselves as partners and not enemies of humanity and, only then can such healthy American cornerstones of democratic experience, know-how, and voluntary association come to be accepted by the rest of humanity as gifts no longer suspect.<sup>20</sup>

The second commentary comes from Professor Erik Reinert. In respect to the issue of cultural derogation, he aptly says:

[t]oday's standard economists grope for explanations of continued poverty outside their own profession. They return to factors that have been studied and discarded before by the economics profession, like race and climate, and refuse to see that all historical experience tells us that the economic structure of wealthy countries all have certain characteristics that poor nations lack (increasing returns, innovations,

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<sup>19</sup> This is from an article 'An Exchange' by James Peck which appeared in vol. 2 (1970) issue 3 of the *Bulletin of Concerned Asian Scholars*, (pp.60-61).

<sup>20</sup> James Sellers 'Famine and interdependence', in *Lifeboat Ethics*, George Lucas ed., Harper Forum Books, 1976.

diversity, synergies). The collapse of the first wave of globalisation led economists into eugenics or racial hygiene. Africans were not seen as poor because of the colonial economic structure that had been imposed on the continent; Africans were poor because they were black. During a more enlightened era 400 years ago, Francis Bacon discarded race as a factor explaining wealth and poverty. Today the marginally more politically correct version of this type of theory is that Africa is poor because blacks are corrupt.<sup>21</sup>

For long, the good governance discourse, Western tied NGOs and aid represented a Trojan horse aimed at concealing Arab regime atrocities and prolonging repression. It represented additional support to the neoliberal ideological optic that projected market freedom as personal freedom. International market and resource liberalisation regimes imposed by the Washington institutions, including free capital movement, despite their clear anti-developmental outcomes, were not impinged upon. Good governance was about changing few dispensable governors who were implicated in kickbacks as a token that would exonerate despotic Arab regimes who had converted their societies into huge prisons of conscience. To boot, a progress sheet was displayed. But what went purposefully unobserved was the stark condition that the rights and sovereignty of Arab working people were not mediated by their states. No one had bothered to ask how 'good governance' is mainly an issue that applies to small developing states when the UN Security Council and the Breton Woods institutions lacked universally representative governance and, therefore, were badly governed.

Turning things around, or locking in resources for the purpose of development in an otherwise financial capital rich developing Arab world requires an intertwining of the social with the political order, or a rise of working people to position of power. Despite the fervour of the present revolutionary process, to date, the political revolution is not yet translated into a social revolution. A realignment of social and political interests did not occur so far. The present revolutionary process should bring these together. A way forward to analyse the question would best begin by looking into the structure of regional social formations and the lopsided mode of integration imposed upon the Arab world by the utter military presence and superiority the US and its Arab and regional allies. Working people have to grope not with their own regime security apparatus but also with the presence of the biggest US military bases and occupational forces who are tied with a multitude of security treaties to the repressive Arab regimes. The problematic at stake is not how to topple one dictator, but to eminently explore how it will be possible to connect different Arab social classes in a joint program of political struggle for their rights and for right to development.

### **Requisites for the future**

For the Arab world to meet the right to development over the next decade, it will require, at least in part, the creation of 85 million decent jobs via a socially designed labour absorption plan in which the state has to firstly redistribute unequal assets and secondly, act

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<sup>21</sup> See "Development and Social Goals: Balancing Aid and Development to Prevent 'Welfare Colonialism'". Correspondence with Prof. Erik S. Reinert, The Other Canon Foundation, Norway & Tallinn University of Technology, Estonia, July 1, 2005.

as an employer of last resort.<sup>22</sup> However, this will entail more than simple change in the growth optimization strategy of Arab states or minor adjustments to fiscal and monetary policies. It will involve a shift in the Arab class structure and institutional parameters that contribute to heightened regional insecurity, block greater efficiency in investment, and inhibit closer regional integration and coordination. The inevitable predisposition of major macroeconomic and demographic variables towards collision implied that there was little space for argument over the unavailability of violent convulsions.

The built up of discrepancies in an Arab economy that does not expand at a rate commensurate with the demands of working people means that change will not be gauged as a matter of degree. With strategic control of oil interests unshaken, the US will further seek the imposition of an Arab type democracy that would continue to serve its interests. Democracy, however, is not the protocol or etiquette of voting boxes that was witnessed in Iraq; it is the reincarnation of the vested interests of working people. Democracy is that which addresses the concerns and needs of working people. The fundamental premise of the right to development is that the freedom to participate in political life and organise represent a logical and practicable predicate to development. The absence of an unbiased flow of information, lack of provision of basic needs making social classes vulnerable to manipulation en masse, poor institution of legal rights and, mostly, the perceived precariousness of the state as a viable institution undermine the essence of a democratic process. External imperial threats duly considered, the way in which Arab social structures are organised today leaves little room for input into the political and development decision making process from the broader working class base.

Meeting the concerns of development as a human right requires a process of capital accumulation guaranteeing an integrated basket of rights including, the right to work. In the light of the inequitable and rent based growth performance of the Arab world and the eroding effects of neoliberal adjustment on welfare, absolute poverty levels rose across the spectrum. In the immediate term, stabilizing or enhancing income distribution, including land reform, are needed. When savings outstrip investment in Arab oil or geopolitical rent driven economies, there need not be concern for the widow's curse or the notion that the rich save and the poor do not. Savings have flown abroad anyways. Current account surpluses are invariably linked capital exports from the region.<sup>23</sup>

The fact that so little has been done to redress inequitable national and regional income distribution is related to the structure of rent based institutions that intensify social and cultural differences for the purpose of maintaining the acquisition of rents. Despite being capable of affording equity from present funds and various social security valves, the hold of the ruling elite on oil rents and the bias for merchant or commercial as opposed to the increasing return industrial capital will not allow any of the Arab countries the stability needed to maintain sustainable social programs in the long run. Development therefore will require measures of autarky, including capital account controls, selective trade protection for national

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<sup>22</sup> Hyman Minsky has proposed that governments should be given the responsibility of acting as employers of last resort (ELR). In this case, the government would determine a wage rate at which anyone willing to work would get a state-sponsored job. Minsky, H. *Stabilizing an Unstable Economy*. New Haven: Yale University Press, 1986.

<sup>23</sup> Kalecki, M. *Essays on Developing Economies*. Brighton: Harvester Press, 1972.

industry and the deployment of real national resources in an industrially based project of development.

The right to development should be realized through a programme of coordinated regional action. Development plans are to be implemented through an 'Arab regional development compact' assisted the international community, which is also responsible for the disaster of Arab underdevelopment. The US controls most of the Arab oil wells and the regimes around them. Fearing disruption to oil supplies, much of the rest of the world, whose accumulation process is oil dependent, was silent about the repression and the slaughter to which the Arab people were subjected by their ruling regimes and their imperialist allies. These practices run counter to the international bill of rights. Regional and international cooperation is a foremost requisite for a *volte face*. Under the regional development compact, Arab countries would undertake to fulfil their national human rights obligations, while the international community would provide the necessary safeguards in assisting an agenda of rights-based development and regional cooperation. The immediate points to consider are:

- Joint Arab regional investment facilitated by intraregional trade and access to markets.
- Arab intraregional transfer of resources and technology.
- Protection and guarantees of regional labour and capital, e.g. preferential legislation facilitating the flows of inter-regional labour and capital.
- Restructuring of the regional financial system to give each less-capital endowed country a greater share in power and decision-making and to increase the flow of private capital to their economies.

There are two countries in the world that remain under outright foreign occupation and these are Arab countries: the Palestinian occupied territory and Iraq. Right based development under occupation is, as a matter of course, impossible. Occupation, is first and foremost a categorical revocation of the International Bill of Human Rights. Requisitioning national security and personal safety for the population are more policy imperatives than policy options for countries under direct foreign occupation. However, the longer-term strategy for development and command over national resources, as per the purview of the international covenant on economic, social and cultural rights (entry into force 1976), should remain in the competence of the peoples residing under occupation, whose right to self-determination still holds.

### Parting comments

For the Arab world, as a whole, already slightly more than fifty percent of the population subsists at below two dollars a day.<sup>24</sup> And if we were to look for the causes of this

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<sup>24</sup> For the Arab Region the 2\$ benchmark does not represent a valid indicator of absolute poverty. With the exception of Syria and Morocco, the rest of Arab countries are Net Food Dependent Importing Countries (NFDIC) and, therefore, the subsistence bundle is priced at already high world prices while the income of the marginalized strata is determined at low domestic wage levels. After three decades of nearly five percent real GDP growth, thirty percent of Egyptian children suffer from malnutrition (UNDP); and it is one of the few countries in the world where rising food prices resulted in immediate casualties. Fifteen deaths on the bread queues were reported in 2008. There was general shortage, panic and confusion. There was not enough subsidized bread to sufficiently meet demand. Food prices are high again once more. <http://mrzine.monthlyreview.org/2009/irin081109.html>  
[http://www.nytimes.com/2008/01/16/world/africa/16iht-bread.4.9271958.html?\\_r=1](http://www.nytimes.com/2008/01/16/world/africa/16iht-bread.4.9271958.html?_r=1)

poor development, we will be hard pressed to find another more relevant reason than an imperialist-driven historical process that shaped Arab institutions under the onus of joint imperial/Arab regime control stripping working people from the right to own and deploy their resources for their benefit. The result up until now is the highly inequitable growth, rising poverty levels and a fragmented market that is in dire need of retaining resources.

In the Arab world, the right to development is synonymous with the right to working class security, which is fundamentally security from want. Achieving this right could only come as a result of international collaboration and a rethinking of US led imperialist position vis-à-vis the Arab people. There is a pressing demand to empower the present revolutionary process and to turn political gains into social gains. The degree to which present day forms of US led global accumulation, which are highly dependent on oil, global economic imbalances and, in particular, the dollar as an overstretched global currency, have shut out critique from governments around the world against the maltreatment to which Arab people are being subjected. There are so many countries that have even provided military support for the unlawful invasion and occupation of Iraq for instance. Human rights violations in the Arab world, including the subversion of the right to development, were shyly mentioned, if at all. Many countries are dependent on the US and its imperial stature and, hence, they aid and abet the prolongation of the occupation of Iraq and the present interventions to circumvent the rise of Arab people. The process represented a sort of inter-imperialist entente. The US controlled the crucial oil areas and waterways, whilst the global economy, individually or altogether, failed to break rank and rode on the back of US consumption.

But these are short sighted considerations. The concern that if the US imperial stature is to be downgraded in rank as a result of dwindling oil control, world dollar-denominated wealth and economies will suffer a heavy adjustment cost, is superficial. The present environmental and human losses from the model of accumulation by dispossession already exceed the transition costs out of a unipolar world system standing in part on the tripod of weaponry, oil and an overstretched dollar currency. There needs to be a smoothing of the transition from the present day US accumulation order. There exists an alternative to the accumulation which dispossesses and dislocates masses of people. Social democratic systems have proven to be better performing in economic dynamism and in the provision of welfare.<sup>25</sup> The people of the Arab world are readily and duly entitled to peace, security and the speedy implementation of international resolutions relating jointly to their rights of economic development and self-determination.

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<sup>25</sup> Economic Survey of Europe, 2005 No. 1, Towards a new European model of a reformed welfare state: an alternative to the United States model. <http://www.unece.org/ead/pub/051/051c7.pdf>



## Scrap the lot and start again

Egmont Kakarot-Handtke [Germany]

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**Abstract:** In the wake of the recent financial crisis heterodox economists have taken up a time-honored refrain and proposed to abandon the axiomatic method. The present paper argues that this proposal is self-defeating.

An economic crisis is always a crisis of economic theory – of mainstream economics, to be sure – and the latest financial crisis is no exception. This is the day of reckoning for the heterodox camp and, of course, rightly so for quite different reasons. The heterodox economists, though, have a crisis of their own design. That there must be something better than current mainstream economics, all are agreed (including the neoclassical economists), but this consensus is accompanied by a bookshelves-filling disagreement about diagnosis and remedy. Regrettably the better theory is not available when the next crisis hits. Let us take Keynesianism as a case in point.

The Keynesian Revolution was intended as both, a radical change of economic policy and a groundbreaking paradigm shift (Coddington, 1976). Keynes left no doubt about the scientific scope of the *General Theory*:

The classical theorists resemble Euclidean geometers in a non-Euclidean world (...). Yet, in truth, there is no remedy except to throw over the axiom of parallels and to work out a non-Euclidean geometry. Something similar is required to-day in economics. (Keynes, 1973 p. 16)

Keynes's main concern was not market or policy failure but theory failure. He envisioned nothing less than a 'complete theory of a monetary economy' (Keynes, 1973 p. 293). While clearly aware that this at the same time required a consistent set of some kind of non-Euclidean axioms, Keynes had no desire that the particular forms of his 'comparatively simple fundamental ideas (...) should be crystallized at the present state of the debate' (cited in (Rotheim, 1981 p. 571)).

There remained a huge gap between Keynes's verbalized theory and its formal basis. His conceptual groundwork consists in the main of the well-known equations  $Y=C+I$  and  $S=Y-C$  (Keynes, 1973 p. 63). This formal basis is too small and on no account general. The palpable incongruence left too much room for interpretation and precipitated the lengthy dispute about 'what Keynes really meant'. Some observers felt that this question was beside the point:

L'intuition de Keynes lui a fait sentir où se trouvaient les difficultés, mais son insuffisance logique ne lui a pas permis de résoudre les problèmes que son intuition lui avait fait entrevoir. (Allais, 1993 p. 70), see also (Laidler, 1999 p. 281)

Whatever the reasons, the Keynesian camp failed to rectify the incongruence in a satisfactory manner. What we had, then, before the latest financial crisis occurred, was, roughly expressed, a perfectly formalized neoclassical theory with no real-world content on the one hand and an assortment of plausible down to earth approaches with no sound – not to speak of a common – formal basis on the other.

Referring to the crisis Leijonhufvud summed up:

The most important lesson from the life and work of John Maynard Keynes may be that the macroeconomist should start from the important problems of the day. (...) There are some things that Keynes would not have us do. He would not have us try to deduce how the world works from a small set of doubtful 'axioms' about tastes and technologies. (Leijonhufvud, 2009 pp. 741-742)

True enough, Keynes, and most economists since the Middle Ages, started from the problems of the day. But Keynes was aware that his policy proposals were already popular in the economic literature of the 1930s (Laidler, 1999 p. 10) and that without a theoretical foundation his pleas for the alleviation of unemployment would not be essentially different from a soap-box speech. Reinforcing the methodological consensus since Adam Smith (Hollander, 1977), (Stigum, 1991 p. 4) Keynes aimed at the premises of orthodox economics:

For if orthodox economics is at fault, the error is to be found not in the superstructure, which has been erected with great care for logical consistency, but in a lack of clearness and of generality in the premises. (Keynes, 1973 p. xxi)

True again, Keynes rejected the orthodox set of axioms; but not the axiomatic method. The *General Theory* is the attempt to reconstruct economic theory from entirely new premises and the lesson from this unfinished venture is that it is not self-evident how to replace a small set of doubtful axioms. It needs more than a start from the problems of the day.

From the fact that something went wrong with neoclassical axiomatization (Hudson, 2010 p. 54) it does not logically follow that:

Economics can't be a "Euclidean" science. It reduces it to a logical axiomatic system in applied mathematics, with little bearing on real economies. (...) It is better to admit there are "things we don't know we don't know" and that therefore the future is uncertain in ways we don't know. (Pålsson Syll, 2010 pp. 43, 47)

Lack of knowledge had been a serious concern since Socrates; and Euclid was not much occupied with predicting the future. But all this did not inhibit the utilization of his method from 300 BC onwards. It not always met with success, to be sure. The crucial point is not axiomatization *per se* but the choice of axioms. As Clower put it:

My opinion continues to be that axiomatics, like every other tool of science, is no better than its user, and not all users are skilled. (Clower, 1995 p. 308)

As things stand now neither neoclassical nor Keynesian economics possess a qualified axiomatic basis. The point at issue is the real-world content of axioms and a realistic understanding of what the axiomatic method can accomplish.

For a paradigmatic case let us briefly return to Euclid and the Pythagorean Theorem. With a known baseline and two known angles one can calculate the unknown and not directly measurable distance to the moon. In physics a theorem is used as a calculating device (Georgescu-Roegen, 1971 p. 332). The usefulness of theorems is beyond question.

The *application* of a theorem, however, implicitly introduces a new claim. The first claim is that the Pythagorean Theorem is true<sub>1</sub>, i.e. formally correct. By applying it to calculate the distance to the moon it is tacitly assumed that earth and moon are located in Euclidian space which is quite *another* claim that may or may not be true<sub>2</sub>. While true<sub>1</sub> refers to the axioms, true<sub>2</sub> refers to reality. Only when the properties of the space that is formally given with

the axioms happen to be those of real space will the calculation of the distance yield the correct result. By innocently applying the Pythagorean Theorem we therefore implicitly make the really strong claim that the Euclidean axioms capture reality. If this happens to be the case, and as far as we know it does in the earth's vicinity to a satisfactory degree, then  $true_1$  and  $true_2$  amalgamate. Under this condition a theorem can be applied as a calculating device that enables valid inferences from known facts to unknown facts. The process is cumulative.

From this follows that rationality, perfect foresight, or individualism cannot be declared as axioms (Kirman, 2009 p. 81). The axiomatic method is neither a device for the prediction of human behavior nor for the production of infallible truth. The 'garbage in, garbage out' rule applies and this conservation principle is the reason why the axiomatic method is indispensable. At the very least it helps to impede policy proposals that are *logically* defective.  $True_1$  is necessary but, of course, for an empirical science this is not sufficient.  $True_2$  is also required. The axiomatic method does not entail the promise of a free lunch.

J. S. Mill clearly enunciated the question that stands at the beginning of any and every scientific inquiry:

What are the propositions which may reasonably be received without proof? That there must be some such propositions all are agreed, since there cannot be an infinite series of proof, a chain suspended from nothing. But to determine what these propositions are, is the *opus magnum* of the more recondite mental philosophy. (Mill, 2006/1843 p. 746), original emphasis.

Axioms are no dogmata, neither are they arbitrary. The specifics of the subject matter determine the specifics of the tool. Methodology does not compel anybody to accept vacuous behavioral assumptions as axioms. Heterodox economists are free to 'scrap the lot' (Joan Robinson quoted in (Harcourt, 2010 p. 50) be it neoclassical or Keynesian or, yes, heterodox. This, however, is only the preliminary part of the *opus magnum*.

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## Efficient Market Hypothesis: What are we talking about?

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**Abstract:** The “efficient market hypothesis” is omnipresent in theoretical finance. A paper published by Eugene Fama in 1970 is supposed to define it. But it doesn't, and this leaves the door open to different interpretations of the “hypothesis”, causing lots of confusion. Only ideological reasons – efficiency is a very sensitive question in economies – can explain why scholars continue to refer to this meaningless “hypothesis”.

In 1978, Arthur Jensen, a Harvard professor, famously wrote,

I believe there is no other proposition in economics which has more solid empirical evidence supporting it than the Efficient Market Hypothesis.

Probably few people agree nowadays with Jensen: how, after the 2008 global economic crisis, can someone claim that there is a “solid empirical basis” for the proposition that markets are “efficient”? Although in recent years finance has become much more important (as a percentage of GDP and profits) and complex, the social system in those years has not changed radically. And aren't financial collapses, recessions and depressions “empirical evidence” and as old as capitalism?

Of course Jensen has in mind another set of evidence when he claims that the efficient market hypothesis (EMH) has a “solid empirical” basis. So the question is: what is the exact meaning of the EMH and what kind of data is used to test it?

The usual answer given by academic papers and textbooks to this question is to refer to the most quoted article in financial economics: “Efficient Capital Markets: a Review of Theory and Empirical Work”, published in 1970 by Eugene Fama in *The Journal of Finance*. It seems, thus, that the EMH was born – or at least acquired its ultimate and uncontroversial shape – in 1970. However, Fama's paper presents itself as a “Review of Theory” – that is, a review of a theory (or of theories) which existed before 1970. Long before, according to the English Wikipedia (03/2011):

the efficient-market hypothesis was first expressed by [Louis Bachelier](#), a French mathematician, in his 1900 dissertation, ‘The Theory of Speculation’ ([http://en.wikipedia.org/wiki/Efficient-market\\_hypothesis](http://en.wikipedia.org/wiki/Efficient-market_hypothesis)).

And even much longer before according to the webpage “Efficient Market Hypothesis: History” (<http://www.e-m-h.org/history.html>); it traces the EMH back to 1565! There is plenty of information about financial theory and its evolution on this webpage. But, at the same time, it alludes to so many phenomena – Brownian motion, random walk, autocorrelation, martingale, leptokurtic distribution, arbitrage, market rationality, rational expectations, excess volatility, abnormal returns, etc. – that in fact the message it tries to deliver turns quite unintelligible.

Anyway, because Fama's 1970 paper is presented by this webpage as “the definitive paper on the efficient markets hypothesis”, we will give it special attention.

### About Fama's "definitive paper on the efficient markets hypothesis"

Fama starts his paper by evoking "economy's capital stock" and "ideal markets" where the resource allocation process is the result of "production-investment decisions [made] under the assumptions that security prices at any time 'fully reflect' all available information". Right after these allusions to a real economy, Fama enunciates the sentence commonly presented as the definition of an efficient market:

A market in which prices at any time "fully reflect" available information is called "efficient" (Fama, 1970, p 383)

Fama is more cautious than his followers: unlike them, he avoids the word "definition" or any equivalent expression. He is aware that a sentence which includes the undefined, vague expression "fully reflect" can hardly be given as a definition – something stressed by the use of the quotation marks. By the way, it is rather astonishing that the most quoted paper in financial economics uses quotations marks to characterize the concept that brought him fame<sup>1</sup>!

All through the paper, Fama uses (fifteen times!) quotation marks for the expression "fully reflect". He is, of course, aware that such a fuzzy phrase cannot be used for empirical work:

the definitional statement that in an efficient market prices "fully reflect" available information is so general that it has no empirically testable implications (p 384).

But he cannot remain "so general", as one of his tasks is to "review empirical work". Thus, in part II of the paper ("The Theory of Efficient Markets") he proposes theories with "testable implications". The first three subpart titles (A. *Expected Returns or "Fair Game" Models*, B. *The Submartingale Models* and C. *The Random Walk Model*) suggest that at least three different models (or theories) can be associated to the "fully reflect" expression<sup>2</sup>. Those models differ in some aspects – for instance, martingale or sub-martingale, are less restrictive than random walk<sup>3</sup> – but they all imply that past and present information cannot be used

to predict the future in a way which makes expected profits greater than they would be under a naive buy-and-hold model (p 391).

In popular language, "fully reflect" means here that, in general, nobody – even professional investors – can "beat the market". Capital markets are "efficient" if they behave as "fair games", where "*The mathematical expectation of the speculator is zero*" (Bachelier).

The fair game hypothesis has two aspects: no arbitrage opportunity and unpredictability of security price variations. Empirical tests can then ascertain whether arbitrage opportunities existed in the past or not and whether information extracted from past data on security prices – serial correlations, linear dependencies or more complicated patterns on the data – could have been used to correctly predict price fluctuations. Alfred

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<sup>1</sup> Usually, papers and books in finance (including the EMH entry of *The New Palgrave Dictionary of Economics*) do not use quotations marks for "fully reflect", suggesting that everybody knows what this expression means.

<sup>2</sup> The different models are somewhat related to Fama's distinction between "weak", "semi-strong" and "strong" forms of efficiency, but the link with these models is not obvious. Do they all "fully reflect" or some "reflect more or less" than others?

<sup>3</sup>

Large daily changes tend to be followed by large daily prices. The signs of the successor changes are apparently random ... which indicates that the phenomenon represents a denial of the random walk model but not of the market efficiency hypothesis (p 396). Successive random changes of signs are a typical propriety of martingales.



Cowles provided in the thirties “empirical evidence” in favor of the “Fair Game” hypothesis: randomly selected portfolios or unmanaged indices do as well or better than professionally managed portfolios after expenses. Subsequent evidence largely confirmed this hypothesis (see, for instance, Malkiel, 2003)<sup>4</sup>.

The remainder of Fama’s paper is dedicated to the review of “The Evidence”. He reviews tests in “random walk literature” (serial dependency, normally distributed price changes, etc.) and “of martingale models” (“Splits and the Adjustment of Stock Prices to New Information”, impact of “Public Announcements” and of “monopolist access to some information”).

One of Fama’s main conclusions is that:

at this date the weight of the empirical evidence is such that economists would generally agree that whatever dependence exists in series of historical returns cannot be used to make profitable predictions of the future (p 399).

So, there is nothing new in the 1970 paper – except omnipresence of the word “efficiency”, in relation to the fair game idea. However, the choice of this word – and of the expression “efficient market” – is not accidental; a scrutiny of Fama’s papers shows that it appears in them both before and after 1970.

### From “intrinsic value” to the “joint hypothesis”

According to the e-m-h history webpage, in his PhD thesis (1965),

Fama defines an “efficient” market for the first time, in his landmark empirical analysis of stock market prices that concluded that they follow a random walk.

So, already in 1965, Fama associated “efficiency” with random walk<sup>5</sup>. But he then went further. In a paper, “Random Walk in Stock Market Prices”, published in the *Financial Analysis Journal*, a non-academic review, he explains that

in an efficient market, competition among the many intelligent participants leads to a situation where, at any point in time, actual prices of individual securities already reflect the effects of information based both on events that had already occurred and on events which, as of now, the market expects to take place in the future. *In other words, in an efficient market at any point in time the actual price of a security will be a good estimate of its intrinsic value.* (Fama, 1965, p 76, our italics)

Then, “in other words”, efficiency means not only that security’ prices “random walk”, but that they wander around their “intrinsic value”. Fama does not define this “value”. He only explains that, “in the terms of the economist”, intrinsic value is an “equilibrium price”, which “depends on the earning potential of the security”. This earning potential depends in turn on “fundamental factors as quality of management, outlook for the industry and the economy, etc.” – that is, factors in relation with the real economy. In 1965, Fama’s point of view was, thus, not very different from that of fundamentalists. He only added that “the many intelligent traders ... neutralize [any] systematic behavior” of security prices toward their intrinsic values

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<sup>4</sup> In this paper, Malkiel explains that he “will use as a definition of efficient financial markets that such markets do not allow investors to earn above-average returns without accepting above-average risks” (p 60).

<sup>5</sup> As the e-m-h history webpage remarks, at the same moment, 1965, “Samuelson (correctly) focused on the concept of a *martingale*, rather than a random walk”. In his “definitive paper” (1970), Fama agrees with him.

so that “uncertainty concerning intrinsic values will remain” and actual prices will “wander randomly” – that is, in unpredictable ways.

Turning now to the “definitive” 1970 paper we observe that any reference to intrinsic value or to anything similar has disappeared. But, as we will see, a significant flaw in this paper will in turn prompt Fama to return to the idea of intrinsic value – or, “in the terms of the economist”, to the idea of “equilibrium price” – although with different words.

Stephen LeRoy was the first to point to the flaw: in a paper published in 1973, he remarked that the equation supposed to characterize “market efficiency” is a tautology<sup>6</sup> (LeRoy, 1976). It is quite surprising that the most often quoted papers in financial economics has such a flaw – and that referees didn’t see it! In a “reply” to LeRoy, Fama admits that

since the publication of the “Efficient Markets” review paper, many readers have commented that they find the discussion of the theory misleading or at least difficult to follow...When [such judgments] are made by knowledgeable scholars like Stephen F. LeRoy, the author is forced to agree (Fama, 1976a, p 143).

Rather than defending the presentation of the EMH in his 1970 paper, he proposes to “present the model in a different way” which consists in introducing a new concept, the “true” expected price of a security, different from its market “assessed” value. “True” refers to values in a “model of equilibrium” – in the same way that intrinsic value is the equilibrium price, “in the terms of the economist”.

An efficient market is now such that

the true expected return on any security is equal to its equilibrium expected value which is also the market’s assessment of its expected value (*ibid*).

“True” expected return takes here the place of “fully reflect”. Fama makes no mention in his paper to the “intrinsic value”, but there is an obvious link between securities’ “true” prices, given by “the model of equilibrium”, and their “intrinsic” value.

As only “assessed values” are observed and as, with the new presentation of efficiency, “tests must be based on a model of equilibrium” it follows that “any test is a joint test of efficiency and of the model of equilibrium”.

Now, “joint tests” means that the theory is not falsifiable: if the data doesn’t fit with the “efficiency” hypothesis – whatever it is – there is always the possibility to accuse the underlying “model of equilibrium” of not being the appropriate one. LeRoy’s article “Efficient Capital Markets” in the *Journal of Economic literature* (1989) summarizes the situation:

The failure of many financial economists to appreciate the extent of the gulf separating market efficiency interpreted as economic equilibrium and market efficiency interpreted as the martingale model has led them to vacillate between viewing market efficiency, on one hand, as hard-wired into their intellectual capital and unfalsifiable and, on the other hand, as consisting of a specific class of falsifiable models of asset prices... This is most evident in Fama’s (1970) discussion, where market efficiency was described as a substantive theory generating falsifiable

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<sup>6</sup> Fama’s equation  $E(p_{j,t+1}^{\sim}|\Phi_t) = [1 + E(r_{j,t+1}^{\sim}|\Phi_t)]p_{j,t}$  – where  $p_{j,t+1}^{\sim}$  and  $r_{j,t+1}^{\sim}$  are price and return values in  $t+1$  anticipated in  $t$  and  $\Phi_t$ , the « information set » – is *always true* as, by definition,  $r_{j,t+1}^{\sim} = (p_{j,t+1}^{\sim} - p_{j,t})/p_{j,t}$  (the expectation operator  $E(\cdot|\Phi_t)$  being linear).

predictions, but where at the same time the mathematical formulation of the market was tautologous (LeRoy, 1989, p 1592).

Fama's 1970 paper made no allusions to "true" laws (or returns) and to "joint hypothesis". It generates falsifiable predictions – about securities prices patterns, professional *versus* index randomly selected portfolios average gains, etc. – following the tradition of Bachelier, Cowles, Kendall, Samuelson and others. After his "reply" to LeRoy, Fama kept on defending, in fact, the "fair game" version of the EMH, essentially on an empirical ground. For instance, when in 2010 a journalist of *The New Yorker* asked him: "the fundamental insight of the efficient market hypothesis [is] that you can't beat the market?" he answers without hesitation "Right—that's the practical insight. No matter what research gets done, that one always looks good"

(<http://www.newyorker.com/online/blogs/johncassidy/2010/01/interview-with-eugene-fama.html#ixzz1CE5FaKqK>).

Now, it is not harmless to replace "beat the market" by "market efficiency". For economists "efficiency" has a precise meaning: Pareto optimality. That is, a propriety of resources' allocation which has little to do with stock markets and speculation. On the contrary, there is a close relation between Pareto optimality and general competitive equilibrium (through the two Welfare Theorems); it seems then natural to put forward this particular "model of equilibrium" – as it is suggested by Fama himself at the beginning of his 1970's paper. With, as a result, even more confusion.

### **From "model of equilibrium" to "fundamental value".**

The first critics of the 1973 version of EMH – which distinguish between the "assessed" and the "true" value of a security – came from scholars such as Robert Shiller, who pointed to the statistically significant difference of volatility between stocks prices (their "assessed" value) and real variables related to their "true" value – e.g. dividends. To quote the e-m-h history webpage, the stock market does exhibit "excess volatility". The measure of the "excess" depends on the "model of equilibrium" variables chosen. The "fundamental value" of a firm – i.e. the present discounted value of its expected future payoffs<sup>7</sup> – is one of the most popular of these variables.

A quotation from Shiller, one of the initiators of the "excess volatility" thesis, gives a good example of the shift in the EMH interpretation:

the efficient markets theory reached its height of dominance in academic circles around the 1970s. At that time, the rational expectations revolution in economic theory was in its first blush of enthusiasm ... The idea that speculative asset prices such as stock prices always incorporate the best information about fundamental values and that prices change only because of good, sensible information meshed very well with the theoretical trends of the time (Shiller, 2003, p 83).

The (fuzzy) idea that "prices 'fully reflect' all available information" is replaced by the (fuzzy) idea that "prices always incorporate the best information about fundamental values".

Also, when Shiller explains that

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<sup>7</sup> The discount factor is sometimes deduced from the "representative agent" marginal rate of substitution in a "dynamic general equilibrium" model (cf. Grossman and Shiller, 1981). This kind of "model of equilibrium" was first proposed by Robert Lucas (more on that later).

the anomaly represented by the notion of excess volatility seems much more troubling for efficiency markets theory than some other financial anomalies, such as January effect or the day-of-week-effect (*ibid*, p 84),  
he mixes up two different interpretations of the EMH: the “fair game” one – the January effect or the day-of-week-effect are “anomalies” as they imply that the past can help predict the future – and the “stock prices give a good estimation of firms fundamental value” one.

There are hundreds of papers – popular and academic – where these two interpretations of EMH are mixed, or confused. For instance, here is what a paper recently published in this journal said:

The efficient market hypothesis ... [states] that asset prices fully reflect [without quotations marks, OG] all available information. This excludes the possibility that trading systems such as the stock market “based only on current available information ... have expected profits or returns in excess of equilibrium expected profit or return” (Fama, 1970, p. 384)... *Prices are equal to their fundamental value* and thus investors receive what they pay for ... In terms of market applications this would suggest that an investor would have *no capacity of beating the market in a persistent way*, and that investing in index funds would be as good as any other strategy [our italics]

[<http://www.paecon.net/PAEReview/issue52/CaldenteyVernengo52.pdf>, pp. 77-71).

Or, again:

In [an efficient market] *there are no arbitrage opportunities and the prices must equal to the present discounted value* of expected future payoffs over the asset’s life (EMH) (our italics, p. 73).<sup>8</sup>

Fama’s discussion of the efficient market hypothesis was – at least during the seventies and eighties – vague and fluctuating enough to allow many interpretations<sup>9</sup>. This cannot be said of the theories “reviewed” by Fama in his 1970 paper, in particular of Samuelson’s.

### **Samuelson: not guilty**

Paul Anthony Samuelson is often introduced as the father of the efficient markets hypothesis. For example, on the “e-m-h history” website:

Samuelson provided the first formal economic argument for ‘efficient markets’. His contribution is neatly summarized by the title of his article: “Proof that Properly Anticipated Prices Fluctuate Randomly”. He (correctly) focused on the concept of a *martingale*, rather than a random walk (as in Fama (1965)).

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<sup>8</sup> This sentence is in a paragraph about “the Arrow-Debreu notion of efficiency”. But Fama never refers to this notion when he “defines” market efficiency: it is a long way between “fully reflect” and Pareto-optimality!

<sup>9</sup> In his textbook, *Foundations of Finance* (1976), he explains:

An efficient capital market is an important component of a capitalist system. In such a system, the ideal is a market where prices are accurate signals for capital allocation. That is, when firms issue securities to finance their activities, they can expect to get ‘fair prices’ and ... investor choose the securities under the assumption that they pay “fair” prices. In short, if the capital market is to function smoothly in allocating resources, prices must be good indicators of value (Fama, 1976b).

“Fair price” (or “value”) replace “intrinsic price”. But it has nothing to do with the “fair game” idea.

Of course, Samuelson does not use the term “efficient markets”, or even the word “efficient” (or “efficiency”). He deduces from the two following “basic assumptions”:

1. There is a “posited probability distribution for any future price, whose form depends solely on the number of periods ahead over which we are trying to forecast prices”
2. “A futures price is to be set by competitive bidding at the now-expected level”, his “basic theorem” (*Theorem of Fair-Game Future prices*):

There is no way of making an expected profit by extrapolating past changes in the future price, by chart or any other esoteric devices of magic or mathematics (Samuelson, 1965, p 44).

Or, in other words:

The market quotation in  $t$  already contains in itself all that can be known about the future and in that sense has discounted future contingencies as much as it is humanly possible (*ibid*).

It is true that this last sentence has a kind of Fama-like flavor, but there is no expression between quotations marks or reference to any of sort of “efficiency”. Above all, Samuelson carefully warns that:

One should not read too much into the established theorem. It does not prove that actual competitive markets work well. It does not say that speculation is a good thing or that randomness of price changes would be a good thing. It does not prove that anyone who makes money in speculation is *ipso facto* deserving of the gain or even that he has accomplished something good for society or for anyone but himself (*ibid*, p 48).

It seems as if Samuelson tried, without success, to prevent what was going to happen five years later, when Fama established a link between his result and “market efficiency”. He is also cautious about the significance of the “posited probability distributions for futures price”, his theorem’s main assumption:

I have not here discussed what the basic probability distributions are supposed to come from. In whose mind are they *ex ante*? Is there any *ex post* validation of them? Are they supposed to belong to the market as a whole? And what does that mean? Are they supposed to belong to the “representative individual”, and who is he? Are there some defensible or necessitous compromises of divergent anticipations patterns? Do price quotations somehow produce a Pareto-optimal configuration of *ex ante* subjective probabilities? This paper has not attempted to pronounce on these interesting questions (*ibid*, p 48-49)

Quite some questions...

Samuelson’s principal merit is to prove that the “fair game” result does not depend on “posited probability distribution” for futures prices. In particular, the sequence of futures prices quoted “today” does not need to be Gaussian or the sequences of futures prices do not need to perform a Brownian motion (or a random walk). “Bubbles” can develop – whatever is meant by that –, provided that they are incorporated in the “posited” probability distribution. The price sequences may contain statistical dependencies, though it is not possible to deduce from past variations the sense and intensity of their variation tomorrow. Stock prices “fluctuate randomly”, in Samuelson words. And that’s it<sup>10</sup>.

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<sup>10</sup> In a paper published in 1973, “Proof that properly discounted present values of assets vibrate randomly”, Samuelson extends his result to present values of assets, but he carefully omits to refer to the fundamental value and, of course, to “market efficiency” (Samuelson, 1973).

## Ideology

According to Bradford DeLong,

a failure to distinguish between the no-free-lunch and the price-is-right versions of the efficient market hypothesis has been the source of a great deal of very bad economics over the past generation (<http://delong.typepad.com/sdj/2009/07/two-efficient-market-hypotheses.html> ).

“No-free-lunch” can be taken as synonymous with “fair game” and “price-is-right” with “prices give a good estimation of fundamental value”.

**Now, how is it possible that “a generation” of economists has failed to make this major and obvious distinction and that the idea of an “efficient market hypothesis” was so easily established in the 1970’s and is still accepted – both by its defenders and its critics<sup>11</sup>?**

Only ideology – strong *a priori* beliefs – and circumstances can explain Fama’s decision to term the “old” Bachelier-Samuelson no-free-lunch theory “efficient market hypothesis”. In 1970, Fama was professor at the University of Chicago, where the “new classical macroeconomy” was elaborated on the postulate that an economy is always – thanks to “rational expectations” – in competitive equilibrium. Efficient resource allocations (that is, Pareto optimality) results from this postulate – at least if “market failures” are excluded. Contrary to the old “monetarist” (Friedman) tradition, external shocks – even those provoked by government’ discretionary actions – are not supposed to generate inefficiencies. Agents can be (temporary) fooled, but they always realize their optimal plan. Markets became a sort of *deus ex machina* which instantaneously (re)allocates resources in an efficient way<sup>12</sup>. In a nutshell, they are “efficient”. That is a postulate, an *a priori* belief, not a (testable) result.

Fama and the new classical macroeconomists typically use the same vocabulary. For instance, in his famous article “Expectations and the neutrality of money”, Robert Lucas talks of “the *true* probability of prices” and explains that “the current value of  $x$  is *fully revealed* to traders by the equilibrium price” (our italics). Contrary to Fama, Lucas does not use quotations marks when using the expression “fully revealed”, as he give it a precise meaning:  $x$  can be deduced from the price through the one-to-one relation  $p = f(x)$  (where agents know function  $f(\cdot)$ ). Also, by “true probability of prices”, Lucas means the actual probability when expectations are self-fulfilling (“rational”). When he notices that

the assumption that traders use the correct conditional distribution in forming expectations, together with the assumption that all exchanges take place at the market clearing price, implies that markets in this economy are *efficient* (Lucas, 1972, p10, footnote 7),

he establishes a clear link between efficiency and resource allocation in a competitive equilibrium (with market clearing price and “correct expectations” – that is, self-fulfilling).

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<sup>11</sup> Even Samuelson in the last editions of his *Economics* discusses the EMH – while he explains in a footnote that “efficiency” doesn’t mean that the maximum of outputs are produced but that “information is rapidly incorporated”.

<sup>12</sup> “We ... assume that the actual and anticipated prices have the same probability distribution, or that price expectations are rational. Thus *we surrender, in advance, any hope of shedding light on the process by which firms translate current information into price forecasts*” (Lucas and Prescott, 1971, our italics).



Likewise, when he explains in his 1978 paper “Asset Prices in an Exchange Economy” that

the analysis is conducted under the assumption that, in Fama’s terms, prices “fully reflect all available information” (Lucas, 1978, p 1429), he means that agents can deduce hidden information from prices (and act on the basis of this information to generate these prices<sup>13</sup>). This deduction is rendered possible because the model is reduced to the intertemporal choice of a “representative agent”, who knows the transition function that governs an “entirely exogenous” production process and behaves as a price taker. Very little information is needed – at least in the self-fulfilling equilibrium.

The representative agent intertemporal choice is often taken as the “model of equilibrium” in the “deviations from fundamental value” version of the EMH. Besides, in their 1981 paper, Grossmann and Shiller take the 1978 Lucas model as point of departure to prove “empirically” the “excess volatility” of stock prices – compared to discounted value of a firm’s lifetime dividends<sup>14</sup>.

*In summary*, only ideology – in this case, the indisputable beliefs prevailing in Chicago University in the seventies and after – explains how Fama could transplant without real opposition the concept of efficiency from the world of good’s allocation, where it is well-defined, to the stock market world, where it is fuzzy and misleading<sup>15</sup>.

### Is there a “right price” for assets?

In a *Financial Times* article (August 4, 2009), Richard Thaler, a behavioral economist, rightly stresses the confusion between the two different interpretations of the EMH:

Some economists took the fact that prices were unpredictable to infer that prices were in fact “right”. However, as early as 1984 Robert Shiller, the economist, correctly and boldly called this “one of the most remarkable errors in the history of economic thought”. The reason this is an error is that prices can be unpredictable and still wrong; the difference between the random walk fluctuations of correct asset prices and the unpredictable wanderings of a drunk are not discernable (<http://www.ft.com/cms/s/0/efc0e92e-8121-11de-92e7-00144feabdc0.html#axzz1EWYkDIZI>).

But, in the same article, Thaler explains that:

The EMH has two components that I call “The Price is Right” and “No Free Lunch”. The price is right principle says asset prices will, to use Mr. Fama’s words “fully reflect” available information, and thus “provide accurate signals for resource allocation”.

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<sup>13</sup> That is:

the assumption of *rational expectations*: the market clearing price function  $p(\cdot)$  implied by consumer behavior is assumed to be the same as the price function  $p(\cdot)$  on which consumer decisions are based.

<sup>14</sup> Comparison is made using past (observed) stock prices and dividends, with the representative agent’s marginal rate of substitution – given by the model after its “calibration” – as the discounting factor.

<sup>15</sup> The same happens when models reduced to the (intertemporal) choice of a « representative agent» are labeled “general equilibrium”. But some notorious neoclassical economists (e.g. Solow) disagree with that.

Thaler – contrary to his “golfing buddy” Fama – clearly distinguishes “two components” in the EMH. He unintentionally exposes the ambiguities of the 1970 paper as he quotes its *only sentence* related to the second component (“provide accurate signals for resource allocation”) when the rest of the paper exclusively treats the first interpretation of the EMH (“no free lunch”).

The EMH’s “two components” versions result from Fama’s 1970 and 1973 papers – although the Chicago economist claims that the 1973 paper presents the 1970 model “in a different way”. Thaler has the merit to clarify this point. But, by doing so, he is forced to introduce a new concept: the “right” price, which corresponds to Fama’s “intrinsic value” or “model of equilibrium” price. Thaler admits however that “a theory of how prices are supposed to behave” is then needed, which makes it “difficult” to test the second component of the EMH.

In fact, the test is not “difficult” but impossible. The “right price” – or otherwise the “intrinsic price”, or the “fundamental value” – is an empty concept. Prices depend at least as much on the models (or the theories) in investors’ minds as on outside information. Those models are the result of their education, their past experience, their mood and the way they foresee the future. Samuelson’s “posited probability distribution” is an instance of that sort of model – it represents the common belief about stock prices movements<sup>16</sup>. New information affects in different ways investors’ beliefs. Changes are usually smooth but may occasionally be abrupt, as it happens when investors become suddenly pessimistic and shift suddenly from one model of the economy to a very different one.

*In summary*, new information is “incorporated” in prices, but the way they “reflect” it depends on countless factors, objective and subjective, impossible to disentangle.

## Conclusion

An educated economist knows that efficiency means Pareto Optimality. That is, extremely stringent conditions. When markets (prices) are involved, these conditions are: 1. an auctioneer who sets prices for present and (all) future goods, conditional to (all) states of nature. 2. price-taking behavior (that is, belief that it is possible to buy and sell whatever one wants at these prices, without influencing them). 3. agents demands and supplies are added and compared (by the auctioneer) and, when equilibrium prices are established, exchanges are organized (without costs) by the auctioneer – who makes sure that conditional goods are furnished as states of nature became effective.

Indeed, equities and stock markets are not needed for achieving Pareto optimality – that is, efficiency. At (competitive) equilibrium prices, firms’ present and future profits are known, and their owner – households – know the amount of dividends that will accrue to them during the firm’s lifetime<sup>17</sup>. The present value of its dividends can be taken as a firm “price” or

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<sup>16</sup> Random differences in beliefs originate most of stocks’ transactions. If, for instance, a 10% stock price raise is expected according to the “posited distribution law”, then investors which believe that the raise will be (a little) more than 10% will buy stocks from investors who believe the raise will be (a little) less than 10%.

<sup>17</sup> Prices do not suffice to convey all the information households need to determine their (intertemporal) budget constraint. So, the general equilibrium (Arrow-Debreu) model supposes (implicitly) that they are informed (by the auctioneer?) of firm’s profits.

“value”, but there is no incentive to buy or sell it (or its stocks): an intertemporal household budget constraint does not change if he buys (sells) a stock and gets (does not get anymore) dividends<sup>18</sup>.

So, the set of Pareto optima cannot be reached – even approached – in a market (hence decentralized) economy, with or without stock markets. Talking about “market efficiency” should be prohibited, at least for an economist (neoclassical or not) who knows what the words mean. Unhappily, the expression “market efficiency” has surprisingly been accepted with no real opposition by the economic profession, and is still widely accepted. Only ideological pressure – stronger since the seventies – can explain such an anomaly. Even if it be that after the 2008 collapse, few people still claim without reserve that “markets are efficient”<sup>19</sup>.

Clear thinking should require a return to the situation prevailing before Fama’s 1970 paper. Nobody felt then the need to refer to “market efficiency” when formulating theories about stock markets. The proper way to proceed is to ask well-defined questions such as: do stock prices follow a random walk? Are arbitrage opportunities left? Can regularities observed in the past be utilized to predict future price variations? How do we explain that some hedge funds or investors – e.g. Buffet, Soros, Druckenmiller, etc. – seem to be able to “beat the market” consistently?<sup>20</sup>

Unfortunately, discussions focused on the validity of EMH will probably continue, and confusion will persist – with time and energy lost in vain.

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<sup>18</sup> The complete markets assumption is often presented as the possibility to “insure” against diverse “states of nature” occurrences, suggesting that “insurance companies” do the job. In fact, Pareto optimality needs it to be done (costless) by the auctioneer – who collects (conditional) demand and supplies of goods. Household’ choices depend on their tastes (including “risk aversion”) and on states of nature (subjective) probability distribution.

<sup>19</sup> In his 2010 interview to *The New Yorker*, Fama points out real economy “inefficiencies” and exculpates financial markets.

<sup>20</sup> Sebastian Mallaby’s book (2010) gives some examples of successful stories that are not easily explained by chance.

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# The economist as social engineer:

## Maxi-max decision, utopia and the need for professional economic ethics \*

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### Introduction

The economics profession has attracted a good bit of attention lately due to revelations regarding the failure of influential economists to disclose potential conflicts of interest when serving in the role of public intellectual. For this we are indebted to filmmaker Charles Ferguson, whose film “Inside Job” ought to serve as a wake-up call to a profession that has suppressed its ethical obligations for over a century. Even worse, the film makes clear that the economists it exposes have never given the matter of disclosure a moment’s thought prior to being grilled on camera by Mr. Ferguson. The film spawned several studies that further documented a failure to disclose among leading economists, and pressure from the business press on the AEA to explain just why it has no general rules or guidelines that speak to this issue (Epstein and Carrick-Hagenbarth 2010; Flitter, Cooke and da Costa 2010). In response, the AEA established a committee “to consider the Association’s existing disclosure and other ethical standards and potential extensions to those standards.”

These developments are important: like doctors (who sometimes shill for pharmaceutical companies), economists must routinely be required to disclose their financial entanglements so that the public can make informed judgments about the dependability of the economic advice they receive. Economics ought to adopt rules similar to those in place in other professions, as Epstein and Carrick-Hagenbarth rightly argue. That said, this is but one of many ethical issues that arise in the in the context of economic practice.

*Economists routinely affect the life chances of others, for better or worse, and often decisively.* This is the heart of the case for professional economic ethics. The extent and depth of economists’ influence over others necessarily entail ethical burdens that the profession has been most resistant to engage—in the U.S. and, with few exceptions, across the globe.<sup>1</sup> And in the vacuum created by that negligence, economists have come to act badly especially when the stakes are highest and the costs of bad behavior are most grave. If I’m correct—if the problem is as severe as I believe that it is—then this amounts to a failure of the economics profession as a whole rather than of just the individual economists who run afoul of the most basic ethical norms. The chief take-away from “Inside Job” should not be that some economists have acted badly, but that the profession has failed in its deepest ethical obligations.

There is much to be said about these matters, which I explore in depth in *The Economist’s Oath* (2011). Here, I will take up just one that is particularly disturbing. It concerns the “decision rule” that economists have come to embrace without much thought

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\* Many of the arguments that appear here are more fully developed in *The Economist’s Oath: On the Need for and Content of Professional Economic Ethics*, Oxford University Press, 2011. Thanks to Anya Parakhnevich for her research assistance for this article.

<sup>1</sup> In the U.S., the National Association of Forensic Economics (NAFE) is the only economic association that has pursued a code to guide the behavior of its members (NAFE, undated). In contrast, three professional associations of applied economists in Sweden have adopted non-binding codes.

when confronted with the opportunity to shape public policy that bears on the most fundamental economic institutions and practices, and as a consequence, the most vital economic flows and outcomes.

The argument is this: In the most important policy matters of the past several decades, influential economists have embraced a decision rule that could not possibly pass muster under *any imaginable body of professional economic ethics*, were there to be such a field. Without ever speaking its name, the profession adopted the utopian decision rule of the revolutionary—a decision rule that entails substantial risks for those the economist purports to serve in the hopes of establishing the best of all possible worlds.<sup>2</sup> And the profession did this without any serious consideration of just what it was doing. Like those individual economists who neglected to disclose their potential conflicts of interest when advocating policy, the profession more broadly never deemed it necessary to think through just what it means to be an ethical economist; or for economics to be an ethical profession.

### **Economic decision rules and risk<sup>3</sup>**

Economists don't tend to talk much of decision rules, but in fact policy advocacy in economics is often decision-rule driven. A decision rule is not to be conflated with an evaluative criterion, such as Pareto optimality. An evaluative criterion becomes a decision rule only when it is taken not as just one criterion among many that ought to inform decision making, but when it is held to be the uniquely correct basis for decision making. A decision rule, then, is a dominant evaluative criterion.

In practice the Pareto and Kaldor-Hicks efficiency criteria often serve as decision rules in economics, even if in principle economists know that other criteria, too, should inform policy making. The elevation of one of these (or any other) criterion to the status of decision rule transgresses the boundary that separates “positive” and “normative” economics—something economists are not always happy to admit they are doing. And yet, transgress they often do—and all the more stridently the more important is the issue before them. This is true not just in classroom explications of policy, where economists delight in showing the irrationality of minimum wage legislation or rent control—but also and often when economists speak publicly on policy matters, in the role of public intellectual. The logic that one finds in the *Op Ed* pieces that economists write, or in the expert testimony they provide to legislative bodies, often jumps without warning from a demonstration of “economic efficiency” to a recommendation about what is to be done.

When taking account of the uncertainty of policy effects, economists tend to embrace “expected utility” (or expected value) as the appropriate decision rule. There is substantial

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<sup>2</sup> Equally egregious, it involves cashing in the lives of some for the presumed benefit of others without sufficient attention to the ethical issues that attend this practice (see DeMartino 2011).

<sup>3</sup> Space precludes an adequate treatment here of the matter of decision rules in general, or the ethics of using decision rules in professional practice (such as economics). Suffice to say that when one is in position to decide for others, the choice of a decision rule is ethically fraught. This is all the more true when the decision involves non-trivial risk to those for whom the professional decides. See Hansson (2007) for a very brief but insightful treatment of the ethics of decision-making under risk. Hansson notes that a division of labor has arisen concerning decision making in the face of risk, with moral philosophy largely ceding the field to decision theory. In Hansson's view, this division is untenable. Yet it may help to explain why economists who rely on decision rules have largely failed to address the ethical legitimacy of doing so.



theoretical grounding in neoclassical thought for this decision rule, of course. First, like the Pareto and Kaldor-Hicks criteria, expected utility derives from the welfarist normative framework that undergirds neoclassical thought (Sen 1987). Under welfarism that outcome that maximizes utility (or preference satisfaction) given the constraints that individuals face is deemed best. But if one presumes that the future is only probabilistically knowable, one must consider that the effects of any policy option must be represented by a probability distribution of possible payoffs. In that case, one must calculate the expected utility of each policy option, and then advocate for that option that scores best against this criterion.

Expected utility is but one of innumerable possible decision rules, of course. Others that appear in the literature include non-compensatory rules that rank the criteria of policy choice, and consider a policy's impact against those criteria sequentially. If the payoff of policy A exceeds the payoff of policy B under the most highly valued criterion—say its impact on the poor as opposed to the wealthy—then policy A is deemed best. This is true even if policy B scores much better under some other criterion, such as the policy's effects on the wealthy, or the aggregate effect of the policy (on the poor and wealthy). Only when the two policies promise equal payoff in the specified desideratum do we then consider their payoffs in terms of the second most important criterion. As the name implies, non-compensatory decision rules do not allow the effect of the policy as judged by other criteria to compensate for its shortcoming when judged by the most important criterion. The example just given, of privileging a policy's effects on the poor despite its aggregate effects, reflects the non-compensatory mini-max decision rule.<sup>4</sup>

In the context of decision making by professionals that will bear on others, all decision rules are ethically fraught and otherwise contestable. Consider a rule that comes from the field of professional medical ethics: *Primum Non Nocere*, or “first do no harm.” This is certainly the best known principle from the entire field of professional ethics. It is often taken by non-ethicists as the single most important professional ethical imperative—one that is inviolable. This is incorrect. Understood properly, as one of many evaluative criteria that a medical practitioner ought to have in mind as she does her work, it conveys an important warning—that professional practice can do harm to those whom it is intended to help, and so the professional should attend carefully to that possibility when advocating a course of action. But when elevated to the status of an inviolable decision rule, it is entirely impractical and ethically deficient. For one thing, it is far too conservative. It may obstruct professional interventions to change the status quo even when the status quo is taken to be deeply indictable by the professional or those she serves, since any intervention involves uncertainty and so may induce harm. Moreover, in the social context (like economic policy making), it can sustain oppressive social arrangements since interventions that are designed to overcome oppression are particularly dangerous (owing to the resistance of those whose privileges are under threat). Moreover, in the face of oppression, doing nothing does harm. Third, this is a paternalistic decision rule: it places judgment and decision-making in the hands of the professional rather than the person or the community whom the professional serves. For instance, “first do no harm” can be and indeed has been interpreted to imply that the medical doctor should deceive a patient about his condition if the doctor believes that doing so would benefit the patient. Indeed, up until very recently medical ethicists in the U.S. debated the ethics of informing a terminal patient about his condition when doing so might cause anxiety for the patient. Only with the increasing emphasis on a different ethical principle—the principle of the “autonomy” of the patient—did the ethical legitimacy of deceit lose standing in professional medical ethics. Today, “first do no harm” has lost its status as a decision rule; it

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<sup>4</sup> This is just one version of mini-max, since the term is used in various other ways.

is now considered alongside the autonomy-respecting principle that emphasizes the right of the patient to know the circumstances surrounding his case, and to make the ultimate decisions about the course of his treatment regimen.<sup>5</sup>

In the field of economics, expected utility has significant shortcomings when viewed as a decision rule. First, it makes unreasonable epistemic assumptions. It treats the future as probabilistically knowable even though that kind of knowledge is generally unavailable to economic policy makers. This is particularly true when an intervention involves not just a minor policy tweak but instead concerns institutional design or social engineering more broadly (to which we return below). Moreover, it doesn't take sufficient account of the risk of harm. A policy that scores marginally higher than another in expected utility might nevertheless be associated with much greater risk of harm to the targeted community, owing to its greater variance (see Hansson 2007). If taken as a decision rule, expected value ignores the fact that a vulnerable community might have good reason to prefer a suboptimal policy option that has a lower variance than the optimal policy with a greater variance. Hence, a strict application of the expected value criterion as a decision rule might put vulnerable communities in jeopardy.<sup>6</sup>

### **Maxi-max: the decision rule of revolutionaries (and social engineers)**

All of this bears on the ethical responsibilities of economists. Though economists don't typically speak of decision rules in their policy advocacy, since in principle economists know that economic efficiency is to be taken as just one input into the policy making process, in practice economists often do impose decision rules in pursuit of influence over policy disputes. Moreover, and more troubling, over the past several decades the profession has applied a "maxi-max" decision rule that is extraordinarily dangerous for the communities upon which it is imposed. Maxi-max is not permitted by any existing body of professional ethics. Indeed, it is difficult to imagine how maxi-max could possibly be shoe-horned into any account of ethical professional behavior. If there is any justification for it at all, one would have to look beyond professional ethics to revolutionary ethics, were such a thing to exist.

The maxi-max decision rule that I have in mind is that which appears in the work of libertarian political philosopher Robert Nozick. Like many other decision rules, it presumes that any policy option can be represented as a probability distribution of payoffs. It instructs the decision-maker to choose from among all policy options that option that "has of its many possible consequences one which is better than any possible consequence of any other available action" (Nozick 1974, 298). This is a decision rule for terminally optimistic agents who cannot imagine policy failure, *since decision-making under this rule is driven entirely by a*

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<sup>5</sup> The "principlism" framework of medical ethics entails four basic principles: nonmaleficence, beneficence, autonomy and justice (see Beauchamp and Childress 1989). These are not lexicographically ordered; none serves as an inviolable decision rule, though in much recent literature autonomy is emphasized particularly heavily (e.g., see Dworkin 2005).

<sup>6</sup> Theorists have advanced various decision rules that apply in the context of probabilistic risk (see Hansson 2005). Most of these also make demanding assumptions regarding the possible futures under alternative policy interventions. For instance, the various decision rules presented by Cabulea and Aldea (2004) (maxi-max, maxi-min, mini-max, etc.) presume that all the possible payoffs of policy are knowable, but that the probabilities of each possible payoff is unknown to the decision-maker. However, also see Mintz (1993) on cybernetic satisficing models of decision making that presume uncertainty in a deeper sense, and that present the decision-maker as enjoying only limited rationality owing to limitations imposed by time and epistemic constraints. An appropriate decision rule in this context involves seeking a satisfactory rather than an optimal outcome.

*comparison of the best possible outcomes promised by each of the potential courses of action.* The principle considers just the one criterion of maximum possible payoff in policy choice. Utopian revolutionaries tend to think this way, presuming without evidence or reason that things are just as their blueprint suggests they could and should be. Maxi-max recognizes risk explicitly, since it characterizes each policy option as a probability distribution of payoffs. But it then dismisses the matter of risk entirely in policy selection. In this regard, it is far more aggressive than the expected utility decision rule that we considered a moment ago.

Imagine a maxi-max approach to medicine. A doctor might confront a choice between two treatment regimens for a disease: one that holds out the possibility of complete recovery in the very unlikely event that the regimen succeeds, and certain death in the more likely event that it fails; and another that virtually guarantees substantial improvement (though not complete recovery) in the patient's condition under any of the possible outcomes. Think of this as the medical equivalent of playing the lottery with one's life savings on the one hand versus investing those savings in US Treasury bonds on the other. The maxi-max decision rule directs the medical practitioner to pursue the first strategy since, in the terribly unlikely event that the regimen succeeds, the patient will be better off than she would be under the more prudent second option. Even in cases where the difference in maximum possible payoffs among the options is small but the range of risks is great, maxi-max directs us to seek the greatest possible payoff, full stop.

One need not be risk-averse to recognize the dangers associated with the maxi-max decision rule. Even the risk lover can see that it is imprudent to such a degree that one would have to question the sanity of anyone who chose to live his (probably very short) life in conformance with its dictates. But the question before us isn't whether any individual should make his own life decisions by reference to this decision rule. The ethically important question is whether economists are warranted in applying the maxi-max decision rule when they advise or decide for others.

### **Maxi-max and neoliberal reform in the Global South and transition economies**

But why is any of this relevant to economics, since no sane economist would ever advocate maxi-max? I contend that leading members of the economics profession adopted the maxi-max decision rule in two of the most important policy matters they confronted over the past several decades. The first concerned radical economic restructuring in the global south from the 1980s onward and in post-socialist transition economies of Central and Eastern Europe in the 1990s. The second concerned the question of whether the new financial assets and markets that blossomed especially during and since the 1990s should be regulated by government to prevent financial instability. In both cases, the economics profession advocated policy that was extraordinarily dangerous on the exclusive grounds that it promised a higher possible payoff than any alternative policy regime. Here I pursue just the first of these two cases.<sup>7</sup>

The case of economic restructuring in the global south and transition economies is by now well known. In these contexts influential economists advocated for sharp, abrupt and complete economic transformation away from state-directed regimes to market-mediation of economic flows and outcomes. For instance, Jeffrey Sachs and Anders Åslund lobbied

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<sup>7</sup> See DeMartino (2011, chapters 9 and 10) for a more detailed examination of this case, and the role of the economics profession in resisting financial regulation in the U.S. from the 1990s onwards.

Russian officials to implement abrupt economic transformation in the early 1990s all at once, before opposition could crystallize (Sachs 1991; Wedel 2001; Angner 2006). As Sachs put it, officials had to “figure out how much society can take, and then move three times quicker than that.” To emphasize the urgency of the situation, Sachs cited approvingly the words of a Polish economist: “You don’t try to cross a chasm in two jumps” (Sachs 1991, 236). In Poland in 1989, he insisted that “The crisis will be over in six months” (Wedel 2001, 21, 48).

The theoretical backing for this reform came from neoclassical theory which purports to show that market mediation is Pareto superior to any alternative economic regime. Even though economists knew that the actual economies could not possibly conform to the economic caricatures that the profession uses to teach economic principles, leading economists were resolute in their advocacy of neoliberal reform. Moreover, they urged market mediation over a state-led economic regime on grounds derived from the new political economy which purports to show that when the state is engaged to correct market failure, the state failure that necessarily arises will likely overwhelm the market inefficiencies that state intervention is intended to rectify. Hence, the economies targeted for restructuring were not provided with a menu of policy strategies that included social democratic alternatives. They were urged instead to adopt a radically liberalized market economy since, on the blackboard at least, such economies stood to enjoy gains that were unavailable under any alternative regime.

What is the evidence that the economists leading the neoliberal reform implicitly embraced maxi-max, when no one spoke in these terms? Let’s consider in the abstract what maxi-max policy advocacy would entail. The key point to notice in this context is the extraordinarily restrictive information set upon which maxi-max decision making is based. The only information that is relevant is the maximum possible payoff of the alternative policy options before the decision maker. Maxi-max decision making therefore does not require (or even permit) a balanced assessment of the probability distributions of the possible payoffs (positive and negative) of alternative policies under any particular set of conditions; nor a detailed examination of their respective robustness in the face of the unknown features of the environment in which they will be implemented. Moreover, while maxi-max encompasses recognition of adjustment costs in the event of policy success, since those costs are incorporated into the calculations that generate a value for each policy option, it does not call for rigorous attention to and planning for adjustment costs in the event of policy failure since the probability of failure is discounted entirely by this decision rule. As a practical matter, we would expect agents who are committed to the maxi-max decision rule to generate partisan legal briefs that advocate the policy proposal that promises to maximize potential gains in terms that are meant to *persuade* rather than to investigate critically or elucidate candidly. Policy prescriptions would be judged by the degree to which they were faithful to the field’s abstract theoretical insights rather than the degree to which they incorporated pragmatic compromises that reflected the complexities of policy reform under actually existing conditions in the contexts where it would be implemented.

All of these features appear in the mobilization of economists’ efforts to advance the neoliberal cause. Neoliberal advocates largely spoke in one voice about the desirability and even the necessity of the reforms they sought. The consensus among the most influential economists drowned out alternative perspectives: any chance of pluralism in theoretical models or applied work was extinguished by the group think at the very top of the profession. And the group think that emerged made the advocacy of the one preferred policy regime credible to its advocates and to the policy makers upon whom this model was encouraged. In

this context, exploring systematically the risks of reform failure, the risk profiles of the alternative regimes that might also have been available, the planning for the possibility of failure in reform and the like would have amounted to a waste of time and energy. No need for these when the blueprint for economic restructuring was so clear, and its payoff so certain.

Though just a couple of decades ago now, it may be hard to recall today the extent of the confidence that the economics profession exhibited then about its technical competence, the maturity of its science, its grasp of the complexities it confronted, and its ability to chart a pacific course from state-led to market-mediated economic affairs in the developing and transition economies. The faith in the basic neoclassical model, within the profession and to a degree also beyond, provided economists with authority and institutional influence that they exploited to begin to construct this regime in places which were unprepared for its adoption. In this context there appeared to be neither the need nor the time to attend to questions of uncertainty or the robustness of alternative policy regimes. Instead, widespread fidelity to market liberalization bred a suspicion of those advocating a more prudent or gradual approach to economic transition. In Ravi Kanbur's words, "Give them an inch of nuance, and they will take a mile of protection," seemed to be the mindset and stance of the reformers (Kanbur 2009, 4). The challenge of the period was to seize the historic opportunity to promote economic progress; in this context, only the coward would flinch from the historic mission that lay before the profession.

Taken together, these circumstances generated a kind of adventurism that belies the normally cautious and even skeptical spirit of the economics profession. A natural caution that typically weighs all the costs against the benefits, and a mindset that understands that the greatest promised rewards entail the greatest risks of failure, were displaced by a utopian presumption that a radical program of abrupt, wall-to-wall institutional reconstruction would succeed—and that in success it would promote a far higher level of social welfare than any other contending type of reform.

The scholarship on economic transition produced by the reformers demonstrates the maxi-max spirit of the times. The essays compiled in the two-volume collection *The Transition in Eastern Europe*, edited by Olivier Blanchard, Kenneth Froot, and Jeffrey Sachs (1994) are emblematic. The volumes include essays by the editors and also by Stanley Fischer, Lawrence Summers, Andrei Shleifer, Rudiger Dornbusch, Simon Johnson and many other prominent and influential economists. In place of the lively debates and pluralism of views that one might hope to find among these essays, especially given the imponderables associated with unprecedented social transformation on such a grand scale, one is treated instead to a choir of harmonious voices. We find broad consensus regarding the challenges facing the transition economies, optimal policy choices, and the preparedness of the economics profession to intervene effectively in this uncertain environment. What we don't find is sustained attention to the likely consequences that will befall the inhabitants of these countries in the event of policy failure, and the measures necessary to offset the hardships that policy failure is apt to induce. "At the center of this consensus," Peter Murrell argues in his insightful investigation of these papers, "is a confidence in the ability of economic technocrats to design feasible, if painful, solutions to the central problems of reform" (Murrell 1995, 164).

The restructuring reforms did not always go as planned, of course. By the mid-1980s in Latin America and Africa and by the early 1990s in Central and Eastern Europe, it had become clear that the pain associated with economic transition would be far greater than had



been predicted by its advocates owing to the fact that the reforms did not always work as planned (UNICEF 1993; Calvo and Coricelli 1993; Eberstadt 1994; Murrell 1995). Between 1991 and 1994, life expectancy in Russia dropped by 4.7 years overall and by 6.2 years for men (Angner 2006). A study reported in *The Lancet* finds that Russia, Kazakhstan, Latvia, Lithuania, and Estonia suffered a tripling of unemployment and a 41 percent increase in male death rates between 1991 and 1994, immediately following privatization (Stuckler, King, and McKee 2009). Factoring out other determinants, the researchers conclude that

mass privatisation programmes were associated with an increase in short term adult male mortality rates of 12.8 % ... with similar results for the alternative privatisation indices from the European Bank for Reconstruction and Development ... (2009, 1).

How did economic architects of the neoliberal transition respond to evidence of failure? As Murrell (1995, 164) notes, the papers in Blanchard, Froot and Sachs (1994) tend to blame others rather than recognize that they had advocated a course of action that was inherently fraught with danger.

To the extent that failures are perceived and autopsies performed, the diagnosis usually centers on the political sphere . . . Sometimes socio-political systems simply get in the way of sensible economics.

Sachs is emblematic of this tendency. He argues that “Most of the bad things that happened — such as the massive theft of state assets under the rubric of privatization — were directly contrary to the advice that I gave and to the principles of honesty and equity that I hold dear” (2005, 147). For his part, Åslund attributed the failure of Russian privatization to “extraordinary rent-seeking” rather than any defect in the plan he had helped to devise (Angner 2006).

As applied by the reformers, the maxi-max decision rule required a presumption of the full availability of the transition societies for social engineering. By this I mean that they must present themselves as a *tabula rasa* upon which the reformers could act without regard to their particular histories, institutions, cultures and other features. Only with this presumption could the reformers hope to realize in society the elegant model of economic affairs that they have in mind. Albert O. Hirschman had identified this presumption in the profession much earlier on; he worried about the tendency of economists to engage in “grand theorizing” and to impose simplistic models on societies that were far more complex than the economists wanted to recognize (Hirschman 1970; 1980). Yet during the heyday of neoliberal reform his warnings fell on deaf ears. By the 1980s his peers were happy to pursue their utopian projects with the vigor of the revolutionary. As Murrell (1995, 177) puts it,

[T]he standard reform prescription . . . begins at the endpoint, an idealized market, phrasing everything in those terms, ignoring the crucial question of how reforms engage existing society. The project of the economist is to grasp the *tabula rasa* and design a new system, to match events against the yardstick of that design, and to diagnose as failures any deviations from design.

In making these arguments Hirschman anticipated the insights of subsequent poststructuralist, post-colonial and other traditions that came to problematize the technocratic impulse in modernist social science to exert social control (e.g., see Bergeron 2006). Within economics this impulse is not unique to neoclassical theory, of course, nor to the period of



neoclassical dominance. Indeed, Hirschman (1988, 6) spoke of his Keynesian peers in the period preceding the rightward turn in economics as economic zealots who “preach[ed] the gospel to a variety of as yet unconverted natives. Deirdre McCloskey writes of the Keynesians of the postwar period as social engineers who presumed for themselves “godlike expertise.” As McCloskey’s scathing critiques indicates, the concern about the technocratic conceits of the profession is not monopolized by those on the left. In this connection John McMillan’s application of Karl Popper’s insights to structural reform in Russia is notable. McMillan elucidates Popper’s advocacy of “piecemeal” over “utopian” social engineering. The latter requires “a grand blueprint for society: ‘it pursues its aim consciously and consistently,’ ‘it determines its means according to its end,’ and entails searching for, and fighting for, its greatest ultimate good.” Popper distrusted such impulses and instead advocated “piecemeal social engineering” which entails “tinkering with parts of the system”; it involves “searching for, and fighting against, the greatest and most urgent evils of society” (McMillan 2008, 510–11).

McMillan puts this Popperian distinction to use in making sense of the economic shock therapy in Russia that was pursued by the economic reformers. Sachs himself described this intervention as “a rapid, comprehensive and far-reaching program of reforms to implement ‘normal’ capitalism” (cited in McMillan 2008, 511). In McMillan’s view, this was utopian social engineering of the sort that Popper found so distasteful; and the unfortunate results corroborated Popper’s antipathy.

Recognition of the overconfidence of leading economists and their associated attachment to maxi-max helps us to understand how technically adept economists could fail so miserably to anticipate their inability to control political processes upon which the reform efforts depended. For instance, and as noted above, Sachs (2005) attributes the failures in Russian reform to the fact that Russian officials took actions that flatly contradicted his advice. Sachs also blames the suffering associated with the structural adjustment in the former Soviet Union on the unwillingness of the Bush Administration to heed his calls for assistance (in the form of debt cancellation and emergency loans; see Pilkington 4/5/2008).

It is a profound historical irony that warnings about social engineering appear in the work of Adam Smith, who is wrongly taken more than any other as the authority for neoliberal restructuring in the global south and transition economies. In *The Theory of Moral Sentiments* Smith excoriates what he calls the “man of system” who believes himself to have access to the blueprint for optimal social organization, who therefore does not worry about the possibility of failure, and who believes himself to be warranted in imposing this model on even a recalcitrant society. Smith’s insight has a modern feel, suggesting that already in his day the impulses to social engineering were alive and well. How presciently he anticipated the modern economists when he described the man of system as someone who

is apt to be very wise in his own conceit; and is often so enamoured with the supposed beauty of his own ideal plan of government, that he cannot suffer the smallest deviation from any part of it. He goes on to establish it completely and in all its parts, without any regard either to the great interests, or to the strong prejudices which may oppose it. He seems to imagine that he can arrange the different members of a great society with as much ease as the hand arranges the different pieces upon a chess-board (Smith 1976, 233–34).

In Smith’s view the man of system suffers from a dangerous hubris:

Some general, and even systematical, idea of the perfection of policy and law, may no doubt be necessary ... But to insist upon establishing, and upon establishing all at once, and in spite of all opposition, every thing which that idea may seem to require, must often be the highest degree of arrogance. It is to erect his own judgment into the supreme standard of right and wrong. It is to fancy himself the only wise and worthy man in the commonwealth, and that his fellow-citizens should accommodate themselves to him and not he to them (Smith 1976, 234).

One wonders, then, just what Smith would think were he to have witnessed the fervor with which the economics profession insisted upon comprehensive and radical reconstruction in his name. How, for instance, would he take Sachs' emphasis on the "need for speed" in the transition to the market economy in the former socialist countries, when he writes that the reforms he proposes

will eventually produce great benefits, but they will be opposed by many in the shrinking sectors. Populist politicians will try to hook up with coalitions of workers, managers, and bureaucrats in hard-hit sectors to slow or reverse the adjustment ... So it is crucial to establish the principles of free trade, currency convertibility, and free entry to business early in the reform process (Sachs 1991, 239).

Smith's insights imply that the failures and suffering that attended the reform efforts in the global south and transition economies were inherent in the utopianism of the project rather than the result of some misstep or other along the way. Failure to recognize this fact, and the associated dangers of maxi-max decision making that gave rise to the neoliberal project, also precludes learning—by individual economists, and by the profession. The *ex post facto* rationalization of the reform failures demonstrate an unwillingness on the part of the profession to recognize the extraordinary naïveté that attended the project regarding the plasticity of social organization and the inability of the social engineer to control the series of events that his grand interventions inaugurate. The social engineer fails to realize that at best he enjoys *influence without control*; and it is this failure that enables him to apply the maxi-max decision rule without recognizing just how inappropriate it is for him to do so.

Nozick echoes Smith's and Popper's sentiments in his indictment of social engineers who think it appropriate to apply a utopian decision rule like maxi-max. In his words,

[U]topians assume that the particular society they describe will operate without certain problems arising, that social mechanisms and institutions will function as they predict, and that people will not act from certain motives and interests. They blandly ignore certain obvious problems that anyone with any experience of the world would be struck by or make the most wildly optimistic assumptions about how these problems will be avoided or surmounted (Nozick 1974, 328–39).

### **The ethical illegitimacy of maxi-max**

As should by now be clear, the maxi-max decision rule makes for bad decision making—for the individual acting on her own behalf, and especially for the policy maker who serves others. In the policy domain it is far too dangerous. Nozick (1974, 298) argues that

Everyone who has considered the matter agrees that the maxi-max principle ... is an insufficiently prudent principle which one would be silly to use in designing

institutions. Any society whose institutions are infused by such wild optimism is headed for a fall or, at any rate, the high risk of one makes the society too dangerous to choose to live in.

Maxi-max presses the decision maker toward the pursuit of perfection (as she sees it) in the belief that utopia is available. And if utopia is available, it may even be taken to imply an ethical obligation on the part of the professional to pursue it even over and against the objections of those who are its intended beneficiaries. Moreover, since maxi-max already has factored into its calculations the harms that it imposes on some for the overall good, it validates the decision maker's imposition of those costs as regrettable but necessary collateral damage in the pursuit of 'heaven on earth' (cf. Nelson 2003). Those who oppose the reform can then be delegitimized as special interests that obstruct social progress. Armed with insight into the unequivocally best, maxi-max licenses the decision maker to take the steps necessary to subvert opponents—such as by introducing the required reform immediately and all at once, before the opponents can organize to resist. Hence, the shock therapy that was so widely advocated by neoliberal economists to anxious legislators across the global south and transition economies: for the reformers, it was imperative that the reforms occur before the harms were recognized by those who would certainly attempt to block their implementation.

These features of maxi-max make it entirely illegitimate as a decision rule in any other profession that recognizes its responsibility to others. Maxi-max violates principles that are by now well established across all those professions that have examined their ethical obligations. Not least, it is antithetical to the principle of harm avoidance; indeed, it imposes extraordinary risk even when the affected community is in no position to bear its costs. Moreover, and equally important, it violates the autonomy of those who will bear the effects of professional interventions. As discussed in passing above, professional ethics has evolved in recent decades toward recognition that paternalistic interventions are illegitimate to the degree that they deny the agency rights of those whom professionals act upon. Maxi-max does not require decision-makers to factor into their considerations the will of those for whom they legislate. The reformer is instead a 'man of system' who must do what is necessary to achieve utopia regardless of how those who will bear the adjustments costs and live in this paradise themselves conceptualize the good; and regardless of their willingness to face the risks and pay the costs necessary to achieve it. No medical doctor today could possibly get away with this kind of disregard for the autonomy of her patients. How is it, then, that the economics profession believes itself to have the right and perhaps even the obligation to press utopian policy regimes over and above the objections of those who will live under them?

### **On the need for professional economic ethics**

The answer, I think, lies in the fact that unlike virtually every other major profession with influence over the lives of others, economics has stubbornly neglected its obligation to examine openly, carefully and critically the professional ethical entailments of its practice. As of now there are no textbooks, journals, newsletters or curriculum that examine these ethical entailments, and that train economics students or practicing economists in the daunting ethical burdens that they face by virtue of their enormous influence in the world. And so it is the case that leading economists, who sometimes acquire extraordinary powers by virtue of their intellectual expertise and institutional positions, can pursue their craft without the least

recognition of the dangers they face, or of the most basic duties to their profession and those they purport to serve. In this context we should not be surprised when they act badly—when they fail to give full disclosure of their financial entanglements when providing economic expertise, or when they practice economics in other ways that violate the tenants of any imaginable body of professional ethics.

Over the past century economics has presumed that the professional responsibilities attending economic practice are so obvious as to render the study of professional ethics optional (cf. Coats 1985). This presumption is terribly wrong-headed and even dangerous. As the evidence of the past several decades demonstrates, a profession that chooses to ignore its ethical duties is apt to stumble badly through the ethical thickets that its work necessarily entails. As a consequence, economists do substantial harm as they try to do good.

The foregoing should not be taken exclusively as an indictment of the individual economists who adopted maxi-max in their work. The responsibility falls equally on the profession as a whole. Economists have worked hard to secure influence for economics. In that regard, we've succeeded immensely. Not as much as some economists would like, to be sure, since many fail to recognize that the control they covet is (and should be) unobtainable. We have as much influence as it is reasonable to ever expect—at least, if we value democratic governance.<sup>8</sup> What we haven't done is attend to the ethical challenges and obligations that necessarily attach to that influence. We haven't explored carefully what it means to be an ethical economist, and what it means for economics to be an ethical profession. It is an ethical fact that we have an obligation to do so. And until we do, the societies we purport to serve might be better off were we to lose some of the influence that we've illicitly acquired.

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# Understanding the problems of mathematical economics:

## A “continental” perspective

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### 1. Introduction

Within the heterodox and especially the post-autistic, real-world-focused critique of Standard Textbook Economics (STE), often published in this journal, attention to its literally fundamental method, quantitative-mathematical in general and mathematically modelling specifically, and how this method steers economics away from reality, is and has been almost inevitable. Just the last issue of this journal featured a lead article by Michael Hudson on “The use and abuse of mathematical economics” (2010) which kindly quoted my quip that “mathematics has helped enthrone irrelevance as methodology.” (5)

What generally informs even this critique, however – and not surprisingly so – is its intellectual and science-sociological rootedness in the Anglo-American discourse, in which specific questions must be addressed because they are considered, and thus are, relevant for and within that context. But while this discourse has globally won the day, at least for now, the insight that STE might be the economics precisely of that context, and thus that bowing to this context might not always produce the best results given the realist agenda, may make it helpful to look at an alternative discourse which may tackle the problems of the use of mathematics in a different, and even perhaps in a more immediate way.

#### 1.1. Understanding and context

An obvious candidate for such an alternative discourse is the “Continental” (European) one, within which I would like to focus here on that particularly German tradition which we can call understanding-oriented (*verstehensorientiert*) or, more professionally and contemporarily, hermeneutical. In economics and the social sciences, this approach is part of the German Historical School of Economics (GHS), especially the younger (headed by Gustav von Schmoller) and youngest (headed by Werner Sombart, Max Weber’s antagonist and friend). In contemporary philosophy, it is mainly represented by the late Hans-Georg Gadamer, the father of philosophical hermeneutics, Heidegger’s most eminent student and one of the most important philosophers of the 20<sup>th</sup> century. That approach invariably and continuously connects back to two matrices of “Western” thought, Kantianism and Ancient Greece, i.e. Plato and Aristotle. In philosophy generally and also in epistemology specifically, hermeneutics and its larger context of “Continental Philosophy” is perhaps the most orthodox heterodoxy today, even within Anglo-American academe. It is certainly much more so than the GHS is in economics, where, in spite of continuous attempts at re-evaluation and resurrection (I only mention, for their work in English, Ha-Joon Chang, Geoffrey Hodgson, Erik S. Reinert and especially Jürgen G. Backhaus), it remains obscure.

In short, the GHS dominated economics in Germany and well beyond for the last few decades of the 19<sup>th</sup> and the first one or two of the 20<sup>th</sup> centuries, both academically and, since the 1890s, also in policy. Its

leading principles may be thus formulated: 1. It discards the exclusive use of the deductive method, and stresses the necessity of historical and statistical treatment. 2. It denies the existence of immutable laws in economics, calling attention to the interdependence of theories and institutions, and showing that different epochs or countries require different systems. 3. It disclaims belief in the beneficence of the absolute laissez-faire system; it maintains the close interrelation of law, ethics and economics; and it refuses to acknowledge the adequacy of a scientific explanation, based on the assumption of self-interest as the sole regulator of economic action. (Seligman 1925, 15-16)

Hermeneutics primarily goes back to Gadamer's 1960 *magnum opus Wahrheit und Methode* (1990), which essentially describes the possibility of understanding, via linguistic communication and within tradition-based and -mediated cultural contexts, between human beings in the form of a fusion of their horizons (*Horizontverschmelzung*). Gadamerian hermeneutics has had, and still has, a hardly overestimable effect on the entire humanities and some social sciences. I will try to explain the relevant aspects of *Wahrheit und Methode* as we go along; suffice it here to say that one of the points of "Truth and Method" is that one could form a juxtaposition, truth *or* method, method *or* truth, as opposed to the assumption that method actually produces truth, on which "empirical" social science is often based. (Lawn 2006 is, I think, the best introduction to Gadamerian hermeneutics available in English.)

Of course, this is only one part of the "Continental" perspective, which is neither cohesive nor homogeneous, neither stable over time nor entirely disentangleable from the Anglo-American one. And the hermeneutical narrative I will develop here itself is somewhat constructed, since I use a philosophy that came after the respective economics (though both do somewhat connect in Sombart). In fact, in what follows, I will try, not to trace the history of this thought, nor to compare or align it with the Anglo-American one, not even in its post-autistic aspect, but rather to add to the latter via another, additional line of reasoning. Relying heavily on some earlier writings of mine on the topic (especially Drechsler 2004, 2000b, also e.g. 2000a, 2000c), I will try to elucidate, if not to (re-)construct, jumping between the older economic and the younger philosophical discourse, based especially on Gadamer, Sombart, and the GHS economist Wilhelm Lexis, this specific argument of why mathematical modelling in economics and indeed the mathematical propensity which underwrites STE is just not a good idea.

It is not a good idea because STE necessarily leads to faulty results – and this is a problem because economics is not about economics but about the economy, so that it is not (only) an intellectual playground but matters greatly in human life and for human happiness. That, I take it, is the main melioristic angle of the post-autistic project, and the following argument is just intended to tell or remind those who agree with the basic premises why mathematics in economics cannot work from a slightly different than the usual perspective.

## **1.2. Some premises**

"Let's assume" (to for once borrow that famous phrase from STE) then, with Kant, that there is a carryover from theory to practice (Kant 1992, 23-25), and that this matters for economics because the purpose of pursuing economic scholarship is not to create an aesthetically pleasing theoretical system, but rather to say something meaningful and consequential, directly or indirectly, about reality.

This, in turn, means that such a thing as reality must actually exist, which in philosophy (and some other humanities and social sciences) is by no means a given. Let us, thus, more or less safely define reality as Wittgenstein's "world", as "everything that is the case" (2003, 1), including options and myths as options and myths, rather than as all that exists. This means that "the world is significantly stratified independently of our interpretations of it" (Eagleton 1996, 35), but that our perceptions enter into it and become part of the world. Reality may thus be hidden and difficult if not impossible to ascertain, but if one has a concept or an idea, one can, as the Presocratic philosopher Xenophanes of Colophon says in a fragment that stands at the beginning of "Western" thought, "indeed accept this assumingly, as alike the real." (Diels and Kranz 1996, fragm. B 35) We can act as if we had the truth (truth in this context means congruence with that reality), as if we were right, so long as we remember that we might be wrong – as Aristotle put it, "not only he who is in luck but also he who offers a proof should remember that he is but a man." (*On the Good*, fragm. 27 in Aristotle 1886 = fragm. 1 in Aristotle 1952, 116-117) In that sense, only working hypotheses are possible, but they *are* possible.

The demand put to a theory is therefore that it mirror reality, muddy and messy as it may be, and the claim is that it can do so. In fact, if a theory does not mirror reality, it is untrue or wrong; if it cannot, it is self-referential. The question in consequence is, then, whether mathematical economics can and does mirror reality. It is argued here that neither is the case – because it is based on tools that misrepresent human interaction and therefore human life; because it does not and cannot make a difference between what can be measured in one way and what in another.

### **1.3. Natural and social sciences I**

The Stranger: "Obviously, we will now divide the art of measuring into two parts, according to what has been explained: one part in which we put all arts which measure numbers, lengths, widths, depths, and speed against their contrary; as the other one all those who do it against the appropriate and decent and convenient and proper and all which has its place in the middle between two extreme ends." (Plato, *Politikos*, 284e)

It is for this reason that, try as we might, "The experience of the social-historical world cannot be lifted up to science by the inductive process of the natural sciences." (Gadamer 1990, 10) Natural sciences deal with objects, social ones with subjects, i.e. with human beings. This basic difference has a decisive impact on the transferability of concepts from one to the other. The reason for the problem of quantitative-mathematical social science is hence not, as is so often claimed, "bad maths"; not its abuse and possible mistakes, but the "thing in itself". Frank Knight's recommendation of 1935 seems therefore to be well-taken:

The first step to getting out of this slough, we suggest, is to recognize that man's relations with his fellow man are on a totally different footing from his relations with the objects of physical nature and to give up, except within recognized and rather narrow limits, the naïve project of carrying over a technique which has been successful in the one set of problems and using it to solve another set of a categorically different kind. (1935, 147)

But are these natural science fields really alien to the social science ones? If one should conceive of the social sciences as of something somehow “between” the natural sciences and the humanities, then the quantitative-mathematical kind has a very strong tendency towards the natural-sciences side, even to make any social science a natural one. It is this view which in 1874 Wilhelm Lexis spelt out as follows:

Right away, a certain analogy is noticeable which exists between the social and the natural sciences. The means of realization for the one as well as for the other is supposed to be experience. As the natural sciences are taken to be the specific empirical sciences, the temptation is close at hand to put the social sciences under the guidance of her older sister by directing to her the tried method of the latter. (1903, 235)

Lexis goes on to argue that in the (ideal) end of all natural-scientific explanation, there are the differential equations of dynamics, having as variables the coordinates of moving points in time and space. “If one envisions these equations in an integrated format, one receives a system of equations through which in any point in time the spatial situation of all points is determined.” This “world formula” approach, the “inductive concluding towards the future” (239), is still at the basis of much natural-scientific thinking in the social sciences – rather than in the natural sciences themselves – today.

The method of the natural sciences thus consists in its ideal execution in the objective assessment of phenomena in space and time, its cutting into basic facts and in the erection of a purely quantitative mathematical scheme for the meaning of the phenomena. Is now this method applicable for the matter of the social sciences, and if so, is the purely quantitative scheme, which can only express outside relations, sufficient for embodying the totality of our possible experiences in this area? (240)

Lexis says at this point that “The answer to the first question is yes; to the second one, no.” (240) However, the answer is even twice in the negative, which will now be explained.

## **2. Physics**

The basis of natural science, its ideal, is then in the end “the purely mathematical concept of its subject in space and time, through which the *quality* of the phenomena is dissolved in *quantitative* determinations.” (Lexis 1903, 237-238) This is legitimate if one follows positivism, described by Ernst Mach as the conviction that “*quantitative* investigation is only a *particularly simple case of the qualitative one*.” (1926, 322)

The characteristic theses of positivism are that science is the only valid knowledge and facts the only possible objects of knowledge; that philosophy does not possess a method different from science; and that the task of philosophy is to find the general principles common to all the sciences and to use these principles as guides to human conduct and as the basis of social organization. Positivism, consequently, denies the existence or intelligibility of forces or substances that go beyond facts and the laws ascertained by science. (Abbagnano 1967, 414)

This is actually a handy view (positivism and modelling are beliefs that actually reduce the complexity of human existence, which is one of their most attractive features to many, especially graduate students), and still to be found in the faculty rooms of the social sciences and between the covers of their journals, but this, too, has long been recognized as wrong by its own principles and by its own protagonists in the natural sciences. (See only Heisenberg 1958, 167, 170) This is especially damning due to the proverbial “physics envy” of contemporary social science generally and economics in particular. The “predicament of neoclassical economics in the twentieth century that it has been obliged to acknowledge that physics itself has undergone some profound transformation since the consolidation of the energy concept,” that “the criteria of scientific success in the physicists’ camp have clearly changed,” and that “the question of the scientific character of economic theory cannot be understood without savouring the vulnerabilities of an aging social physics, surrounded by jeering scientific upstarts, and the responses of late neoclassical theory to meet the challenges,” has contemporarily been well, and probably best, explained by Philip Mirowski. (1995, 354-358, 386-388; quotes 358) One thus needs to add at this point only the problem of determinedness in two related respects, because so much hangs on this concept, as Lexis explained above.

The point, originally Kantian in our context, that “reality is the same as determinedness,” and that “determinedness only exists in those sciences which determine events or things in space and time” (Kautz 1990, 209; see Cassirer 1939, 59), is particularly well falsified, as if in two steps, by Ernst Cassirer and Hans-Georg Gadamer. First, as Cassirer demonstrates in his critique of the “first emotivist” Axel Hägerström – in the very useful paraphrase by Timothy Kautz – “determinedness is the result of an interaction, or a sum of interactions, which come into existence, or are kept, in a matrix of judgment. ‘Determinedness’ thus is precisely not a simple aggregate or a simple, given intuition but rather the result of (symbolic) mediation.” (213) And “determinedness never derives solely from the ‘things’ in space and time, just *because* they are in space and time: an apparent objectivity in the imagined placement of everything in a space-time system of coordinates is not a *sufficient* description of the world because it is precisely the kind of relation that remains undetermined.” (214) In other (simplifying) words, things are not determined in time and space, but at the very least, someone must determine them there – and, the world being what it is, tell at least some other person that this is so.

As importantly, as Hans-Georg Gadamer has stated, this focus on determinedness

outright defines the progress of realization which is achieved in the sciences. The world of physics, too, cannot at all want to be the whole of that what is. Even a world equation which would display all that is, so that even the observer of the system would appear in the equations of the system, would still require the physicist who as the calculating one is not the calculated. A physics that calculated itself and was its own calculation would remain a contradiction in itself. ... The being-as-such upon which its research is focused, be this physics or biology, is relative towards the *Seinssetzung* situated in its research program [*Fragestellung*]. Beyond that, there is not the slightest reason to give credit to the claim of physics that it could realize the being-as-such. As science, the one as well as the other has its object-area pre-designed, the realization of which signifies its mastery. (1990, 455-456)

So, in sum, reality is precisely not the same as determinedness, because there *is* no determinedness, but rather, someone does the determining. Thus, to argue for any science, let alone a social science, that is based on determinedness is perhaps scientistic, but it is not scientific. There is no “pure” social science (at least as long as one wants to somehow refer to reality) already by the theory of the natural sciences, especially physics. The same point can be made, even more strongly perhaps, if we turn to that pure ideal of validity and truth, mathematics, and mathematic modelling and formalization in its economic application.

### **3. Mathematics**

Neither is STE synonymous with mathematics, nor is mathematics synonymous with quantification (and also not with counting and calculation), but STE is very closely aligned with mathematics and especially modelling and formalization, which (apparently) lends it its theoretical credibility, to the point that what is not modelled and formalized is deemed, not only non-scientific, but not economics at all. If one does not play this game, one is out of it, literally, and economics jobs are difficult to get – STE, mainstream economics, is professionally largely defined as applied maths. The critique of this has always been quite strong, and against this opposition, Heinrich v. Stackelberg, in the preface to his book that played a key role in the re-mainstreaming and thus mathematizing of German economics after and even during World War II and the final demise of the GHS, *Grundlagen der theoretischen Volkswirtschaftslehre*, says, nicely summing up the critique and the defence line:

It is also stated that mathematics would fake an exactness and rigidity of economic relations which in reality would be flowing and inexact; it would fake necessities of natural-science laws where in reality the human will would be able to decide and shape freely. ... This view completely mistakes the role of mathematics in economic theory. How often has it been said from the expert side that “there never jumps more out of the mathematical pot than has been put into it before”! Mathematical symbolics changes neither the preconditions nor the results of the theoretician, as long as they are conclusive. (Stackelberg 1951, x-xi)

This defence is wrong in all of its points, and as these are the key objects of the present critique, they will be addressed one by one below.

#### **3.1. Mathematization and truth**

First, in the everyday academic discourse, mathematization *is* taken to somehow “guarantee truth” – it becomes more than a tool, it becomes a safety-foundation of an almost mythical nature. (See only Kenessey 1995, 304-305) But it is wrong to see mathematics as “guaranteeing truth,” since, as Einstein pointed out, “Insofar as the statements of mathematics refer to reality, they are not certain, and insofar as they are certain, they do not refer to reality.” (1970, 119-120) Wittgenstein put the same point thus: “All mathematical propositions mean the same thing, namely nothing.” (Quoted in Heath 1974, 25 n. 5 (as “the remark attributed to Wittgenstein”)) Or, again Einstein: “mathematics as such is incapable of saying anything about ... things of reality.” (1970, 120-121)



Once just one variable, i.e. one symbol for something, is introduced, the gates for definition, representation, conception, and language problems are opened – i.e. for problems of language and philosophy. And this is inevitable, for “one cannot want to look into the world of language ... from above. Because there is no position outside of the linguistic world-experience from which the latter itself could possibly become an object.” (Gadamer 1990, 456) “The objectivizing science thus experiences the linguistic being-formed of the natural world-experience as a source of pre-judices.” (457) And this means that even current highly sophisticated and complex ventures into new, “higher” “forms” of mathematics that try to encapsulate uncertainties and variabilities fall prey to this point as well, because they still try to “count in” the world which, however, sets the framework for those ventures as well.

In short, mathematical modelling, or formalization, does not add truth-value to any economic statement that is connected to some form of reality, because reality is brought into the formula by variables which are definable only linguistically, and that means in an extra-mathematical way, which in turn invalidates any automatic “truth-connex” of the equation. (Hence, mathematical formalization must either deny this or claim that reality does not exist or is just not interesting for economics – and all those defence mechanisms are actually applied.)

### **3.2. Mathematization and connection**

Second, a mathematical connection, contrary to what Stackelberg claims, is not simply a logical one either, as soon as it steps outside of any pure mathematics. Although the mathematics of economics Stackelberg refers to is quite different from that of Lexis’, let alone today’s, Lexis addresses a still-valid point when he explains,

Scientific thinking ... consists in the connecting of terms according to certain general basic relations. These connections at first only have a logical significance. However, as every empirical science wants to recognize the real connection of the phenomena which are in front of it, at a certain point it has to give to the merely logical connections also a real significance for the relations of the things themselves. (1903, 236)

Therefore, mathematics as a connection of the objects under investigation not only does not add any certainty to the statement, but it might be easily yet erroneously taken as the real kind of connection between the objects. (see Mises 1942, 243-245).

This is not quite the same as the previous point, which argued that in  $x + x = 2x$ ; the existence of  $x$  was the problem because  $x$  is to be defined non-mathematically and only  $1 + 1 = 2$  has the certainty that is desired. But mathematics also charges the meaning of “+”, which comes, just like “-”, “÷” etc., with specific ideas and concepts of how things are related. But what does “and” mean if goods, or people, or family, or countries, or incomes are put together – and how? The old simple example of both points (I unfortunately do not recall where this is from) says that  $x + x = 2x$  only if  $x$  is defined as  $x$  (i.e. as nothing, not connected to any real object), but assume that  $x$  are humans and  $x + x$  is partnership, then  $x + x = 2x$ , or  $x + x = x + x$ , or  $x + x = x$  (a very romantic thought), or  $x + x = 3x$ , or  $4x$ , ... . This is a very simple and not quite accurate illustration, but it does illustrate that if we mirror the real connection of things with simple signs of connection, let alone of people, we will think of this connection as the

logical-mathematical one and not as the real one, and again, some reality is lost, perhaps crucially so.

### **3.3. Mathematization and objects**

The previous point leads again back to the first one and to the problem with  $x$ , to a further pitfall regarding objects and how one sees them, and this is that the mathematical connection invariably tempts its executors into the abstraction and definition of the objects under review away from how and what they really are. This is already so in physics:

scientific concepts are idealizations; they are derived from experience obtained by refined experimental tools, and are precisely defined through axioms and definitions. Only through these precise definitions is it possible to connect the concepts with a mathematical scheme and to derive mathematically the infinite variety of possible phenomena in this field. But through this process of idealization and precise definition the immediate connection with reality is lost. (Heisenberg 1958, 171)

In Gottlob Frege's anti-Schubert booklet – and Frege is the fairly sacrosanct founding father of mathematical logic – we find the same thought, if used for an altogether different purpose, well expressed by the description of the “method to make disturbing qualities disappear by disregarding them.” (1899, vi; see 4-12) If we mind, Frege says, “that the colour of the leaves of a tree is green, so we disregard it, and at once they are colourless.” (4) This is one of the problems with counting: In the end, one could only count what is the same, but as things that are exactly the same are self-identical, there would be nothing to count. (8) Hence, we create sameness and calculate away, but once again, the reality-connection is lost.

### **3.4. Mathematization and the change of reality**

But does mathematization do any harm? It is un-realistic, it changes our image of things and connections, but surely then it cannot have an impact? Actually, the opposite is the case, as mathematization can even change the real world – and in this sense it would be realistic, but in the sense of reality-creating. How mathematization leads to another world view and thus, recalling Wittgenstein, another world may be demonstrated with a classic example, the reduction of things to money, i.e. the possibility of accounting and thus quantification. Werner Sombart makes the point brilliantly in his famous passage of double-entry accounting as the very basis of capitalism. (1916, 118-123) He says that double-entry accounting “is based on the consequentially pursued basic thought to grasp all phenomena only in quantities, the *basic thought, thus, of quantification*” (119), and that it leads to the fundamental separation of supply and gain. (119-120) Everything must be in the books; everything that can be in the books must be expressed in money; money is displayed in numbers, “*also heißt wirtschaften Rechnen.*” (120-121) This, in turn, leads to objectification and the mechanization of the accounting (122), and from here we go into a different world than before, one in which only counts what can be counted and put into the books – a world, to recall Plato, of which half of the reality is missing, and perhaps the more important one.

If this argument were only about science as such, and if “science is what recognized scientists recognize as science” (Marquard 1989, 199), all this would be no problem at all. But if we want to avoid self-referentiality and rather look for the reality and the real economy, and not for what is convenient or easy or cosy – and if we want to be genuinely practical in the long run – then we need to follow Plato’s division of the two kinds of measuring, and we need to accept that qualitative is not a complex form of quantitative, but rather something else.

From here, the argument goes on. It is, I would say, our task in economics and the social sciences to deliberate about whether this calculated world is a better one, difficult and tedious as this deliberation may be, particularly if one wants to draw conclusions and maybe even implement them. The question is what life we as human beings, in the context of structured living-together in time and space, want to live, and whether quantitative-mathematical thinking and its truth claim actually make a better or a worse world. I will in the end come back to the question of whether it might not be that it is also precisely for this reason that STE is promoted by those who want to have the world stay exactly as it is.

#### **4. Natural and social sciences II**

Let us now briefly go back to *Wahrheit und Methode* and to one of the initial arguments of this essay: the natural-science attempt to monopolize the truth, so successfully done, is a reversal of the real situation. The importance of Gadamerian hermeneutics for the social sciences is implied in G.B. Madison’s reminder that “the universality of Hermeneutics is based solely on the hermeneutical *fact* that ... what makes human beings ‘human’ is their ‘linguisticity’.” (1997, 360) On the basis of this fact, we can perhaps say that the dichotomy of *Verstehen* and *Erklären*, of understanding and explaining, of natural sciences on the one side and the humanities *and social sciences* on the other, evaporates in *Wahrheit und Methode* in the sense that the former become subsidiary to the latter.

To understand is not less or less scientific than to assess from the outside, as in the natural science world; but it is more or more so. Werner Sombart has put this very well, in terms quite similar to the thesis of *Wahrheit und Methode*: The natural sciences’ successful attempt to monopolise the truth is a reversal of the real situation. “‘True’ realisation reaches as far as we ‘understand’, that is, it is limited to the area of culture and fails towards nature.” (Sombart 1956b, 9) As the German philosopher Nicolai Hartmann put it, “‘Only ‘meaning’ can be ‘understood’ as well as all that which is related to it: value, goal, significance.” (Hartmann 1951, 33; see also 64-76). And Sombart: “Realisation that wants to arrive at the being of nature is metaphysics.” (1956c, 75) This means that although we cannot talk very meaningfully about things in biology and physics, the situation in “the social sciences is completely different: here, our realisation is capable of immediate penetration of the inner causal connection of the outer phenomena.” (Lexis 1903, 242-243) It does not mean, of course, that understanding inevitably leads to the truth, but it means that there is a chance that it does, or might. Gadamer’s student and colleague Hans Jonas expressed it thus:

As far as the so-called “understanding” is concerned, the mode of realisation of the humanities, it is evident that a “personal experiencing”, as a feeling-into the matter which in itself is a result of experience, belongs in the realisation inseparably from the beginning to the end, that is, until its result, and that it permeates the entire exegesis. (1987, 9)

So, while we certainly can create abstract systems and have fun with them, if we do not see the context of the life-world within which social matter happens, happening as it does between human persons and in the world in which we live and to which we cannot hope to gain a bird's eye view because we and our arguments are part of it, then what we say will remain self-referential.

## 5. Beyond mathematics: Whither economics?

Is there nonetheless a chance for the quantitative-mathematical kind to do economics? Yes, if we utilize its mythical or almost-mythical dimensions as described. It is unreal or even irreal if it is not treated as such. Myth, in this context, is not meant to sound derogatory: As Friedrich Georg Jünger in his seminal work on Ancient Greek myths explains, the cliché of science, or abstract or free thinking emerging from and moving away from the myth as an explanatory basis, is not wrong – however, once the former leaves the latter completely, it collapses as well, for as basis, it is necessary. (1947, 7-8) In other words, the reality of quantitative-mathematical social science necessarily encompasses its mythical characteristics. Here, in the world of myth, we might have the chance to productively use STE again, viz. as a myth as well, a story – one that certainly does not depict, explain, or even deal with reality, which is too complex for that, but one that as one story can give us some sort of handle on, some insight in one facet of, the problem at hand.

How to go on, however, in concrete economic research terms, especially in light of the practical tasks economics has to fulfil? This question leads us to a look at normativity again. Its re-inclusion into the social sciences would be a return to the Greeks, at least in perspective – and specifically to the Greeks, and especially Aristotle, as seen by the GHS and by hermeneutics. And here, understanding and normativity are linked in a way as to produce a possible, meaningful, truth-focused approach: “The Aristotelian program of a practical science seems ... to be the only science-theoretical model according to which the ‘understanding’ sciences can be thought.” (Gadamer 1977, 87)

Habermas objected that Hermeneutics could have a future only if *phronésis*, Aristotle's practical knowledge to which I appealed, became science. I responded with the reverse claim: only if science were to be subordinated to *phronésis* could it fulfill the task of the future. ... Wherever methods are being employed their correct application is not specified by a method but demands our own judgement. This is a profound commonality of reason itself. It testifies to the depth in which linguisticity is rooted in human life. All methods require judgement and linguistic instruction. (Gadamer 1997b, 366-367)

Therefore, the problem of the two kinds of measuring, i.e. the reminder that the qualitative is not a complex form of the quantitative, but *etwas ganz anderes*, something completely different, might for the social sciences, where human beings are concerned, be solved by Aristotle himself, who says that “the good is the most accurate measure of all things.” (*Politikos*, fragm. 79 in 1886 = fragm. 2 in 1952, 68)

For economics specifically, this results, again, in the confirmation that STE cannot become and is not real-world economics because not only does it not deliver, but methodologically it cannot deliver, because its apparatus shifts both attention and “truth-value” away from the truth in the sense of congruence with reality, and its incentives are so

placed as to be un-realistic. (You get hired, published, or promoted for devising a well-working model, not for being right forecasting, not even in retrospect.) That is what I mean when I say that STE has elevated irrelevance to method – and, the other way round, its method is bound to result in irrelevance.

And yet, again, even that is only correct on the first level – on one beyond, a second tier of reality is created because of those assumptions; tendentially a mechanistic world without values in the classical, positive sense of the word, indeed without the human dimension. It may well be that many of the STE protagonists do not see it this way – most STE economists really do seem to believe that they are doing good science, often even that they do deliver relevant economics. Nonetheless, we may just almost end with the observation that those who promote STE and those who profit from a kind of economics that cannot ask the real questions concerning the real world may form an alliance that is more than just accidental.

In 1897, Gustav von Schmoller served as Rector of the University of Berlin, then arguably the best university in existence. In his inaugural address, he narrated the story of how the GHS has become standard (and textbook) economics, conscious of his school's accomplishments, but in hindsight, we know that these words were almost the epitaph of the GHS. Nonetheless, I think his words describe very well what could be (again), and why the demise of STE would be so important:

Thus, a mere science of market and exchange, a sort of business economics which threatened to become a class weapon of the property owners, returned to being a great moral-political science which examines both the production and the distribution of goods, as well as both value and economic institutions, and which has its central focus not on the world of goods and capital but on the human person. (1904, 388)

As James Buchan has said about today's situation, "Though the economists had manifestly failed to find their gravity, they proceeded as if they had. They became like drunkards who have lost their house-keys, and search under the street-lamp, not because the keys are there, but because the street-lamp casts a faint artificial light." (1997, 180) It seems to me that to give up the imagined, yet potentially life-damaging, and certainly world-changing "accuracy" of STE in favour of an approach in economics that *prima facie* looks less scientific but is actually more so by being more realistic and thus also more relevant for human life and happiness, is a price that is not very high at all – neither in theory, nor in practice.

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## Iceland's meltdown:

### The rise and fall of international banking in the North Atlantic

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*"Iceland should be a model to the world" (Arthur Laffer, November 2007)*

*"They [the Icelandic banks] shouldn't be worried about the fundamental soundness of their business model. I think it is very sound and very good". (Richard Portes, May 2008)*

In 2007 average income in Iceland was almost \$70,000, about the fifth highest in the world and 1.6 times that of the United States. Reykjavik's shops brimmed with luxury goods, its restaurants made London look cheap, and sports utility vehicles (SUVs) choked its narrow streets. Icelanders were the happiest people in the world according to an international study in 2006, just ahead of Australians. They also enjoyed the least corrupt public administration in the world, according to Transparency International's Corruption Perceptions index, an honour shared with New Zealand and Finland in 2007. They had a life expectancy at birth of 80.8 years by 2008, putting them 11<sup>th</sup> in the world (well above the US at 78.2 years and the UK at 79.9 though well below Japan at 82.2 years). The prison population per 100,000 was 60, lowest in the world (equal with Japan and Finland).

What was there not to like about this model? Iceland's boom began in 2001 after the US Federal Reserve began cutting interest rates and pumping cheap money into the global economy. At about this time the Icelandic government privatized what had been small "utility"-oriented banks and set them free, much as the US government liberalized the Savings and Loans banks in the 1980s. The new banks discovered the alchemy of borrowing cheaply abroad, buying assets abroad, and then transforming the revenue streams into dramatically higher profits, wages, tax revenues and political support at home. Within only six years or so three Icelandic banks, with no prior experience of international banking, shot into the league of the world's 300 biggest banks. Looking only at the results and overlooking how they were being achieved, just about everyone applauded while the borrowing lasted. Clever people streamed into finance, too few served the state. The politicians, regulators and most economists thought that all they had to do was keep out of the way while the financiers performed their magic. Of course, much the same happened in the US, Britain, and Ireland. But Iceland stands out from the other cases as a more transparent illustration of how "masters of the universe" confidence, sophistic ideology, mercenary gain, mendacity and sheer ignorance combined to drive the boom and bust.

### From rags to riches, and the emergence of international banking

Iceland's prosperity developed from an economy which was about the poorest in western Europe at the end of the Second World War, and which for most of the post-war period was more regulated, politicized and inward looking than its European neighbours. Its

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fast economic growth – especially between 1960 and 1980 -- was driven by a combination of Marshall Plan aid; an abundant export commodity with the unusual property of a high income elasticity of demand -- cold-water fish; a foreign-exchange earning US/NATO military base which was large relative to the rest of the economy; and a small population (about 300,000 as of the mid 2000s), with a high average level of education, a Lutheran work ethic, and a strong sense of national identity rooted in the Icelandic language and literature.

Through the second half of the twentieth century a bloc of some 14 families (popularly known as the “Octopus”<sup>2</sup>) constituted the economic and political establishment, based in fishing, transport, oil importing and distributing, provisioning the NATO base, and domestic banking and insurance. This establishment provided the leaders of the two political parties which formed most of the coalition governments since the 1930s, and which divided up the spoils of office between core supporters. The dominant party was always the Independence (conservative) party, allied most of the time with the much smaller Progressive (agrarian) party. Occasionally social democrats and communists got a look in. Oligopoly and monopoly characterised the economy until the 1990s.

In the 1970s a dozen or so men studying law or business administration at the University of Iceland formed a group to promote neoliberal ideas, and took over the editorship of a journal called “The Locomotive”. As they moved into positions of influence and power they remained a network of mutually-promoting friends, more loyal to each other than to the organizations for which they worked. Known as the Locomotive group, they constituted a segment of Iceland’s “shadow elite”, using their influence in the Independence party and other organizations to win opportunities for themselves and refashion the society as a neoliberal model (far from the norms of Nordic social democracy, which they disparaged).<sup>3</sup> Several of them stepped out of the shadows into the limelight, taking the top political and juridical positions.

Of these David Oddsson was the chieftain. A life-long politician with a law degree and virtually no experience of the world beyond Iceland, he reigned as prime minister for 14 years, from 1991 to 2004. His big agenda was privatization and deregulation (followed by some re-regulation in line with the requirements of the European Economic Area, which Iceland joined in 1993). He invoked Thatcher’s Britain, Reagan’s America, and Lange’s New Zealand as his model.

Oddsson and his followers expected that they could use state power to steer the newly privatized profit opportunities to themselves, under the banner of the free market. But things did not quite work to plan. The reforms opened up opportunities for a third set of families which had been outside the establishment and the Locomotive group. Some had earlier got rich from retailing (which was not controlled by the establishment and was an excellent cash cow because the owners received cash on sale but did not pay suppliers for 90 days). Others had got rich from running businesses in post-communist Russia, and still others by obtaining fishing quotas through cronyistic connections to the Independence party when the quotas were handed over to them for free in the 1980s.

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<sup>2</sup> Örnólfur Árnason, (1991). Á slóð Kolkrabbans; Hverjir eiga Ísland? Bókaútgáfan Skjaldborg. Reykjavík 1991..

<sup>3</sup> Wedel, J. R. (2009). Shadow Elite: How the world’s new power brokers undermine democracy, government, and the free market. Basic Books 2009, NY.

In the period 1998-2002 the government privatized the two major state-owned banks and fostered the creation of a third big bank from mergers with smaller ones. It excluded foreign buyers, and favored nationals with good connections in the Independence Party and the Progressive Party, the governing coalition at the time. However, several players from beyond the establishment also became major bank shareholders, using their new riches from retailing, fishing, and Russia. The new owners and their family members and friends set up private equity companies alongside their banks (such as FL Group, Exista, Novator, Baugur). Few of them had much experience in national banking, let alone international finance.

The bank owners proceeded to take out giant loans from the banks for their direct use, using their shares as collateral; and also to make giant loans to their private equity companies. The bank owners and the equity companies used the loans to buy assets, some at inflated values; then used these assets as collateral for more giant loans; and bought more assets. By moving (being allowed to move) mountains of borrowed money on mere slivers of the bank's own funds they made extravagant profits. To the ignorant or uncurious it all looked like the banks and the private equity companies had robust balance sheets.

What came to be known as “love letters” (mere promises) illustrate some of the alchemy. Icelandic bank A took a loan of KR 1 bn from Icelandic bank B. Bank A then made a reciprocal loan of KR 1 bn to bank B. No cash exchanged hands; the loans were book entries not backed by collateral. Bank A then used its loan to B as collateral for a loan from the Bank of Luxembourg. But now Bank A got real cash in hand. Bank A entered the loan on the liabilities side of its balance sheet, and put it to work *on the assets side to buy more assets*. Using love letters, and making full use of Basel 2 rules to slide *assets* into categories against which they were required to hold less capital (allowing them higher leverage), the Icelandic banks were able to grow their assets at 50% a year and more, channelling some of the soaring profits back into retained earnings and shareholder equity – thus enlarging the base for still faster asset growth.

The alleged illegality was in the first part of the love letter process -- where the two banks made loans to each other not backed by collateral. But even with collateral the practice made the Icelandic banks heavily interdependent, such that if one went down the others would likely follow.

By such tactics, tiny Iceland's three main banks joined the ranks of the world's biggest 300 banks in 2006. On the back of their booming businesses the owners and managers took out more and more remuneration for themselves, accruing a skyrocketing share of national income for themselves. Their private jets zoomed in and out of the Reykjavik domestic airport, providing visual and auditory reminders to the part-admiring, part-jealous population below. They made generous loans to selected politicians; and bought controlling shares in media companies. The governing elite became their cheer leaders, boosting them internationally as “our go-getting Vikings”. In gratitude for their support the government shifted the tax burden from the very top to the bottom half of the income scale, in order to strengthen “incentives for risk taking”.<sup>4</sup>

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<sup>4</sup> Stefán Ólafsson and Arnaldur Sölvi Kristjánsson (2010). “Income Inequality in a Bubble Economy: The Case of Iceland 1992-2008”. Paper presented at the Luxembourg Incomes Study Conference, June 28-30<sup>th</sup> 2010 (Paper). Link to website: <http://www.lisproject.org/conference/papers/olafsson-kristjansson.pdf>.

The government, the banks, the Chamber of Commerce and other entities mounted a well-orchestrated campaign to project Iceland as an emerging international financial centre conveniently mid-way between Europe and America.<sup>5</sup> The leading Icelandic champion of free market economics declared in the Wall Street Journal in 2004, “David Oddsson’s experiment with liberal policies is the greatest success story in the world”.<sup>6</sup> The Iceland Chamber of Commerce declared in February 2006, in chillingly hubristic words:

“In public debate [in Iceland] it is often said that things are not as good as in our neighbouring countries. The other Nordic countries are the reference point.....The Chamber of Commerce suggests that Iceland stop comparing itself with the other Nordic countries, *after all we are in many ways superior to them*”.<sup>7</sup>

### **Worries begin to be voiced about financial stability**

In early 2006 the international media started to report worries about the stability of the banks, and the banks started to have problems raising money in the money markets.

The country had built up eye-popping imbalances. The current account deficit was close to the biggest in the world, at 24% of GDP in 2006. The stock market shot up 9 times between 2001 and 2007, which must be near a world record. The consolidated “assets” of its three main banks jumped from 1.7 times GDP in 2003 to almost 9 times GDP by end 2007, second in the world after Switzerland (enough to elevate all three into the ranks of the world’s 300 biggest banks). They were operating far beyond the capacity of the central bank to support them as lender- or market- maker of last resort – all the more so because their liabilities were real but many of their assets were dubious, and a high proportion of both were in foreign currencies.

During what came to be known as the 2006 “mini-crisis” the krona fell sharply, the costs of banks’ liabilities in foreign currencies rose, and the sustainability of debts in foreign currencies became a “public” problem. Business defaults increased, and state bonds suffered a downgrade by credit rating agencies.

The IMF rang the alarm bell in its country report on Iceland in 2006. The watered-down public version said that

“international markets are concerned that this pace of growth [of bank balance sheets] has exposed the Icelandic financial system to vulnerabilities that could undermine its health as the economy adjusts to restore balance. Potential vulnerabilities include considerable near-term refinancing needs, credit quality, the long-term sustainability of the banks’ presence in the domestic mortgage market, and the crossholdings of equity.”<sup>8</sup>

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<sup>5</sup> Tim Burt, “Iceland warms to offshore banking: PM wants country to emulate Luxembourg and Switzerland”, Financial Times, 7 April, 1998.

<sup>6</sup> Hannes Gissurason, “Miracle on Iceland”, Wall St Journal, Jan 29, 2004.

<sup>7</sup> Vidskiptathing Íslands 2015, report published by Icelandic Chamber of Commerce, February 2006, emphasis added. Albert Einstein’s dictum, “Imagination is more important than knowledge”, is emblazoned on the title page.

<sup>8</sup> IMF, *Staff Report: Iceland*, July 13, 2006.

The private version was much more critical. But the prime minister and finance minister insisted it be toned down before publication, and the IMF complied. For example, the private version described Iceland's imbalances as "staggering", which was changed in the public version to "remarkable".

Several Icelandic and foreign economists warned of big dangers ahead. A Danish bank wrote a critical report describing Iceland as a "geyser economy" (on the point of exploding like a geyser).<sup>9</sup>

### **The bankers and the government define the problem as a lack of reliable information**

The Icelandic bankers and politicians interpreted the so-called "mini crisis" of 2006 as the result of a lack of information about the banks, a mere problem of *reputation*. And they calculated that any tightening of regulation at this time would be interpreted as confirming that the media were right to be talking about a problem. So the central bank simply took out a loan to double the foreign exchange reserves, while the bankers and the government mounted a big PR campaign. The banks continued with a huge mismatch between their assets denominated in foreign currencies (mostly illiquid and long maturities) and their liabilities denominated in foreign currencies. By the end of 2007 the three main banks obtained two thirds of their total funding from short-term borrowings.

As part of the PR campaign the Iceland Chamber of Commerce commissioned a report on the financial system from the American monetary economist Professor Frederic Mishkin and an Icelandic economist, published in May 2006. Only some 30 pages long, it affirmed the stability of the banks, in marked contrast to the IMF report written at the same time.<sup>10</sup> The Chamber paid Mishkin \$135,000. The following year the Chamber commissioned another report from Professor Richard Portes of the London Business School and a second Icelandic economist, published in November 2007. They affirmed – with more qualifications – the international stability of the Icelandic banks, hardly engaging with the IMF's arguments.<sup>11</sup> They left the lender-of-last resort question to the end of their 65 page report, and dismissed it in half a page. The Chamber paid Portes £58,000 (sterling), around the annual salary of an associate professor at a UK university. From the Chamber's point of view buying Mishkin's and Portes's names was good investment because their imprimatur could be used to keep the party going despite the IMF-type negative reports. The politicians and regulators were the more easily convinced because Oddsson had abolished the National Economic Institute in 2002, leaving the domestic system with little capacity to produce independent analysis.

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<sup>9</sup> Danske Bank, "Iceland: Geyser Crisis," 2006, at [http://danskeanalyse.danskebank.dk/link/FokusAndreIceland21032006/\\$file/GeyserCrises.pdf](http://danskeanalyse.danskebank.dk/link/FokusAndreIceland21032006/$file/GeyserCrises.pdf).

<sup>10</sup> Mishkin, Frederic and Tryggvi Þ. Herbertsson, (2006). Financial Stability in Iceland. Iceland Chamber of Commerce, Reykjavik 2006. After the crash the title of the paper mysteriously changed to "Financial instability in Iceland", as listed on his website. Website: <http://www.vi.is/files/555877819Financial%20Stability%20in%20Iceland%20Screen%20Version.pdf>.

<sup>11</sup> Portes, Richard and Friðrik M. Baldursson (2007). The Internationalisation of Iceland's financial sector. Iceland Chamber of Commerce. Reykjavik 2007. Website: <http://www.iceland.org/media/jp/15921776Vid4WEB.pdf>.



A long line of libertarian ideologues were invited to Iceland to preach the gospel of neoliberal economics. One such was Arthur Laffer, the supply-side economist of the Reagan era, who in late 2007 assured the Icelandic business and libertarian community that fast economic growth with a large trade deficit and ballooning foreign debt were signs of success. “Iceland should be a model to the world”, he declared.<sup>12</sup> Little did he know.

Debt became the way to live. Brokers criss-crossed the country persuading households to load up on more debt and convert existing krona debt into much lower interest Swiss franc- or Japanese yen-denominated debt.<sup>13</sup> “The krona would have to fall by more than 20% for this not to be a no-brainer”, they told their clients, “and that’s not going to happen”.

### **Icesave and regulatory capture**

Despite surviving the 2006 mini crisis, the banks continued to have difficulties raising money to fund their asset purchases and repay existing debt. Indeed, auditor reports written in 2010 for the special prosecutor (see below) show that at least two of the banks were insolvent by 2007, but kept going with extremely expensive credit lines from foreign banks. The reports attest to fraud inside the banks and negligence on the part of the banks’ auditor (PWC).<sup>14</sup>

As borrowing from other banks became more difficult the big three faced the prospect of ending up like beached whales. One of them hit on the idea of saving itself by raising *retail* deposits in Britain (October 2006) and Holland (May 2008). It set out to do so via internet branches in which depositors got a higher interest rate than from their own high street banks. Icesave, as the branches were called, vacuumed up deposits directed by “best buy” internet sites, including tens of millions of pounds sterling from such organizations as Cambridge University, the London Metropolitan Police Authority, and most remarkable of all, the UK Audit Commission (responsible for auditing the activities of local governments). The inflood allowed the bank to repay its loans and buy more assets. The fact that the Icesave entities were legally established as “branches” rather than “subsidiaries” meant that they were to be supervised by the Icelandic authorities, not by the host authorities. The owners were keen to establish them as branches rather than subsidiaries because this gave them more scope to transfer capital and deposits across borders.

In March 2008, as more evidence came into government bodies pointing to looming catastrophe in the banks, the government launched yet another PR campaign in the form of a “road-show” in New York, where the Prime Minister assured Wall Street that the Icelandic banks were sound despite rumours to the contrary. The foreign minister and Professor Richard Portes held a road-show in Copenhagen to give the same assurance. In the run-up to the opening of the Icesave branch in Holland in May 2008 the parent bank published a prospectus which carried an interview with the chairman of Iceland’s Financial Supervisory

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<sup>12</sup> Arthur Laffer, “Overheating is not dangerous”, Morgunbladid, 17 November 2007.

<sup>13</sup> The Supreme Court ruled in June 2010 that much of this activity was illegal, according to legislation passed by parliament in 2001. That it nevertheless continued for at least seven years illustrates the gap between laws and practice in the Icelandic financial industry, and the feebleness of supervision by the Financial Services Authority.

<sup>14</sup> One of the reports is COFISYS, “Glitnir bank: Investigation in the accounts and the auditor’s files: Report to the special prosecutor”, November 2010.

Authority, affirming that all was well with Iceland's banks. The government's PR road shows, and the chairman's granting of the interview for PR purposes, illustrate the regulatory capture that was endemic in Iceland's system of financial management.

### **International attempts to rescue the banks**

Though the prime minister, the foreign minister, Richard Portes and the chairman of the regulators appeared unaware that Iceland was fast approaching crisis, the IMF was only too aware. In mid April 2008 it sent a confidential report to the government about what to do to rein in the banking system and save the economy. Mervyn King, governor of the Bank of England, offered David Oddsson (by then self-appointed chairman of the Central Bank of Iceland) help to scale down the banking system in late April 2008; but Oddsson did not even reply. The central bank had concluded it was impossible to scale down the banking system, and sought instead to borrow still more foreign exchange reserves. In mid May the central banks in Denmark, Sweden and Norway finally agreed credit lines, but on condition that three ministers and the three governors of the central bank sign a declaration written by the central banks of the three Nordic countries, promising to carry out a programme of actions very similar to that recommended by the IMF in mid April. The Icelanders agreed, without consulting or later informing the rest of the government or the Parliament.<sup>15</sup> Having got the credit lines they returned to business as usual. The Nordic central banks and the IMF grew increasingly exasperated, seeing the Icelanders as demanding and unreliable adolescents with a strong sense of entitlement.

Robert Aliber, an expert on financial crises, visited Reykjavik in June 2007 and counted the number of building cranes, after which he went on to predict, in a lecture at the University of Iceland, a big financial crisis within a year. In May 2008, on a return visit, he commented in a local newspaper that the FSA's level of competence (judging from his visit to it) was about equal to what would be achieved by random selection from the Reykjavik telephone directory.

Wade wrote an op-ed in *The Financial Times* on 2 July 2008, titled "Iceland pays the price for financial excess". Portes and collaborator replied in a long letter titled "Criticism of Icelandic economy does not square with the facts" (4 July). They declared, "Robert Wade gets Iceland very wrong", and assured readers that the financial system was stable. They said, "Iceland has had to apply exactly the same legislation and regulatory framework as European Union member states, and its Financial Services Authority is highly professional". They did not mention that the FSA had a total staff of 45 (a quarter of them lawyers) for regulating a financial system which included three mega-banks with assets then almost 9 times Iceland's GDP; nor did they mention that the central bank had almost no capacity to act as lender of last resort.<sup>16</sup>

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<sup>15</sup> Special Investigation Commission, *Causes and build up to the collapse of the Icelandic banks in 2008*, Althingi, 2010, v. 1, p.223-224.

<sup>16</sup> Drawing parallels with the East Asian/Russian/Brazilian crisis of 1997-99, Wade gave several public talks in Iceland from the summer of 2005 onwards about the build up of financial fragility, and was politely dismissed. Other warnings came from Willem Buiter and Anne Sibert. See their "The Icelandic banking crisis and what to do about it: The lender of last resort theory of optimal currency areas". Centre for Economic Policy Research (CEPR). Policy Insight nr. 26. October 2008, which was presented to the commissioning bank in early 2008 but kept confidential. Website: <http://www.cepr.org/pubs/policyinsights/PolicyInsight26.pdf>. Also, see a report written by the Finish expert Kaarlo Jannari to the Prime Minister of Iceland in March 2009, "Report on banking regulation and supervision in Iceland: past, present and future". Website: [http://eng.forsaetisraduneyti.is/media/frettir/KaarloJannari\\_2009.pdf](http://eng.forsaetisraduneyti.is/media/frettir/KaarloJannari_2009.pdf). And Wade, "Iceland: wiser counsels should have prevailed", ft.com, 14 October 2008.

Meanwhile some of the banks' biggest shareholders were themselves facing illiquidity or insolvency, which put the banks' own survival at risk. So in the few months before it folded Landsbanki (Icesave's parent) lent 36% of its capital to a few of its main owners. Glitnir passed on 17% of its capital.<sup>17</sup> On 24 September Kaupthing's credit committee approved loans equal to more than 100% of the bank's equity, mainly to a few of its owners and closely connected parties.<sup>18</sup> As the saying goes, the best way to rob a bank is to own it.

### The crisis hits

At the end of September 2008, in the wake of the Lehman collapse and seizure of money markets, the crisis finally hit. Remarkably, in the three days from October 1 to October 3 UK local authorities poured in another £33 million into their Icesave accounts, as though their expensively paid finance directors were fast asleep. The next day the first bank collapsed, and within a week all had collapsed and been taken into public ownership. The instinct of those in charge was to protect the creditors and inject public funds to keep them afloat, as in many other countries, including the US and Ireland; but with assets by then equal to almost 11 times GDP, this proved impossible. Receivership was chosen *faut de mieux*.

From being among the 300 biggest banks in the world they now joined a less glorious league – Moody's list of the 11 biggest financial collapses in history.

In early October 2008 the Icelandic central bank, run by its chairman David Oddsson (the former prime minister), went crazy. Without consulting any of his staff he imposed a currency peg to a basket of currencies at close to the pre-crisis rate. His chief economist learned about it on the internet and threw up his hands in horror, exclaiming, "Oh no, now we are really going down the tubes!". The peg lasted only few hours, but time enough for cronies-in-the-know to spirit their money into other currencies. When it broke the krona sank like a stone. The central bank abruptly lowered the interest rate a week later, contributing to the sense of things out of control.

An IMF team arrived in October 2008 and prepared a crisis-management programme, the first time the IMF had been called in to rescue a developed economy since Britain in 1976.<sup>19</sup> To stabilize the krona it offered a loan of \$2.5 bn. and the Nordic central banks, swallowing their anger, offered another \$2.5 bn. The IMF approved stringent foreign exchange controls to stop capital from fleeing. It also called for an increase in the central bank interest rate from 15% to 18%, but soon after reduced it to 15%. Importantly, it called for no more than moderate fiscal tightening, with the main pain to come in 2010-2011. It helped the government begin to restructure and recapitalize the banking sector. By February 2009 the IMF had stationed staff members full time in Reykjavik. As head of office it chose a staff

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<sup>17</sup> Robert Boyes, *Meltdown Iceland*, Bloomsbury, 2009, p.160.

<sup>18</sup> Sigrun Davidsdottir and Rowena Mason, "Kaupthing approved £1.69bn loans for Arsenal backer Alisher Usmanov prior to collapse", *Telegraph*, 20 Jan 2011.

<sup>19</sup> International Monetary Fund, *Iceland, Request for Stand-By Arrangement*, November 25, 2008, (<http://www.sedlabanki.is/lisalib/getfile.aspx?itemid=6606>).

member who had been the room mate of the prime minister (Oddsson's successor) at Brandeis University in the 1970s.

The Icelandic krona (ISK) fell from about 90 to the euro at the start of 2008 to 190 in November 2008 -- a massive cut in purchasing power. The foreign exchange market stopped working. Foreign exchange became available only for government approved imports. The stock market collapsed by about 98% in 2008. By March 2009 the senior bonds of the banks were trading at between 2 and 10% of their face value. Average gross national income fell from 1.6 times that of the United States in 2007 to 0.8 times in February 2009 (in market exchange rates). In krona terms, GDP (chained value) fell from the last quarter of 2008 to the end of 2010 by almost 10% (seasonally adjusted about 9.25%). Unemployment rose from an average of 1.6% through 2008 (4.8% in December) to an average of 8.1% in 2010, rising to 8.5% in January 2011. Net migration went from an inflow during 2008 to an outflow of almost 4,500 in 2009 and 2,100 in 2010. As unemployment benefit comes to an end in 2011 outmigration is expected to increase.

### **The political backlash**

From the normally placid and consumption-obsessed population an anxious, angry protest movement emerged. A handful of organizers, mainly people like singers, writers and theatre directors who had been outside politics, called for rallies in the main square in front of the parliament building to demand a change of government. Thousands of people, all age groups and distinctly middle-class, assembled in shoulder-to-shoulder numbers never seen before in Iceland. They spent freezing Saturday afternoons chanting, banging saucepans, and listening to speeches and songs. "Fuck Fucking Hell" was one of their slogans. They linked arms in a circle around the parliament building to block it up, and assaulted the building and the police with fruit and yogurt as they called for the government's resignation. Another group of organizers arranged for public meetings in Reykjavik's biggest theater every Monday evening to hear analyses of the situation, at one of which government ministers petulently took questions. For all the fear and anger the protestors also felt a sense of elated solidarity.

In the wake of what was called "the saucepan revolution", the Independence Party-Social Democratic Alliance government, in power since May 2007, resigned in January 2009, the first government in the world to resign because of the global crisis. Elections in April 2009 ushered in a fragile coalition of Social Democrats and Left-Greens. One of its central fissures has been how and whether to repay the crushing Icesave debt demanded of it by the British and Dutch governments, and how to repay the loan taken out by the central bank in 2006 to double the country's foreign exchange reserves, which matures in 2011. Still another is whether to join the European Union and the eurozone.

### **What explains the implosion?**

The Lehman collapse and resulting paralysis of money markets was the trigger. But a crash would have come anyway because of the giant structural imbalances, the overreaching of the financiers, and the vulnerability to reversal of short-term capital inflows -- just the things which Miskin, Portes and many others overlooked or downplayed. In a way, the Lehman's collapse was a blessing since its knock-on effects burst the Icelandic bubble soon

enough to prevent what – if things had continued for another 12 months – might have been the first complete bankruptcy of a modern nation, and attendant mass outmigration.

The bankers and their linked private equity firms might have been studying the book by William Black called *The Best Way to Rob a Bank is to Own One: How Corporate Executives and Politicians Looted the Savings and Loan Industry*.<sup>20</sup> As Black said on a post-crisis visit to Iceland, their behaviour fit the four main criteria of “accounting control fraud”. They “(a) grew like crazy, (b) made really, really bad loans with high yields, (c) were extraordinary leveraged, i.e. a lot of debt compared to equity, and (d) maintained no significant loss reserves”.<sup>21</sup>

However, in the end the responsibility lies with the government, the central bank and the regulators, and their failure to regulate at every turn. What is striking about the Icelandic bubble is how it went on growing year after year while the politicians and regulators remained convinced it was not a bubble – or at least not one they could or should do anything about. All the feedback loops from evidence of trouble to public action to reign in the banks were broken.<sup>22</sup>

Hence the FSA was kept to a tiny size (45 staff by 2006) as the banks grew and grew, in the name of “light touch regulation”. It did not matter, apparently, that supervision meetings at the FSA would be attended by two or three officials and an intimidating phalanx of financial analysts and lawyers from the bank.

And hence the “common sense” decision at the level of the government to rely primarily *on the banks* for analysis of the financial system. Afterall, the banks paid much better than the central bank or the regulatory authority, so they attracted the best talent. People joined the central bank or the FSA with the aim of learning enough to cross the street and join one of the banks. So why not rely on the analyses of the best talents? Oddsson’s closure of the National Economic Institute in 2002 removed the only independent domestic source of analytical information (apart from a few ignorable economists in the university).

The Iceland Chamber of Commerce also took an active role, commissioning analyses from “independent” experts like Mishkin and Portes, whom it paid handsomely for their endorsements. Mishkin’s and Portes’ reports were both written largely by their Icelandic collaborators, and they were paid largely for their names. Still, they both claimed to be experts in financial systems. They had access to the same data as the IMF, the Danish bank, Robert Aliber and the few Icelandic critics. Either they did not know how to analyse a bubble – in which case they took the money under false pretences; or they did know but ignored the signs of an advanced bubble because they accepted the Chamber’s offer of money in return for the “right” conclusions.

At every turn, conflicts of interest were ignored. Indeed, conflicts of interest have been so endemic in the small Icelandic system that they are often not even recognized as such. Rather, they tend to be neutralized by being seen as mere “coincidences of interest”,

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<sup>20</sup> University of Texas Press, 2005.

<sup>21</sup> William Black, public lecture, University of Iceland, 3 May 2010.

<sup>22</sup> For more on the failure of Dutch and British regulators in relation to Icesave, see Wade letters to Financial Times, “Icesave is classic case for third-party mediation”, 13 January 2010, and “Citizens shouldn’t have to bear the risks of failure”, 21 January 2010.

which therefore pose no societal problem.<sup>23</sup> So people tend to be strikingly nonchalance about regulatory capture. In the case of finance, the oversized banking system had been able to get its way with the government and make itself the gatekeeper of critical information without politicians registering a problem. And when outside experts, such as the IMF, did show them that they had a problem, they were able to dismiss their concerns by holding up reports from vested interests which said otherwise, much as the tobacco industry commissioned scientists to raise doubts about the link between smoking and lung cancer.

Finally, the civil service is established in such a way that each department has little independence from the minister. The permanent secretary (top civil servant in each department) is selected by the minister, often on the basis of one-on-one interviews with no one else present, sometimes from a short-list prepared by an outside consulting firm. There is no civil service commission to ensure merit recruitment. The permanent secretaries in effect have life-time jobs at that rank (except in egregious circumstances), and the system is populated by people who once made a good deal with a minister and now have to be found same-rank jobs somewhere, at home or abroad.

In this context one can understand what happened when in 2007 the inner circle of government could no longer ignore the evidence that the balance sheets of the banks might be cans of worms. The relevant ministers established a coordination committee of senior civil servants to monitor the situation and plan for a crisis. But the committee members, led by the permanent secretary of the prime minister's office, had no idea how to do such planning and they did not even try. The Special Investigation Commission determined that they never reported to ministers in a way that could be verified – thus allowing the latter to deny that they knew how serious the situation was becoming, and escape legal responsibility.

## **Conclusion**

Iceland is the story of Icarus in modern dress. Icarus sought to escape from exile in Crete using a pair of wings fashioned from feathers and wax. He was warned not to fly too close to the sun. But overcome by the excitement of flying, he flew too close, the wax melted, and he tumbled into the sea. As of early 2011 his Icelandic counterpart is still in the water, paddling hard but a long way from land, and the direction of the current is unclear.

The decision to make the creditors, not the taxpayers, shoulder the biggest share of bank losses was clearly a smart move – though as explained earlier those in charge would have done the opposite if they could. The government's and IMF's decision to postpone big cuts in public spending into 2010-2011 was also smart. As a result Iceland has so far experienced a smaller fall in GDP and employment and a faster rebound than the big public spending slashers like Ireland, Estonia and Latvia.<sup>24</sup> However, the government is undertaking drastic cuts in public spending in 2011. And the 2006 loan to double the foreign exchange reserves has to be repaid in 2011.

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<sup>23</sup> Wedel, J. R. (2009). op.cit.

<sup>24</sup> Olafsson and Kristiansson 2010, op.cit. Robert Wade, "Iceland shows the dangers ahead for us all", Financial Times, 27 August 2009.



Then there is the looming Icesave debt. The debt to foreign depositors is equal to almost half of 2010 GDP. When the president, in 2010, called a referendum on the proposed Icesave repayment deal (only the second referendum in the history of the Icelandic republic), nine out of every ten Icelanders rejected it. A more favourable deal (to Iceland) is to be put to a new referendum. But many Icelanders believe that the debt should not be the liability of taxpayers, period, and that a wholesale restructuring of Iceland's debt is the only option -- a "managed restructuring", avoiding the word "default". Equally, however, politicians in the UK and the Netherlands think that their taxpayers should not be liable to compensate Icesave depositors up to the European deposit guarantee scheme minimum; and that Iceland's taxpayers must assume the burden in order to protect the integrity of the whole European deposit guarantee scheme, even if repayments are stretched out over decades. These politicians have a whiphand over Iceland's destiny in the European Union. They threaten that Iceland must approve the new Icesave deal or suffer the wrath of the international community. Unfortunately for them, the first rejection was followed by a fall, not a rise, in the cost of credit default swaps on Iceland's sovereign debt, as investors heard renewed assurances that the government would honor its debt obligations (undefined).

The Special Investigation Commission established by parliament produced a remarkably full and honest account of the boom and bust, published in April 2010 in 9 volumes weighing 8 kilos.<sup>25</sup> But hemmed in by commitment to the IMF programme, by demands from the public to write down household debts, and by intense lobbying from the Confederation of Employers saying (with substantial public support) "Time to move on", the government has in effect buried the SIC report. Indeed, the co-chairman of the Independence Party said in a TV program that "This [SIC] report is getting in our way, but just temporarily". Not a single government agency at home or abroad has asked one of the principals to give a talk about the report's findings, while the IMF, the Federal Reserve, all the Nordic central banks, the Bank of England, and more have issued invitations, all accepted (to which the relevant Icelandic embassies have declined even to send a staff member). After one of the principals spoke at the IMF in Washington, an Icelandic central bank official seconded to the IMF called her into his office and rebuked her for being "unpatriotic". Social scientists who talk and publish about Iceland's experience to foreign audiences are often accused in media and blogs of working against the national interest.

A special prosecutor has been at work since late 2008, with a staff of 60 by 2010, but has so far (early 2011) brought no charges. Lawyers defending the suspects constantly invoke "rules of bank secrecy" to delay or derail the cases. Luxembourg, the site of European operations for one of the Icelandic banks, has delayed and delayed releasing information to the special prosecutor. Under Icelandic law a prosecution which fails the first time cannot be brought again.

Privately, many in Iceland's elite think that, for all the short-term disruption, the boom was well worth the crash, both in terms of their personal situation and the national situation. They -- their banks and private equity companies -- managed to divert vast profits from foreign economic activity into tiny Iceland by dint of borrowing to buy foreign assets, enormously raising living standards and improving infrastructure. Whether the methods were legal or moral is a secondary matter (in the elite's eyes); afterall, the rest of the world let them get away with it. Their main concern now is to move on, not keep dwelling in the past, and to

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<sup>25</sup> Special Investigation Commission, *Causes and build up to the collapse of the Icelandic banks in 2008*. Delivered to the Icelandic parliament, Althingi, April 12<sup>th</sup> 2010.

prevent the debt load from crashing living standards back down to where they were before the foreign borrowing started (and of course the financiers themselves are anxious to avoid prosecution and restart the game as memories fade, but now from bases in places like Malta, Luxembourg, and London). The main daily newspaper pushes this editorial line. Its editor is none other than David Oddsson, after he was fired from the central bank – the equivalent of Richard Nixon being made editor of the Washington Post during the Watergate investigation.

A new government with the Independence Party back in charge would be very helpful for the elite's purpose. The Independence Party, playing on short memories, is having success in persuading voters that the present government (which took office in April 2009) is the cause of their suffering, nothing to do with the Independence Party.

Independence Party machinations may lie behind the fate of the constitutional assembly. The present parliament agreed to sponsor elections for a constitutional assembly charged with drawing up a new constitution to replace the one inherited from the Danish Monarchy at the end of the Second World War; in effect, a constitution for the second Iceland Republic, based on a new social contract between citizens and the state. But the Supreme Court, four of whose five judges were appointed by the Independence Party, produced an assessment that the elections were invalid. The Independence Party has a strong interest in not allowing the assembly to operate. The court's assessment came out after it became clear that most of the assembly's members favoured constitutionalizing the principle that Iceland's natural resources (including water, fisheries, etc.) belong to "the nation". Many in the political elite wish to be able to privatize natural resources in order to convert them from "dead capital" to "live capital" – for example, sell water sources to foreign bottling companies wanting to market "pure Icelandic water", or sell rivers to hydro-electric power companies; and conversely they fight against the idea of bringing the fishing quotas back to public ownership and periodically auctioning them, the revenues to be used for public purposes. At present (early 2011) the constitutional assembly remains in limbo.

Meanwhile, in the outside world, the critical issue of cross-border bank regulation, and in particular the non-viability of the distinction between "branches" and "subsidiaries", has hardly been addressed, even though this cuts at the foundations of the common European financial market. Nor the problem in the multilateral surveillance system illustrated by the fate of the IMF's strong "draft" warnings to the prime minister and finance minister in 2006 – that the IMF's assessment has to be negotiated with the government before public release. Nor the misleading measures of corruption used in international indicators, which miss the type of corruption endemic in Iceland. Still less has the outside world begun to address the root causes of global financial instability, of which Iceland is just one small manifestation; namely, the toxic combination of flexible exchange rates between the major currencies, the US dollar as the international reserve currency, and free capital movements. END

### **Further reading**

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Wade and Sigurgeirsdottir, "Lessons from Iceland", *New Left Review*, Sep-Oct 2010.

T. Gylfason et al., *Nordics in Global Crisis*, Research Institute of the Finnish Economy (ETLA), Helsinki, 2010.

J. Danielsson and G. Zoega, "The collapse of a country", <http://risk.lse.ac.uk/rr/files/e.pdf>.

Robert Boyes, *Meltdown Iceland*, Bloomsbury, 2009. A fascinating, beautifully written political economy account.

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<http://rwer.wordpress.com/2011/03/11/rwer-issue-56-Wade-and-Sigurgeirsdottir/>

# On the economic crisis and the crisis of economics

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*"So in summary, Your Majesty, the failure to foresee the timing, extent and severity of the crisis and to head it off, while it had many causes, was principally a failure of the collective imagination of many bright people, both in this country and internationally, to understand the risks to the system as a whole."*

Letter to the Queen of England by the British Academy. July 2009

## Introduction

The outburst of the 2008 global economic crisis sparked myriad criticism of mainstream neoclassical<sup>1</sup> economic theory, which is blamed for having not even considered the possibility of the kind of collapse that the subprime mortgage meltdown unleashed.

If we follow Joan Robinson (1972), this was the third main crisis that economic theory has faced. She identified the first one with the great slump of the 1930s and the second one with the 1971 dollar crisis.

The purpose of this paper is threefold. First, to make clear of what economics is guilty; second, to spell out what sort of science economics is, what is legitimate to expect from it and what is not; and, third, to discuss the flaws economics suffers from and how to correct them.

The paper starts with a survey of some of the criticisms which are being made of mainstream economics. In section 2, an analysis is made of the responsibility of economics and economists in the recent financial crisis. In section 3, the main features of economics as a social science are considered. Section 4 reviews the main issues at stake in the discussion between orthodox economic theory and its critics. In Section 5, I discuss the economics research agenda and argue that priorities are misplaced in it. Section 6 has to do with the relationship between orthodox and heterodox economic theories. In Section 7, a list of 15 guidelines for improving the methodological approach as well the contents of economic analysis is sketched out. The main conclusions are found in Section 8.

## 1. The criticisms against the economics profession

Conspicuous among the critics, Paul Krugman blames the profession for its "blindness to the very possibility of catastrophic failures in a market economy."<sup>2</sup> In his view, "the economics profession went astray because economists, as a group, mistook beauty, clad in impressive-looking mathematics, for truth."<sup>3</sup> This led to turning "a blind eye to the limitations of human rationality that often lead to bubbles and busts; to the problems of institutions that

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<sup>1</sup> For a distinction between the concepts of neoclassical, orthodox, heterodox and mainstream economics see Colander et al. (2004).

<sup>2</sup> How Did Economists Get It So Wrong? *New York Times*, September 2, 2009.

<sup>3</sup> Ibid.

run amok; to the imperfections of markets – especially financial markets – that can cause the economy's operating system to undergo sudden, unpredictable crashes; and to the dangers created when regulators don't believe in regulation."<sup>4</sup>

For Sachs (2009: 1), "sustained and widespread future prosperity will require basic reforms in global macroeconomic governance and in macroeconomic science." He concludes that "a new science of macroeconomics must supersede the stale debates of Keynesian and rational expectations theories" (Sachs (2009: 3). For this, he recommends to start the new macroeconomics with three issues: climate and energy security, food and nutrition security, and poverty reduction.

Behavioral macroeconomists like George Akerlof and Robert Shiller (2009) put the blame on the rationality assumption of mainstream neoclassical economics. Only "if we thought that people were totally rational, and that they acted almost entirely out of economic motives, we too would believe that government should play little role in the regulation of financial markets, and perhaps even in determining the level of aggregate demand."<sup>5</sup>

Herbert Gintis (2009) goes further. Although he coincides with Akerlof and Shiller in their criticism of orthodox economic theory, he argues that "there is nothing in economic theory that says that rational individuals interacting on markets will produce either stable or socially efficient outcomes."<sup>6</sup> He concludes that there are "slim grounds for Akerlof and Shiller to attribute macroeconomic fluctuations wholly to "animal spirits" that would not exist were economic actors "rational."<sup>7</sup> Gintis vindicates then, as an alternative perspective, the modeling of the market economy as a complex nonlinear system.

For Colander et al. (2009: 2) the financial crisis revealed a "systemic failure of the economics profession" because the majority of economists "failed to warn policy makers about the threatening system crisis and ignored the work of those who did."

Direct from the battle front, Willem Buiter, the chief economist of Citigroup and former member of the Monetary Policy Committee of the Bank of England, says that, in his opinion, macroeconomics research programs tended to be motivated by the internal logic, intellectual sunk capital and aesthetic puzzles of established research programs rather than by a powerful desire to understand how the economy works – let alone how the economy works during times of stress and financial instability. So the economics profession was caught unprepared when the crisis struck.<sup>8</sup>

The political scientist Jon Elster (2009) offers what he calls "outsider criticism" of economic theory. He argues that the problem with economics and other social sciences is "excessive ambitions." Economists look for a level of precision and robustness which cannot be warranted in social sciences.

Two conditions are crucial for mainstream neoclassical economics: determinate prediction and rational behavior. If the theory is indeterminate or the agents are irrational no explanation will be forthcoming. Elster explains why more often than not these conditions do not hold. Indeterminacy stems from the difficulty for agents to assess numerical probabilities to the possible outcome of actions. Rationality faces the restriction of agents' capacities. Economic agents are supposed to make the calculations that occupy many pages of mathematical appendixes in leading journals. Elster discards the "as if" rationality argument

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<sup>4</sup> Ibid.

<sup>5</sup> Akerlof and Shiller (2009: 173).

<sup>6</sup> Gintis (2009: 4).

<sup>7</sup> Ibid., p. 5.

<sup>8</sup> "The unfortunate uselessness of most 'state of the art' academic monetary economics." See <http://www.voxeu.org/index.php?q=node/3210>.

arguing that it is based on the assumption that the economic agent is able to spend absurdly large amounts of time searching for a good rule. He observes that economists make assumptions for the sake of simplicity without telling the reader how many of the conclusions can be expected to hold in the non-simplistic case. His conclusion is that much work in economics and political science is devoid of empirical, aesthetic or mathematical interest. Many articles published by eminent economists, he says, are nothing more than a piece of science fiction. So, according to Elster, lots of economics students waste their time studying useless theories.

Some of these criticisms have a long standing in economics, like the lack of realism of the assumptions<sup>9</sup> or the argument that people do not behave as the theory says they will or should behave.

Although he vindicates behavioral economics as an alternative to neoclassical thought, Elster admits that its drawback is that there are relatively few applications of behavioral economics outside the laboratory. He maintains that a flaw economics suffers from is the belief that social science can only become a science on the model of the natural sciences. However, he remarks that in spite of this belief none of the many mainstream economists who received the Bank of Sweden Prize got it for confirmed empirical predictions. The opposite happens in physics, he adds. For example, string theory is today the dominant paradigm in most physics departments of the major research universities. However, it has not been awarded a single Nobel Prize mainly because it has not yet generated confirmed predictions that are not also consequences of rival theories. Elster's observation coincides with what Hausman (1992: 222) has called *methodological schizophrenia*, referring to the fact that in economics methodological pronouncements and practice often do not coincide.

Elster proposes to replace the aim of prediction with that of retrodiction --explaining the past-, which he considers is a perfectly respectable intellectual enterprise. He maintains that the past can be falsified no less than predictions about the future. Elster's conclusion is that economists should have, instead of excessive ambitions, humble but attainable aspirations.

## **2. What is economics guilty of?**

Having outlined the main accusations against economics, let us have a look at the facts.

The core of the recent financial market crisis has been the discovery that many securities were actually far riskier than what people originally thought they were. The process of securitization allowed trillions of dollars of risky assets – subprime mortgages in the first place – to be transformed into securities which were widely considered to be safe.

Subprime mortgages are mortgages that are considered to be significantly riskier than average. The 1990s saw the development of "private-label securities" issued by commercial banks and other entities generally free of the regulations governing ordinary banks. These were similar to the mortgage-backed securities sold to investors by government-authorized entities like Fannie Mae and Freddie Mac, but they did not carry the same implicit government guarantee that investors would be protected against unexpectedly high default rates. Initially, private-label securities involved only "prime" mortgages issued to low-risk borrowers, but at the end of the decade lenders started using them to back subprime loans to borrowers with poor credit histories. The higher mortgage rates charged to riskier

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<sup>9</sup> I have already dealt with this argument in Beker (2005: 17). We will come back on this later on.



borrowers meant higher yields on the mortgage-backed securities. On the other hand, securitization meant that lenders could pass along the risk of default to investors.

Coval, Jurek and Stafford (2009) show how modest imprecision in the parameter estimates can lead to variation in the default risk of the structured finance securities that is sufficient to cause a security rated AAA to default with reasonable likelihood.

The essence of structured finance is the pooling of economic assets like loans, bonds, and mortgages, and the subsequent issuance of a prioritized capital structure of claims against these collateral pools. Although it was argued that this was a way of diversifying risks, the truth is that the resulting securities were subject to highly correlated risks.

A key factor in determining if an asset is relatively safe is the extent to which defaults are correlated across the underlying assets. The lower the default correlation, the more improbable is that all assets default simultaneously. But the securities backed by large asset pools are strongly affected by the performance of the economy as a whole. So, they have far less chance of surviving a severe economic downturn than, for instance, traditional corporate securities of equal rating. This was precisely what happened; when the housing bubble finally exploded, real estate markets went down together and mortgage defaults soared in Florida as well as in California. Many of the subprime borrowers found themselves holding mortgages in excess of the market value of their homes.

Mortgage-backed securities “carried the dual risk of high rates of default due to the low credit quality of the borrowers and high level of default correlation as a result of pooling mortgages from similar geographical areas and vintages. In turn, many subprime-backed bonds were themselves re-securitized into what are called collateralized mortgage obligations.”<sup>10</sup> These second generation securities were highly sensitive to even slight changes in default probabilities and correlations among the underlying assets, as Coval et. al. show. Moreover, the share of collateralized debt obligations which had other structured assets as their collateral increased from 2.6 per cent in 1998 to 55 per cent in 2006 as a fraction of the total notional value of all securitizations. Many of all these first and second generation securities were rated as investment grade, which made them eligible to become a portfolio component for pension funds, hedge funds and investment banks. So, the conditions for a perfect storm had been created.

So far so good, but what has economics to do with all this?

Firstly, there was a reckless use of economic models to evaluate risks. The nature of structured finance means that even minute errors at the level of the underlying securities that would be insufficient to alter the security’s rating can dramatically alter the ratings of the structured finance securities.<sup>11</sup> On the other hand, substantial lending to subprime borrowers was a recent phenomenon and historical data on defaults and delinquencies of this sector of the mortgage market was scarce. So, the possibility for errors in the assessment of the default correlations, the default probabilities, and the ensuing recovery rates for these securities was significant. Such errors were magnified by the process of re-securitization, leading to the devastating losses the securities market experienced.<sup>12</sup> However, no special warning accompanied evaluations made on such weak and fragile basis. “The mathematical rigor, elegance and the numerical precision of the various risk-management and asset-pricing tools have a tendency to “hide” the weaknesses of these models and their underlying

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<sup>10</sup> Coval et al (2009 : 16).

<sup>11</sup> Ibid, p. 9.

<sup>12</sup> Ibid., p.15.

assumptions, which are necessary to guarantee the models' values to those who have not developed them."<sup>13</sup>

As Colander et al. (2009) put it: "economists, as all other social scientists, have an ethical responsibility to communicate the limitations of the models and the potential misuse of their research."

Unfortunately, this was not done at all.

As we can see, this has more to do with economists than with economics. It seems to be a typical case of professional malpractice. Of course, an extended malpractice by hundreds of economists in banks and rating agencies who created and certified as almost risk-free securities assets that were actually highly risky as the events after 2007 overwhelmingly showed.

Such a massive case of malpractice indicates deep failures in the regulatory system. Many economic tools were misused or used without having been duly subject to previous testing. It is like massively using a new vaccine without having tested it according to the regulations of the FDA.

There were some isolated voices who tried to alert the perils of the huge changes which took place in the financial industry. Perhaps the most striking one was Rajan's (2005) with his prescient analysis of how the developments observed in financial markets could degenerate into a crisis. Unfortunately, his was an almost unique voice and was not much listened to. No economic journal published his paper, and the SSRN site only collected 93 downloads, which made it rank 96,914<sup>th</sup> at the SSRN download ranking.

On the other hand, the financial market is clearly characterized by asymmetry of information and externalities. Both are reasons that demand regulatory measures. Investors do not have access to the amount and quality of information the issuers of securities have. That is why rating agencies come on scene to provide them with accurate risk evaluation. The problem is that rating agencies are paid by the issuer, not by the investor. This raises a conflict of interest, as was exposed by the high credit ratings given to actually highly risky assets.

A second argument in favor of regulating the financial system is externalities. The huge effects the banking system has on the rest of the economy are self-evident. The impact of a banks' bankruptcy goes far beyond the losses its shareholders may suffer. However, the 1980 Depository Institutions Deregulation and Monetary Control Act deeply deregulated financial activities in U.S.A. Additionally, the final repeal of Glass-Steagall by the Financial Services Modernization Act of 1999 lifted restrictions on the sort of investments that banks can make. While the 1933 Act limited banks to buying and selling securities as agent, and prohibited all banks from underwriting and dealing in most securities, the 1999 Act eliminated those restrictions. It also allowed commercial banks, investment banks, securities firms, and insurance companies to consolidate. This opened the door to the development of many unregulated instruments of "creative" financing. Through them, the repackaging of risks to create supposedly "safe" assets took place. It also made possible the vast involvement of banks in the subprime mortgage market.

In 1996, the Office of the Comptroller of the Currency (OCC) reinterpreted certain "incidental" powers that it was granted under the National Banking Act of 1864 to permit operating subsidiaries ("op subs") of national banks to engage in activities beyond those permitted to the bank. Op subs have been allowed to underwrite bonds, and even equity

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<sup>13</sup> Schneider and Kirchgässner (2009).

securities. Furthermore, the OCC decided that certain financial products, like annuities, were not insurance products but instead banking products, which meant that banks could sell them. The OCC also continued to allow national banks to engage in a wider range of securities and insurance activities.<sup>14</sup>

In 2002 the state of Georgia passed a law by which investment banks that created mortgage-backed securities would be liable for financial damage if mortgages turned out to be fraudulent. But the OCC ruled that the Georgia law did not apply to national banks or their subsidiaries. Finally, the law was amended in 2003: the liability provision was curtailed and other elements of the law were eliminated.

A very typical argument in favor of these developments is the one reflected in the following quotation: "The passage of the Glass-Steagall Act was prompted by concerns about various kinds of abuses by commercial banks' investment banking affiliates, including overstating the quality of the underwritten securities issued by the commercial banks' clients, packaging bad commercial loans into securities, and misusing responsibility for trust accounts. Recent research, however, suggests that those concerns were invalid."<sup>15</sup> Unfortunately, the 2007-2008 events have shown that the concerns which prompted the 1933 Act were very well founded.

The replacement of Basel I by Basel II was a step toward self regulation of financial institutions.

The deregulation movement that took place during the 1980s and 1990s was inspired by an almost religious belief in the power of market forces to solve any economic problem. Mainstream neoclassical economics nourished that belief. In this respect, neoclassical economics can be blamed for creating the ideological climate which stimulated the deregulation movement in the U.S.A during the 1980s and 1990s. The belief that market forces would solve potential problems was behind the financial deregulation which proved to be a fatal flaw of the financial system in the United States.

On the contrary, a highly regulated financial system, as the Indian one, mainly remained out of the crisis. Very strict rules hampered the creation of toxic assets of the sort that proliferated in U.S.A. Similarly, stringent rules governing leverage and capital ratios in Canada account for Canada's impressive performance during the crisis.

In this respect Paul Krugman seems to be right when he blames the profession – dominated by the neoclassical *school* in the 1980s and the 1990s – for its blindness to the very possibility of catastrophic failures in a market economy. Although Caballero (2010: 2) is right when he argues that severe crises are essentially unpredictable, the real issue is that for the orthodoxy the very possibility of a crisis such as the recent one was practically unthinkable. The real issue is not if economists are capable of predicting a singular crisis, but if the prevalent economic theory makes room for the possibility of development of crises.

## 2.1 Is neoclassical economics innocent?

Of course it is always possible to argue that the ideas that are criticized are not the true ideas of mainstream economics, as Levine does in his answer to Krugman.<sup>16</sup> But we have to take into consideration that the scholars that have had great influence on policy makers around the world are those from the neoclassical school of thought. Their ideas

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<sup>14</sup> Barth et al (2000: 9).

<sup>15</sup> Kwan and Laderman (1999: 18)

<sup>16</sup> See [http://www.huffingtonpost.com/david-k-levine/an-open-letter-to-paul-kr\\_b\\_289768.html](http://www.huffingtonpost.com/david-k-levine/an-open-letter-to-paul-kr_b_289768.html)

dominated the economic policy since 1980. Levine, however, argues that Krugman is shooting at an inexistent target. His clock is 30 years late, according to him. He points to a book by Timothy Kehoe and Ed Prescott (2007), **Great Depressions of the 20th Century**.

Kehoe and Prescott start their book stating: “The general equilibrium growth model is the workhorse of modern economics. It is the accepted paradigm for studying most macroeconomic phenomena, including business cycles, tax policy, monetary policy, and growth.” The authors’ point of departure is to assume flexible prices and perfect foresight. But if prices are fully flexible and people have perfect foresight the main reasons for a downwards adjustment in quantities are *a priori* excluded. Then, not surprisingly the conclusion is that the main reason for a depression should be found in exogenous TFP shocks. The answer is implicit in the assumptions. These are the usual assumptions of neoclassical economics. Moreover, as Michael Woodford says in his blurb for the volume, it shows “how neoclassical theory can be applied...”; so it is a typical neoclassical contribution with new analytical instruments but the same ideas we could find 30 or 50 years ago. It is just old wine in new bottles. In this respect it seems that it is neoclassical economics whose clock is late. Late, but still alive.

## **2.2 What do economists know?**

However, the answer to the last economic crisis has proven that economists are better prepared than in 1930 to face this sort of challenge.

Of course, the measures taken by policy makers were far removed from what the orthodoxy recommends. A massive bailout of banks and corporations saved them from collapse and saved lots of jobs in the American economy. Countercyclical fiscal policy played a key role in fighting recession. The level of State intervention in the economy has reached unparallel levels in American history.

We learned in the 1930s that we could not wait and see until the market solves the gigantic disequilibria in the financial markets. As the crisis unfolded, it quickly became apparent that another Great Depression would only be averted by rapid and concerted policy action around the world. Fortunately, policymakers pulled together to respond to this profound economic calamity. A range of bold actions were taken — easing monetary conditions, adopting a fiscal stimulus, and cooperating on cross-border financial problems. International lending reached unprecedented levels.

As stated before, this whole package was far removed from orthodox thinking. Moreover, something which was completely unthinkable some years ago did happen: the IMF Managing Director paid an enthusiastic tribute to John M. Keynes’s ideas!<sup>17</sup>

## **3. What sort of science is economics?**

Before going on, let us make clear the main characteristics of economics as a social science in order to illuminate what we can expect from it and what we cannot.

Economics is not an exact science. However, many economists act as if it were and try to convince society that it is. I have dealt elsewhere with some methodological issues in economics.<sup>18</sup> Let me make a summary of the main conclusions I arrived at so far.

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<sup>17</sup> See Economic Policy Challenges in the Post-Crisis Period. Speech at Inaugural Conference at the Institute for New Economic Thinking by IMF Managing Director Dominique Strauss-Kahn Cambridge, UK, April 10, 2010

As Blaug (1992 : 243) points out, "mainstream neoclassical economists ... preach the importance of submitting theories to empirical tests, but they rarely live up to their declared methodological canons. Analytical elegance, economy of theoretical means, and the widest possible scope obtained by ever more heroic simplification have been too often prized above predictability and significance for policy questions."

In fact, in economics there is, broadly speaking, nothing like a crucial experiment. No matter how sophisticated the economic tools are and how detailed the set of data one deals with, very few robust relationships can be obtained. Although potentially falsifiable, most statements in economics are only imperfectly testable. Precisely, the main characteristic that distinguishes it from, for instance, natural sciences, is that theories, in most cases, cannot in practice be falsified.

That is why, as Hausman (1992) states, economists trust more in the implications deduced from the theory's axioms than in the negative results which may emerge from empirical testing. It is very rare to see a theory disregarded because of an apparent disconfirmation.

Since economists are typically dealing with complex phenomena in which many simplifications are required and in which many interferences may appear, it does not seem rational to surrender a credible hypothesis because of predictive failure. When facing an apparent disconfirmation, economists rely on what Hausman (1992: 207) calls the "weak-link principle": when a false conclusion depends on a number of uncertain premises, attribute the mistake to the most uncertain of the premises.

What role plays, then, empirical research? As a matter of fact, most empirical results in economics are used more to illustrate theories than to test their validity.<sup>19</sup>

This is the attitude that the whole profession implicitly has towards empirical results; they are mainly viewed as a way of illustrating that a theory *may* be true.<sup>20</sup> For example, no journal – be it orthodox or heterodox – encourages the authors of an empirical paper – or its critics – to test the hypotheses included in it by using new data some time after publication.

Of course, as Colander et al. (2009: 11) propose, "the goal should be to put theoretical models to scientific test (as the naïve believer in positive science would expect)."

If this were always possible, the difficulties faced by economists would be much less. But the problem is precisely that in economics there is nothing like a crucial experiment. Colander (2008) himself gives an example which shows the lack of robustness of empirical results. He mentions the DSGE model analysis in Ireland (2004) and the discussion of that paper in Juselius and Franchi (2007). These authors replicated the results in Ireland (2004) and tested the assumptions underlying the model used by this author. Essentially all of them were rejected. Even more seriously, when the model was reformulated using an alternative approach, the conclusions were reversed.

Given the fact that, in general, economic theories cannot be falsified, they accumulate and remain available inside a big toolbox to be used according to the case under analysis and the practitioner's expertise. Thus, it seems very difficult to find some yardstick which may allow making a distinction between "right" and "wrong" economic theories. However, orthodox

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<sup>18</sup> Beker (2005).

<sup>19</sup> Hicks maintained that because economics theories can neither verified nor falsified economics is a discipline, not a science.

<sup>20</sup> Mayer (1993: 148)

economists usually act as if their economic theory were the right one or the only one and as if economics were as exact as mathematics.

After this methodological introduction, let us now make a review of the main issues at stake in the discussion between orthodox economic theory and its critics: rationality, individual and collective behavior and the use of mathematics in economics.

#### **4. The rationality assumption**

The rationality assumption is one of the main targets of criticism against neoclassical economic theory. It supports the conclusion that no significant opportunity will remain unexploited. Thus, it plays a critical role in the neoclassical argument in favor of market deregulation, as Akerlof and Shiller remark in the transcribed quote of Section 1. Let us have a look at that assumption.

Economic agents make decisions and we have to make some assumption about how these decisions are made. It seems a reasonable assumption to postulate that people are rational, i.e. they use the adequate means to obtain their goals. But to assume that people are rational does not necessary mean to postulate they always act rationally in the real world. The theory built under this assumption merely shows what the real world would be *if* people were absolutely rational in their decisions. It is a benchmark against which to compare real world behavior. In any case, the observed deviations from the benchmark show that in the real world there are behaviors which depart from the ones forecasted by the economic theory.

However, the problem emerges when economists disregard any seemingly non-rational behavior as if rationality were not a theoretical assumption but a condition that necessarily holds in the real world. "Animal spirits", herd behavior, are examples of types of behavior observed in real life which cannot be disregarded just by arguing that they are incompatible with the rationality assumption. In any case, they are precisely the proof that people in the real world do not always behave as the rationality assumption predicts.

Moreover, in many cases, rational decisions at the individual level result in irrational ones at the aggregate, as when everybody tries to leave a cinema during a fire. The interaction among multiple agents is the source of many unexpected results in the economy. This interaction may give way to a collective behavior which is quite different from the one expected from simply scaling up the behavior of individual agents.

We have here two issues to deal with: non-rational behavior and collective behavior. Let us start with the first one.

##### **4.1 Bounded rationality**

Herbert Simon (1955, 1991) introduced the concept of bounded rationality in economics. He addressed one of the difficulties mentioned by Elster: the limitations in the cognitive capacity of the economic agent to process all the necessary information to arrive at an optimal decision. So he proposed to assume that economic agents are not optimizers, that they are satisfiers. Once the agent arrives at a satisfactory situation or result s(he) will not seek to make any changes to it. This idea runs at variance with the traditional view in economics (unbounded rationality) that there is no satiation level which could place an upper bound on a maximization process. It also means to venture into a territory that Sims (1980) – reflecting a widely extended thought of traditional economists – characterized as the wilderness of irrational expectations and bounded rationality.



Akerlof and Yellen (1985) show how a fraction of boundedly rational agents in an economy who suffer utility or profit losses which are second order small may cause first order effects on market outcomes. They called near-rational this kind of bounded rational behavior.

Broadly speaking, bounded rationality models are more descriptive than predictive. In many cases, the bounded rationality assumption does not lead to a defined outcome. In most cases, the answer is maybe, depending on the exact conditions. As in path dependence models, initial conditions and chance events may dictate the outcome.

Indeterminacy of results is something the economic profession abhors. Although psychology and economics provide wide ranging evidence that bounded rationality is important to *describe* actual economic behavior, unbounded rationality has the “advantage” of providing determinate outcomes. Determinacy is more appreciated by economists than accuracy<sup>21</sup>.

An outstanding example of this has been the approach to the issue of increasing returns. Although already in 1778 Adam Smith put a great emphasis on increasing returns as an explanation for specialization, this assumption had been forbidden from entering the economic paradise because it was considered that assuming increasing returns could lead to the “wreckage of the greater part of general equilibrium theory.”<sup>22</sup> Only in the 1980s some economists like Paul Krugman dared assume increasing returns in international trade theory, industrialization, and growth theory, simply assuming away the problems that multiple equilibria raise.

The idea of bounded rationality has not become very popular among economists. It is not that economists think people are unbounded rational: clearly, they are not. The argument has been that they act as if they were unbounded rational. Learning would allow them to reach optima through practice. If so, what is the benefit the bounded rationality assumption brings to economic theory, they ask.

However, the learning argument only applies to repetitive activities, as everyday consumption or production. But when the issue has to do, for instance, with investing in a new financial instrument, learning may imply having the experience of undergoing a financial crisis before arriving at solid conclusions. Fortunately, financial crisis do not happen every day. So, unbounded rationality seems to be an extremely unrealistic assumption in this case. Bounded rationality seems to be by far a more suitable assumption when non-repetitive or seldom repetitive events are involved.

## 4.2 The behavioral economics contribution

The departure point for behavioral economics has been the fact that people do not behave as the neoclassical theory says they do. Behavioral economists argue that this happens because neoclassical economists ignore important variables which affect human behavior. These new variables are typically shown to affect decisions in experimental settings. However, the difficulty is that most of these new variables may be unobservable or even difficult to define in economic settings with economic data<sup>23</sup>.

The typical behavioral economics contribution starts with a demonstration of a failure of some common economic assumption (usually in some experiment) and proceeds to

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<sup>21</sup> Some economists argue that teaching economics imposes on the profession the need for clear cut results. Students need easy, simple recipes. In this respect, Colander prevents that, in some way, teaching may turn into cheating.

<sup>22</sup> Hicks (1939: 84).

<sup>23</sup> See Pesendorfer (2006).

provide a psychological explanation for that failure. In this respect, the main contribution of behavioral economics has been to put in evidence the failures of the standard model of individual behavior and provide an explanation for them. For instance, one of the first contributions was Kahneman and Tversky's development of prospect theory to address the failures of expected utility theory. They showed that when analyzing choice under uncertainty it is not enough to know the lotteries an agent is choosing over. Rather, one must know more about the subject's situation at the time s(he) makes her/his choice. A large majority of individuals behave as risk takers when confronted by a problem presented in terms of loss while they behave as risk averse when the same problem is presented in terms of gain. This behavioral inconsistency is called the 'framing effect' and demonstrates that the representation (framing) of a problem may be crucial in ordering the preferences. Numerous experiments have confirmed this framing effect. So, prospect theory distinguishes between gains and losses from a situation-specific reference point. This allows explaining, for instance, why agents are less likely to sell assets that have incurred losses than assets that have incurred gains. However, when prospect theory is applied to economic settings, it is often impossible to identify the reference point.

Prospect theory is part of behavioral economics. As a matter of fact, behavioral economics does not rest on a unified theory; rather, it consists of a bunch of theories. Unfortunately, it has been very difficult to apply its contributions outside the laboratory.

In a very comprehensive survey, Stefano DellaVigna (2009) summarizes a list of papers that document aspects of behavior that deviate from the forecasts of the traditional economic theory in different steps of the decision-making process. He groups these deviations into three categories: nonstandard preferences, incorrect beliefs and systematic biases in decision making. The novelty is that the papers surveyed by DellaVigna present evidence in market settings context of these behaviors that were previously detected in laboratory experiments.

DellaVigna also discusses the usual objection: why market forces do not eliminate non-standard behavior. Among other reasons, he mentions the fact that many important decisions are taken seldom, with limited scope for feedback and sorting. In other cases, such as in financial markets, feedback is noisy. He also rejects the aggregation argument which asserts that the biases at the individual level should not affect aggregate market outcomes. In this respect he mentions the limits to the arbitrage argument presented by DeLong et al.(1990) and the fact that, in most settings, there is no incentive to eliminate biases; so, the effect of nonstandard behavior aggregates linearly. Finally, he refers to papers on behavioral industrial organization which indicate that the non-standard features, far from having no impact, can have a disproportionate effect on market outcomes.

### **4.3 Collective behavior**

In section 4 we have mentioned that even rational decisions at the individual level may result in irrational ones at the aggregate.

Although economics main concern is with aggregates, there has predominated in the discipline an atomistic approach. If you want to know what consumers do, you model the individual consumer behavior and assume it represents the behavior of the typical consumer. The same applies to producers: the theory of the firm is the basis for the aggregate supply function. Moreover, it has been proposed that the actual economy can be read as if it were acting out the maximization of the utility function of a single, immortal representative agent. This excludes *per se* any possibility of coordination failure. But many

problems in the economy arise precisely from coordination failures and heterogeneous behavior by economic agents. The lack of coordination problems between rational economic agents with homogeneous behavior paves the way to simplistic market behavior where there is no need of regulation at all.

But, as Prize Douglass North (2006: 24) points out, "The interesting issues that require resolution come from the interaction of human beings in economic, social, and political settings in which the players are imperfectly informed and the feedback on their actions is likewise imperfect."

As we have said above, the interaction among multiple agents may result in a collective behavior which may be quite different from the one expected from simply scaling up the behavior of the individual agents.

"How individual agents decide what to do may not matter very much. What happens as a result of their actions may depend much more on the interaction structure through which they act –who interacts with whom, according to what rules".<sup>24</sup>

As Philip Ball (2005) argues in his book *Critical Mass*, winner of the Adventis Prize for Science Books, physics has developed tools, methods and ideas to study systems whose component parts have a capacity to act collectively. So, they seem especially promising for analyzing collective behavior in economics.

The first requisite for this is to change the departing point in economics. It should be not the isolated individual agent but the economic aggregates. These aggregates are the result of the behavior of many agents, all interacting with each other. So, collective behavior and not individual behavior should be the departing point of economic analysis.

Orthodox economics demands for microfoundations as a necessary condition in macroeconomics. But, for instance, thermodynamics and chemistry do not claim for a micro theory. All biological creatures are made up of particles. This does not mean that the natural place to start in building biology is to start with particle physics. Botanists study certain characteristics of the behavior of plants without knowing the exact biochemical mechanism behind them. Zoologists study anthills without having to resort to the individual behavior of ants. It is well known that relativity theory (macrophysics) and quantum mechanics (micro-physics) are mutually inconsistent. Why should economics demand what harder sciences do not?

#### **4.4 An interactive complex system**

The economic system is a supremely interactive one. Economic agents influence one another directly. A rush to buy or sell a particular asset can prompt others to do the same. Crashes are an example of stampede phenomena in which individuals act simultaneously in a herd-like and sometimes panic-stricken manner.

Although ever since Veblen it has been well known that consumption choices may be affected by consumption choices of others, the only reference to this has been Leibenstein's (1950) analysis of the so called bandwagon, congestion and snob effects, which in any case have remained as a sort of footnote to the theory of demand, when mentioned. This in spite of the fact that fashion and trends play an increasing role in consumers' demand.

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<sup>24</sup> Arthur et al. (1997: 9).

In general, microeconomic models usually ignore interaction and consider individuals as isolated entities who take decisions independently one from the other. A basic assumption of the general equilibrium theory is that the only interaction among economic agents is through the price system. Assuming that the preferences and hence the choices of one individual are influenced by others introduces an important element of uncertainty which conspires against the possibility of arriving at a stable price equilibrium. On the other hand, a basic tenet of traditional mainstream economics has been that aggregate behavior must be derived from underlying rational microfoundations<sup>25</sup>. So, agents' interactions are discarded at the micro level and, at the same time, to be acceptable, macro models are supposed to be derived from this sort of micro models. Not surprisingly, the result is that most of the real economic problems are excluded from economic analysis.

The feedback that one's decisions have on others' expectations and behavior is usually ignored. However, already in the 1930s, Keynes likened asset markets to beauty contests, where people have to guess which of the participants would get the most votes. In the same way, investors in asset markets try to guess which asset will be favored by other investors' preferences in order to invest in it, independently of other factors. This sort of conduct may pave the way to a herd-like behavior. Episodes of collective mania are well known in economic history since the tulip mania in seventeenth century Holland -where tulip prices ballooned absurdly- to the recent subprime mortgage market crisis.

Yet, as Ball (2005: 175) mentions, "irrational does not mean unpredictable". On the contrary, he cites physics-based mathematical models of pedestrian movement applied to predict the behavior of a panic-stricken crowd. This sort of models of pedestrian motion aimed at planning urban systems might be used to better understand economic agents' herd-like behavior.<sup>26</sup>

Since the end of the eighties, multi-disciplinary research as done at the Santa Fe Institute has stimulated a lot of work on interacting agents in economics and finance. Models of interacting particle systems in physics served as examples of how local interaction at the micro level may explain structure at the macro level.<sup>27</sup>

In order to take account of the difference of behavior among economic agents in the financial markets an increasing number of structural heterogeneous agent models have been introduced in the economics and finance literature. Financial markets are viewed as complex adaptive systems consisting of many boundedly rational, heterogeneous agents interacting through simple investment strategies, constantly learning from each other as new information becomes available and adapting their behavior accordingly over time.

For instance, Brock and Hommes (1997) consider a market with an endogenous evolutionary selection of expectations rules. Agents choose between a set of different forecasting rules and tend to switch to forecasting strategies that have performed well in the recent past. In Brock and Hommes (1998) this evolutionary selection of strategies is applied to a standard asset pricing model. Agents choose between fundamentalists' and chartists' investment strategies. When the sensitivity to differences in past performance of the strategies is high, evolutionary selection of strategies destabilizes the system and leads to

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<sup>25</sup> As stated above, this is something in no other science is required.

<sup>26</sup> See, for instance, M. Batty (2005).

<sup>27</sup> Although I consider that microfoundations should not be a necessary condition for macroeconomics, this does not exclude the possibility of building a macro theory based on the collective behavior of interacting agents at the micro level. The aim should be to model the behavior of broad aggregates; if a model of interacting agents help describe their collective behavior, it may a useful tool to model the aggregates which that behavior gives rise to.

complicated, possibly chaotic asset price fluctuations around the benchmark rational expectations fundamental price. The fluctuations are characterized by an irregular switching between a quiet phase with asset prices close to the fundamental and a more turbulent phase with asset prices following (temporary) trends or bubbles. Contrary to Friedman's argument – that irrational agents will be driven out of the market by rational agents – chartists may on average earn (short run) profits equal or even higher than (short run) profits of fundamentalists.

**On the same line of analysis, Honggang Li and Barkley Rosser Jr. (2001) studied the behavior of a model of asset market dynamics with two types of traders: fundamentalists and noise traders. Complex dynamics and greater volatility are seen to emerge as certain parameters in the system are varied.**

Brock et al. (2009) extend the asset pricing model with heterogeneous beliefs of Brock and Hommes (1997, 1998) by adding contingent claims or Arrow securities and investigate how these hedging instruments affect market stability. A fairly robust result is that if there are a sufficient number of traders who extrapolate trends, then increasing the number of hedging instruments may well increase the volatility of the markets and lower the welfare generated by the market.

However, as Rosser (2010) points out, it would seem that rather than an unambiguous increase in variance, what may be happening is a reduction of variance coinciding with an increase in kurtosis, a fattening of the “fat tails.” Such an outcome might well be derivable from the Brock et al. model if there is a sufficiently nonlinear responsiveness of the movement in and out of being trend extrapolators, which would be consistent with more general results found in Brock and Hommes (1997), where increases in the willingness to change strategies tends to destabilize and complexify dynamics.

Although speculative bubbles have been observed in laboratory experiments by Smith et al. (1988) and Hommes et al. (2005), it remains a topic for future research the estimation of interacting agent models on actual financial data.

Another promising line of economic modeling is Agent-based Computational Economics (ACE), the computational study of economic processes modelled as dynamic systems of interacting agents.<sup>28</sup> An ACE macroeconomic model might include structural agents (e.g. a spatial world), institutional agents (e.g. a legal system, corporations, markets), and cognitive agents (e.g. entrepreneurs, consumers, stock brokers, and government policy makers). ACE models implemented on modern computational platforms can include millions of heterogeneous interacting agents. Such models seem to be well suited for analyzing an economy in extreme situations, e.g., for evaluating the probability of a financial crash and recommending appropriate recovery policies.

#### **4.5 Fat tails**

It is well known since the famous contribution of Mandelbrot (1963) that many economic and financial time series have fat tails, i.e. that the probability of extreme events is higher than if the data-generating process were normal. However, the usual practice among orthodox economists has been to assume – implicitly or explicitly – a normal distribution. For example, the well-known Black-Scholes model, extended by Merton, aimed at option pricing, assumes normality in the distribution of events. As Merton and Scholes themselves learned the hard way in 1998, just one year after they won the “Nobel Prize” precisely for their theory

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<sup>28</sup> See LeBaron and Tesfatsion (2008).

of options pricing<sup>29</sup>, small probability events do happen in the real world<sup>30</sup>. So, they deserve more consideration by economists.

T. Kaizoji (2004) presents a model with heterogeneous agents (fundamentalists, chartists and noise traders) where, if the nonlinearity of the excess demand is sufficiently strong, a speculative bubble is observed. Fundamentalists are driven out of the market and a fat tail distribution of market returns appears. However, the model appears to be too simple to mimic all characteristics of real return series.

Extreme Value Theory, used initially in the geology and flood control literature and more recently in finance, may be a useful instrument although, perhaps, predicting extreme events will always be a very difficult thing to do. But this does not mean economists should ignore them. This means that economists should be alert to the possibility of unusual events and always take into account the worst scenario possible.

#### **4.6 On the use of mathematics in economics.**

One of the criticisms of traditional economics has been its ab(use) of mathematics. An example is the Krugman quotation included at the beginning of this paper. A web petition in support of Krugman's criticism collected over 1300 signatures in 2009, most of them from qualified academics. According to Lawson (2009: 130), "the project of mathematical modelling in modern economics has a long history of failure." This is an issue which has been broadly discussed in the 1940s and 1950s and which periodically reappears.

It has been argued that economics suffers from physics-envy. However, although physics provides tools to deal with complex systems – and the economy undoubtedly is a complex system –, most of them have been only marginally used in economics. The truth is that what mainstream economics may be found guilty of is not of physics-envy but of mathematics-envy. Economists have taken physics as the model for science. Physicists use two basic tools: laboratory experiments and mathematics. But as laboratory experiments have a very limited application in economics, this leaves mathematics as the main tool for economists to try to mimic physics. So, economists hugely borrowed the mathematical instruments used by physicists. They did it to such an extent that, for instance, for the philosopher of science Alexander Rosenberg (1992), economics is not an empirical science at all; for him, it is a branch of applied mathematics.

The general equilibrium theorist and "Nobel Prize" winner Gerard Debreu (1991: 5) admits that *the use of mathematics imposes certain restrictions on economic theory*. The very choice of the questions to which the economist tries to find answers is influenced by her/his mathematical background. Economics may become secondary, if not marginal, in that judgment. Mathematics is a demanding master: it ceaselessly asks for weaker assumptions, for stronger conclusions, for greater generality. Mathematical models must be manageable and easy to handle. This however requires drastic omissions and simplifications, often at the expense of the models' ability to capture relevant phenomena. So, in many cases economists conclude with models which exclude everything which is of interest for policy making.

Mathematics is a language, as Samuelson reminded economists, popularizing Gibbs's sentence. It is no less but no more than a language. There is no reason to assert that

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<sup>29</sup> Fisher Black had died in 1995.

<sup>30</sup> In 1998 the hedge fund Long-Term Capital Management went on the brink of bankruptcy after losing \$4.6 billion in less than four months, leading to a massive [bailout](#) by other major banks and investment houses. Merton and Scholes were members of its board of directors.



it is *the* language of economics. Of course, the advantage of mathematization is that it prevents logical mistakes. Given the difficulties for experimenting in economics, economic theory is strongly dependent on logical reasoning. In physics, factual observations and experimental results provide a constant check on its theoretical constructions; this allows employing occasionally some reasoning which violates knowingly the canons of mathematical deduction. This is not acceptable in economic theory where internal consistency is the only guarantee of rigor. But is logical rigor necessarily equivalent to using mathematical language? In this respect, we must remember that the most influential texts in economics have been *non-mathematical*. For example, Friedman and Schwartz (1963) did more to win favour for the monetary approach than many sophisticated econometric models, not to mention, on the opposite side, Keynes' s General Theory.

So, it is difficult to share Cochrane's (2009) condemnation of the literary style of exposition in economics as an almost deadly sin. Often, the broad use of mathematics in economics has more to do with the aim of providing the aesthetic pleasure of a beautiful theorem than to provide new substantive insights. The more impressive the use of quantitative techniques or methods, the more likely that a paper will be accepted by the editorial board of academic journals. Unfortunately, this premium on quantification has had serious adverse consequences, including a misallocation of research efforts in economics.

One must bear in mind that mathematics is just a tool to guarantee logical consistency. If logical consistency can be assured without mathematics, what is the point of using it? On the other hand, if it allows arriving at conclusions which cannot be attained with only logical reasoning, why not use it? As a matter of fact, one can be dogmatic with blackboard diagrams and open-minded with reams of equations. In general, less mathematics has the advantage that it lowers the barrier to critical thinking, but simply getting rid of it would imply disregarding an important tool for economic analysis. There are some economic problems which require a mathematical approach to assure a rigorous treatment while there are others which can be approached using a literary style. So, one should conclude that neither the use nor the non-use of mathematics in economics can be a necessary condition for judging its scientific standards.

## **5. Health vs. illness in economic analysis**

After discussing how to study the economy, the next issue is what to study. The natural answer is: economic problems. This may sound rather obvious, but most of the orthodox economists' efforts are devoted to showing the non-existence of economic problems. The bulk of their papers are aimed at showing how the market solves by itself any potential conflict or difficulty. If so, there is no economic problem to work on.

Looking at the literature, there is an overwhelming predominance of papers dealing with "well behaved" models. Most of the scholars' effort is devoted to study "health" and very little to analyze "illness" in economics. But, of course, it is economic illness which causes concern to society. There is a lot of effort devoted to show why, most of the time, the economy works smoothly, and very little effort to the analysis of why, from time to time, the economic mechanism breaks down or – more important – what is needed to fix it. But these failures in the economic mechanism have huge economic and social costs.

Although there has been research on issues which have played a central role during the recent crisis like liquidity evaporation, collateral shortages, bubbles, crises, panics, fire sales, risk-shifting, contagion, and the like, "much of this literature belongs to the *periphery* of macroeconomics rather than to its core", as Caballero (2010: 2) frankly recognizes.

This little effort devoted to the study of economic failures reflects in the poor attention paid to curing economic illness. As O. Blanchard et al. (2010: 9) recognize "there is a lot we do not know about the effects of fiscal policy, about the optimal composition of fiscal packages, about the use of spending increases versus tax decreases, and the factors that underlie the sustainability of public debts." Thousands of pages have been written to show the benefits of global financial integration and very few to draw attention to the risks it involved.<sup>31</sup> In spite of the fact that the contemporary economy has been transformed by the forces of technology and entrepreneurship, little attention has been paid, after Schumpeter, to the economic explanation of the forces behind these changes.<sup>32</sup>

So, it seems that priorities in the economic theory agenda are misplaced. Studying economic pathologies and how to cure them should be more encouraged while fewer resources should be devoted to merely showing why an economy is in good health.

The 1930 crisis inspired the main contribution by Lord Keynes to economic analysis. His ideas paved the way for a huge improvement in economic policy. As a paradoxical by-product of this improvement, many economists announced that economic fluctuations and crises were no longer a subject to be studied by economists but only by historians. "The economy of the 1990s suggested to [a new] generation of students that the business cycle was no longer of practical importance" (Mankiw (2006: 37).

Several writers dubbed "the Great Moderation" the remarkable decline in the variability of economic variables which took place during the last part of the 20<sup>th</sup> century. However, the validity of this concept as a permanent shift has been questioned by the economic and financial crisis that started in 2007. There have been also some previous signals as the 1987 stock market crash, the 1998 financial crisis triggered by the failure of the Long Term Capital Management or the bursting of the dot-com bubble in 2000, but the limited effects of them were considered an argument in favor of the theory that crises were only something of the past. Although problems like poverty, unemployment and slow growth have been present even during the so called Great Moderation they deserved only a marginal consideration by mainstream economists.

In order to elaborate a new order of priorities for the agenda of economic research it is important to identify the problems to which that research should be addressed. Economic fluctuations, financial crises and financial regulation, poverty, unemployment, climate and energy security, food and nutrition security, and sustainable growth seem to be the undisputable candidates.

However, Caballero (2010: 4) argues that "shifting resources from the current core to the periphery" is not necessarily a good idea. In spite of that he recognizes "that if the goal of macroeconomics is to provide formal frameworks to address real economic problems rather than purely literature-driven ones, we better start trying something new rather soon."

## **6. Is there a unique economic theory or a collection of economic theories?**

Orthodox economists represent the economy as a stable equilibrium system resembling the planetary one. The concept of equilibrium plays a key role in traditional economics. This approach is useful in normal, stable times, when what happened yesterday is the best guide to what will happen tomorrow. However, it is incapable of dealing with unstable, turbulent, chaotic times.

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<sup>31</sup> See Stiglitz (2010).

<sup>32</sup> Baumol (2002) and Baumol et al. (2007) are two of some few exceptions to this assertion.

Heterodox contributions shed much more light on what happens during these exceptional although crucial periods in which a good part of the economy is reshaped; they provide powerful insights towards what policies to follow in those extraordinary circumstances. However, they remain as theories mainly suitable for those periods of instability and crisis.

Thus heterodoxy and orthodoxy are both a one-way street. Both contain some grain of truth but not the whole truth. The first is useful only when the economy is in trouble; the second, when it is stable. The challenge is to arrive at a unified theory valid both for normal and abnormal times. In this respect, the complexity approach with its use of non-linear models offers the advantage that the *same* model allows to describe stable as well as unstable and even chaotic behaviors.

However, one should bear in mind that up to now there is not a unified theory in physics. Moreover, as we stated before, general relativity theory and quantum mechanics are mutually incompatible. So, perhaps, as Elster suggests, one should be less ambitious with economic theory.

It would be important to convince the whole profession that there is nothing like “the” economic theory; every economist should be taught to have a sense of respect for those theories and models s(he) does not share or like. Instead of disqualifying rival theories it would be better to examine them for worthwhile elements.

Instead of a unique economic theory there is a collection of economic theories – our collective diversified intellectual portfolio – some of them in competition with each other. The practitioner is the one who has to choose the appropriate tool to use in each case as the carpenter chooses the proper instrument from her/his toolbox according to the task s(he) has to do. What help does s(he) have in choosing among competing economic theories? It mainly comes from experience.

In economics, although refutation does not come through the empirical tests learnt in the statistics and econometrics courses, it does come through what I have called “big social experiments.”<sup>33</sup> They are the “big events” alluded by Tobin (1996) which discredit ideas and replace them with new ones. The Great Depression in the 1930s, for instance, discredited the idea that full employment of resources could be automatically reached. Today, no reasonable economist in the United States would cast doubts about the role of the Federal Reserve and its monetary policy in stabilizing the economic cycle. In the same way, for many years the role of monetary policy in inflationary processes was discussed. Moreover, even non-monetary inflation theories were developed. But the processes of high inflation of the 1970s and the cases of hyperinflation, like the Argentinean one in the late 80s, left no doubts about the necessary existence of a *monetary* component in these processes and on the need to resort to the monetary policy to control them. The 1987 stock market crash persuaded more economists to put aside efficient market theory than any econometric result. Finally, if something we have learnt anything from the recent financial crisis, it is that financial markets are too important a matter in economic life to be left unregulated or badly regulated.

## **7. Which way forward?**

Identifying the flaws in economic theory is easier than defining a way to get rid of them. However, from what has been argued above, some guidelines can be sketched. They have to do with: 1) the methodological approach; and 2) the contents of economic theory.

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<sup>33</sup> Beker (2005: 8).

1.- *The methodological approach.*

1.1.- First of all, economists should remember that the main purpose of science is explanation. If a theory explains, it helps to understand a phenomenon. If, additionally, it predicts, it is twice as useful. When an answer is not available, prediction is a good second best, but it is never a first best.<sup>34</sup>

1.2.- The choice of the questions to which economists try to find answers should be dictated by economics – theoretical and applied – and not by the possibilities of mathematically modelling the answers. The usefulness of the results should be considered more important than formal aspects such as analytical elegance or economy of theoretical means.

Mathematics is just a tool to guarantee logical consistency. But logical consistency may also be warranted without the use of mathematics, depending on the sort of problem one wants to solve. The method should be subordinated to the problem, not the other way around. Economists should bear in mind that the most influential texts in economics have been non-mathematical.

1.3.- Accuracy should not be sacrificed at the altar of tractability or determinacy.

1.4.- The departing point in economics should not be the individual but the economic aggregates. Microfoundations are not a necessary condition for macroeconomics.

1.5.- There is nothing like “the” economic theory. There is a collection of economic theories, some of them in competition with each other. The process of natural selection defines which survive and which do not. “Big social experiments” discredit some ideas and replace them with new ones.

1.6.- Economics is not an exact science. Economists should have a sense of respect for those theories and models they do not share or like. Dissenters should not be treated as those boring old aunts always having something to grumble about at family parties. Instead of disqualifying rival theories it would be better to look at them for worthwhile elements.

1.7.- This also implies that editorial boards of leading journals need to be willing to review submitted research papers that are less conventional, less mathematical or more critical about the received theory, and insist on a serious discussion of other empirical results on the same topic. Journals should also be less closed-shop-like in terms of specific nationalities, universities, and research centers.

1.8.- Journals should encourage authors of empirical papers – or its critics – to test the hypotheses included in them by using new data some time after publication in order to verify the robustness of the results.

1.9.- It is the practitioner who has to choose from the economists’ portfolio the appropriate tool to use in each case. This is the art of economics, to use the concept introduced by John Neville Keynes.

2.- *The contents.*

2.1.- Concerning the contents of economic theory, it is not just an issue of changing the answers. Questions should be changed or, at least, their priority order.

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<sup>34</sup> Ibid., p. 6.

2.2.- Economic illness rather than economic health should be the main object of economists' efforts.

2.3.- The main problems to which research should be addressed are economic fluctuations, financial crises and financial regulation, poverty, unemployment, climate and energy security, food and nutrition security and sustainable growth.

2.4.- Economic research should pay more attention to institutional aspects and inter-agent heterogeneity, as well as inherent conflicts of interest between agents on different sides of the market, as recommended some years ago by Hendry (2004).

Researchers should pay attention to issues concerning the coordination of actors and the possibility of coordination failures. The global financial crisis has revealed severe dysfunctional institutions that need to be adapted, revised, or even abolished. Risks turned out to be strongly mispriced, while new financial institutions and instruments posed a threat to both financial stability and the efficient operation of financial sector functions.

2.5.- The financial crisis has underlined the need for reform of the financial system regulatory and supervisory architecture. The importance of this undertaking, and of doing it properly, can hardly be overstated.

It is urgent to address the broad-based problems of the financial system - chiefly, to eliminate the incentives for the risky bets that necessitated government bailouts. The role of rating agencies has to be redefined: at least their fees can no longer be paid by the issuer of the securities they are supposed to qualify. To set up a public credit ratings agency may be a second step towards correcting the present perverse incentive system facing private agencies.

2.6.- On the other hand, we need also an updated theory of economic regulation which should answer both the public concern about the powers of the regulators as well as the problem of regulatory capture – when regulatory bodies become advocates for the industry they are supposed to be regulating,

Given that there is no 'regulator's regulatory body' in existence, effective regulation should ensure that regulators fulfil their duties by aligning their incentives with the public interest. There must be also external bodies to which regulators are accountable. Although discretion is needed for powerful decision-makers, the challenge is to provide an appropriate level of control over those decision-makers.

## **8. Conclusions**

The outburst of the 2008 global economic crisis sparked myriad criticism of mainstream neoclassical economic theory, blamed for having not even taken into consideration the possibility of the kind of collapse that the subprime mortgage meltdown unleashed.

However, an analysis of the causes of the recent financial crisis shows that it was, first of all, a case of massive malpractice. Such a massive case of malpractice denounces deep failures in the regulatory system.

The deregulation movement that took place during the 1980s and 1990s was inspired by an almost religious belief in the power of market forces to solve any economic problem. Mainstream neoclassical economics bears the responsibility of having nourished that belief.

Although identifying the flaws in economic theory is easier than defining a way to get rid of them, 15 guidelines are sketched out for improving the methodological approach as well as the contents of economic analysis.

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## Fiscal policy effectiveness: Lessons from the Great Recession

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### Abstract

This paper reconsiders fiscal policy effectiveness in light of the recent economic crisis. It examines the fiscal policy approach advocated by the economics profession today and the specific policy actions undertaken by the Bush and Obama administrations. An examination of the labor market renders the contemporary aggregate demand–management approach wholly inadequate for achieving certain macroeconomic objectives, such as the stabilization of investment and investor expectations, the generation and maintenance of full employment, and the better distribution of incomes. The paper reconsiders the policy effectiveness of alternative fiscal policy approaches, and argues that a policy that directly targets the labor demand gap (as opposed to the output gap) is far more effective in stabilizing employment, incomes, investment, and balance sheets.

**Keywords:** The Great Recession; Fiscal Policy; Macroeconomic Stabilization; Employment

**JEL Classifications:** E24, E25, E65, J08, J6

### Introduction

To many economists the swift and unequivocal support of the profession for fiscal activism during the Great Recession has been somewhat of a surprise. After all, since the late 1970s, most mainstream economists had completely abandoned faith in fiscal policy effectiveness, largely because of the empirically dubious Ricardian Equivalence Hypothesis (see Barro 1974). Nevertheless, here we are, more than two years after the global financial meltdown of September 2008, in a position to reconsider the role and place of fiscal policy in stabilizing a devastated economy.

The economist who provided the *raison d'être* for countercyclical fiscal policy was John Maynard Keynes, whose revolutionary theory (1964 [1936]) transformed the way we understand the functioning of the economy. In reassessing the proper role of fiscal policy today, it should be remembered that Keynes inextricably linked the goal of macroeconomic stabilization to the goal of full employment. He had a very narrow definition of full employment and argued that policymakers had a responsibility to ensure that “everything that could humanly be done has been done by the state ... [to produce] a reduction of the unemployed to the sort of levels we are experiencing in wartime...that is to say, an unemployed level of less than 1 per cent unemployed” (Keynes 1980: 303). This is the definition of full employment that will be used in this paper and I shall argue that achieving and maintaining this level, while simultaneously stabilizing the business cycle, is possible if we carefully heed the Keynesian message.

The principle objective of fiscal policy according to Keynes was to solve “the real problem, fundamental yet essentially simple... [namely] to provide employment for everyone” (Keynes 1980: 267). This objective was nevertheless gradually abandoned by the political process and much of academic economic analysis. Instead, the goal of modern fiscal policy has largely been confined to stabilizing incomes, consumption, and investment, whereas employment stabilization is left to be determined as a *byproduct* of these policies. Keynes, by contrast, believed that the unemployment problem should be solved speedily and directly by one primary method—direct job creation through public works.

This paper argues that the original Keynesian message can provide both a crucial tool for dealing with the Great Recession and a policy for addressing the unemployment problem at all phases of the business cycle. In particular, it makes the case that conventional aggregate demand management policies are inadequate for dealing with the unemployment problem during recessions and incapable of achieving true full employment in expansions. The paper will examine the kinds of fiscal responses that are generally favored by modern economists and policymakers today, as well as the specific policy actions that were undertaken in the United States to deal with Great Recession after the September 2008 financial meltdown. Next, it will overview briefly the labor market conditions in the United States to underscore the inadequacy of the current response. Finally, it will raise and answer the question “what is to be done?” While there are good reasons to believe that the fiscal push was too small, this paper will argue that aggregate demand management *cannot* establish what Keynes called “a closer approximation of full employment as nearly as is practicable” (Keynes 1964 [1936]: 378–79). Instead, it suggests that what is required is a fundamental reorientation of fiscal policy from one that attempts to close the output gap to one that aims to close the labor demand gap. This approach circumvents a series of shortcomings associated with the aggregate demand management approach. It is a direct approach that delivers macroeconomic stability and addresses the problems of urban blight and rural poverty with its strong regional emphasis. It is a policy that solves the unemployment problem over the long run because it specifically tackles its cyclical, structural, and seasonal components, as well as the problems of the long-term unemployed, the unemployable, the working poor, and the new entrants in the labor market.

## **Modern fiscal policy and the Great Recession**

### **The conventional view**

Most contemporary economists use the “leaky bucket” analogy to explain how fiscal policy works. Government increases spending for the purposes of boosting GDP growth sufficiently to reduce unemployment to desired levels. Because the fiscal stimulus enters the economy through a leaky bucket (e.g., some of it is lost in transit because of administrative costs and some of it, such as tax cuts and certain investment subsidies, has no direct job-creation effect), not all of the money reaches the poor and unemployed. This leaky-bucket analogy comes from the work of Arthur M. Okun, the economist who inspired the economic “law” that motivates this policy approach. Okun’s Law states that a 1 percent increase in unemployment would generate an approximate 3 percent decline in GDP growth. This relationship has been flipped and used as a policy guide that lends support to broad-based, pro-growth policies. The law indicates that unemployment can be reduced if the government manages to stimulate growth at a fast enough rate. Note that 3 percent growth in actual GDP (relative to potential output) brings about only a 1 percent reduction in unemployment—a rather small and unimpressive effect (Okun [1962] himself cautioned that the GDP-to-unemployment relationship is rather weak). Although economists generally accept the inverse relationship between growth and unemployment, the exact empirical form of this relationship has received widespread criticism (Altig, Fitzgerald, and Rupert 1997; Lee 2000). From a policy perspective the law does not provide a good guide for government action, even though it motivates the aggregate demand approach. This is because it is unclear what rate or type of growth is required to produce sizeable reductions in unemployment, much less anything close to genuine full employment.

## **Fiscal policy during the Great Recession**

Despite the small employment effect stipulated by Okun's law, the general agreement across the theoretical spectrum is that boosting aggregate demand is the proper objective. There is some disagreement on the exact method by which aggregate demand can be expanded, but generally the policy response would include an automatic and a discretionary component. Government spending expands automatically in recessions with the increase in unemployment insurance, welfare benefits, and other transfers to the jobless and the poor. In addition, tax revenues decline with the fall in economic activity, thus boosting the countercyclical government deficit. Furthermore, a number of discretionary moves can be undertaken to hasten the recovery. These normally include additional tax cuts to households and businesses, as well as direct aid to states and firms in the form of grants, contracts, and loans for the purposes of new investment.

The policy response from the G.W. Bush and Obama presidencies in the aftermath of the September 2008 financial crisis followed the general recipe outlined above. It also included a few additional government expenditures, which are not commonly used as countercyclical stabilization measures. The first large injection of government spending took place under G.W. Bush for the purposes of purchasing a large number of nonperforming financial assets from the balance sheets of ailing banks. Although these purchases were executed by the Federal Reserve, they constitute fiscal policy because the Fed cannot purchase private sector liabilities from bank portfolios without congressional authority. In essence, it is the Treasury with the assistance of the Fed that bought a large number of financial assets from private banks. For the purpose, Congress provided the Fed with a budget of \$700 billion to execute the purchases of asset-backed securities, agency paper, and other assets under the first Troubled Asset Relief Program (TARP). The TARP also facilitated a massive infusion of funds into General Motors and Citigroup and the virtual nationalization of the insurance giant AIG. The objective was to stabilize bank balance sheets to get credit flowing again for the purposes of financing investment.

Whereas fiscal policy was initially used in order to buy nonperforming financial assets from mostly private financial institutions (and to replace them with default-risk-free government assets, namely reserves), it is more frequently used to purchase real goods and services from firms and provide direct income assistance to households and states. Thus the second part of the fiscal stabilization plan was President Obama's American Recovery and Reinvestment Act of February 2009 (ARRA), which appropriated an additional \$787 billion that included \$288 billion in tax cuts and benefits to individuals and firms; \$275 billion in contracts, grants, and loans; and \$224 billion in entitlements. Among the latter, the White House enacted the longest-lasting emergency unemployment program in history that included the first benefit increase in a downturn in history (National Economic Council 2010: 25). Furthermore, it supplemented the Temporary Assistance to Needy Families (TANF) program with emergency funds, which quietly expired by the end of 2010.

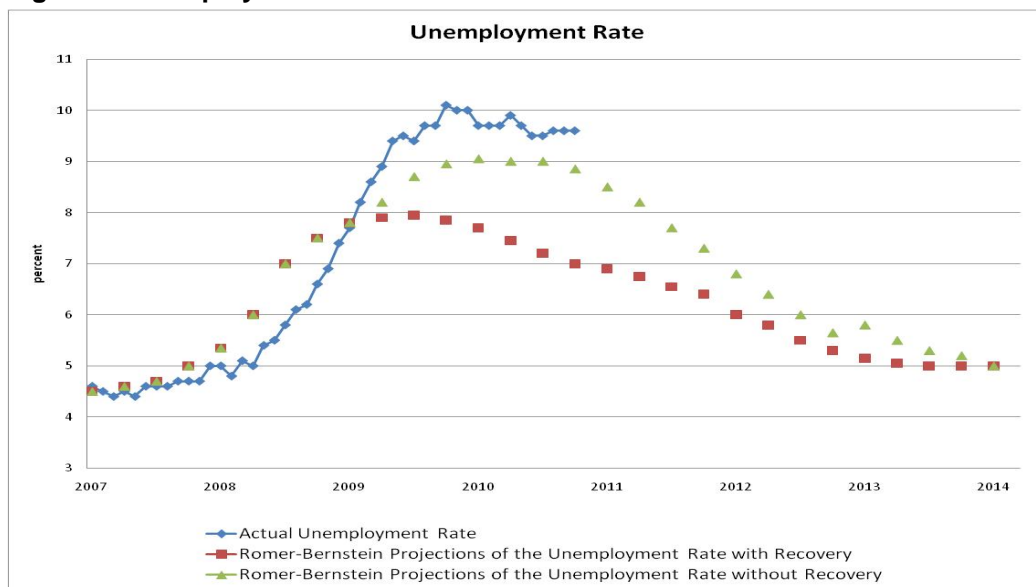
While the budgets for TARP and ARRA alone constituted approximately 10 percent of GDP, they remained inadequate in size and direction, as their net effect on GDP growth or employment was small (Baker 2009). Firstly, as the federal government increased its spending, states, households, and firms continued slashing theirs, offsetting much of the effect. Secondly, these types of injections did not all boost output, as much of the fiscal stimulus (the TARP program in particular) generated demand for non-reproducible financial assets (or what Hahn [1977: 39] called "non-employment inducing demand"). In addition,

some of the tax cut payments received by firms and households were used for the purposes of deleveraging. Finally, in the cases when government demand did increase output and production, it did not deliver the employment creation effect that policymakers aimed for. This is largely due to the kind of restructuring that takes place in recessions, which results in a production process that relies on a leaner labor force and low labor costs.

### The unemployment situation in the United States

The misplaced faith in pump priming policies is evident in the dismal employment results the Bush and Obama stabilization packages produced. Upon taking office, president Obama pledged to create or save three to four million jobs. The ARRA specifically intended to prevent significant increases in the unemployment rate and launch a strong jobs recovery. Nevertheless, the White House's projections turned out to be woefully inadequate. The Romer-Bernstein report (2009), which lent support to the ARRA program, estimated that without the stimulus package the unemployment rate would have reached as high as 9 percent, but with a strong fiscal push, it would peak around 8 percent and would quickly turn around. In reality, unemployment peaked at 10 percent after the ARRA was passed and has been hovering around 9.6 percent for over a year and a half with no decline in sight (figure 1).

**Figure 1: Unemployment Rate**



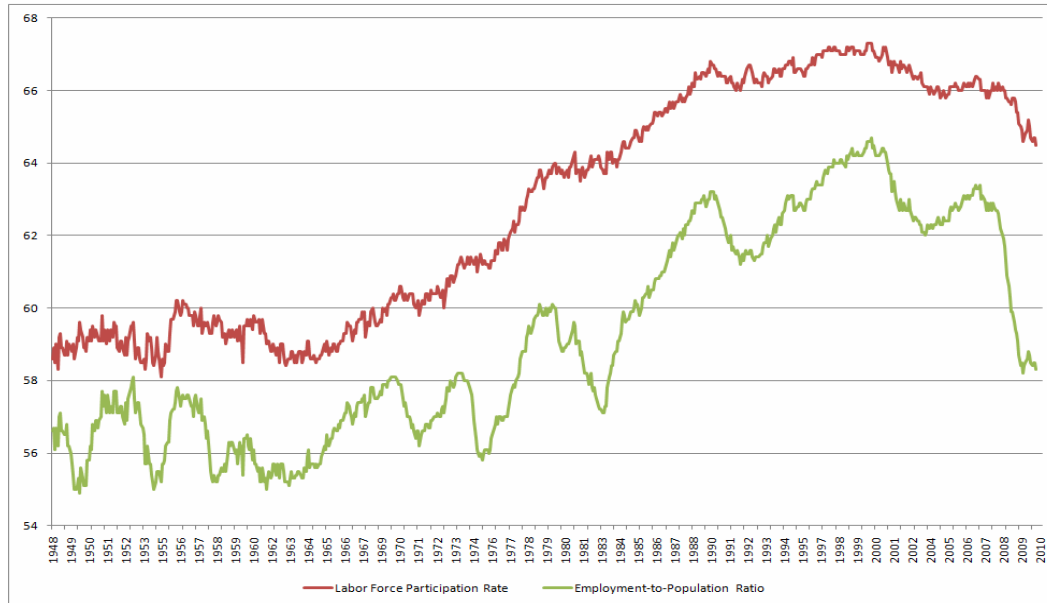
More troublesome is the fact that whatever stabilization we have observed in the unemployment rate is largely due to the mass exodus of discouraged workers from the labor market. The labor force participation rate has been on the longest running decline for the first time in postwar history and the employment population ratio has collapsed to 58 percent—levels not seen in three decades (figure 2).

Simultaneously, the labor market is witnessing the wholesale destruction of full-time jobs (figure 3) and record levels of long-term unemployment (figure 4). This latter statistic is particularly disconcerting because the long-term unemployment rate has been on a secular uptrend for the last four decades whereas short-term unemployment has been on a steady decline throughout the entire postwar period. Figure 4 shows the number of people who have been unemployed for 15 weeks or longer as a percentage of total unemployment, as well as

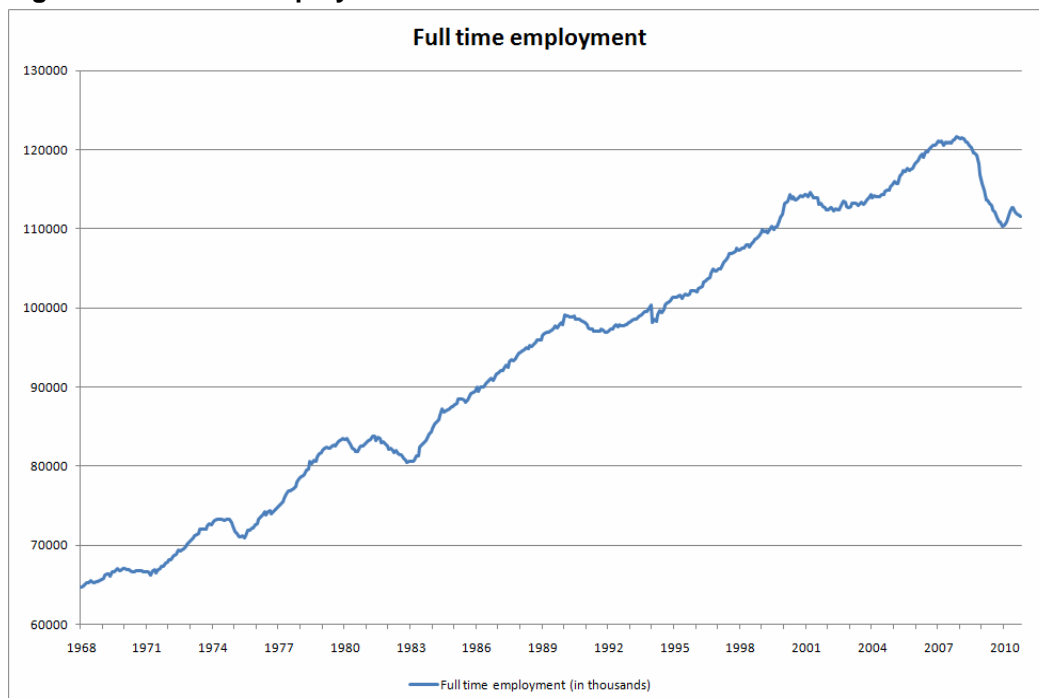


those who have been without a job for 27 weeks or more (a subset of the first group). While the series are highly cyclical, their trends have been decidedly up for the last four decades—in every subsequent expansion the long-term unemployment rate has failed to return to its previously low levels. By contrast, the share of the unemployed without a job for 14 weeks or less has been trending down during the entire postwar period (figure 5).

**Figure 2: Labor Force Participation Rate and Employment-to-Population Ratio**



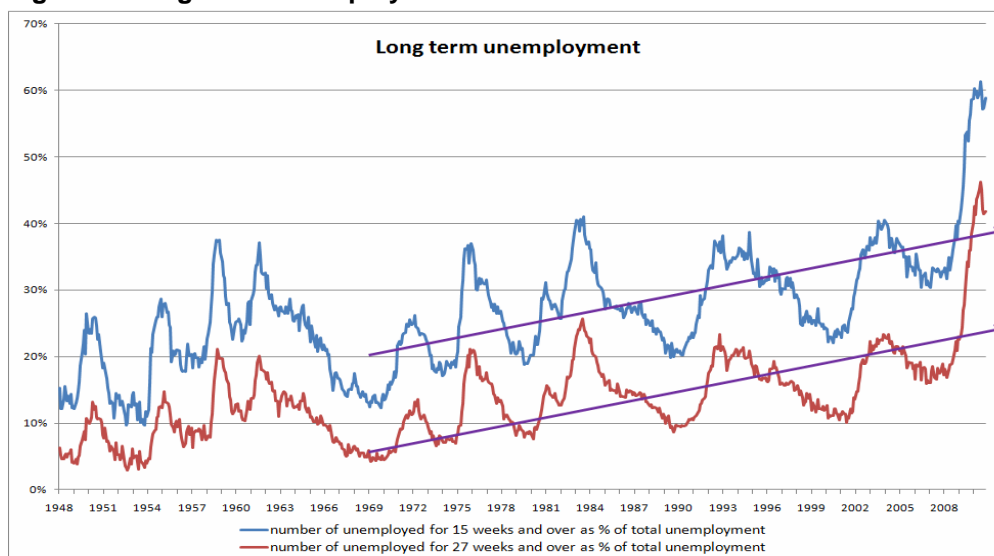
**Figure 3: Full-Time Employment**



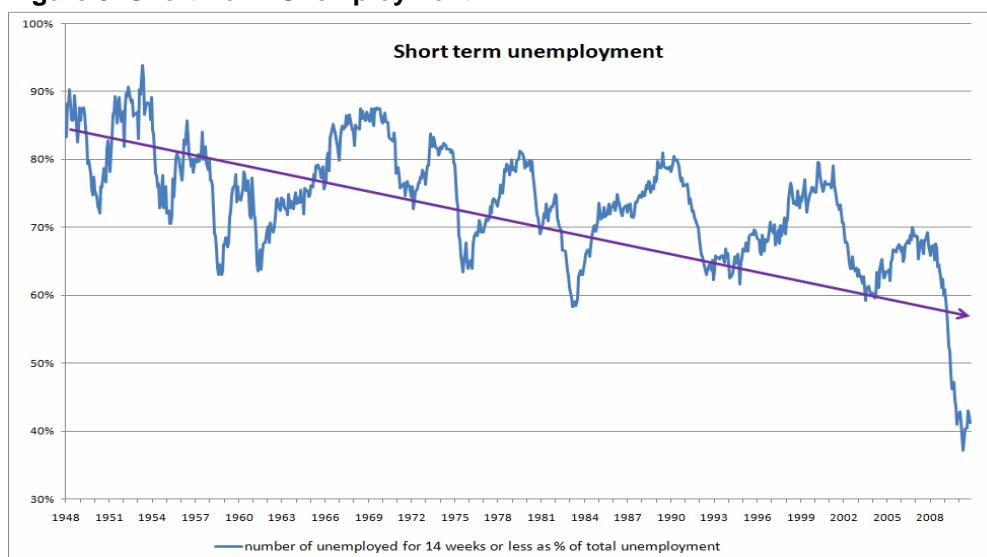
The data shows that an increasing percentage of those who have lost their jobs stay unemployed for longer periods of time, while a falling share of the jobless experience relatively shorter spells of unemployment. This is hardly the agile US economy with dynamic labor markets for the world to envy. Instead, it indicates a sluggish labor market turnover and

an inadequate supply of jobs for the long-term unemployed. It is a secular process that indicates the creation of a greater and greater pool of unemployable labor.

**Figure 4: Long-Term Unemployment**



**Figure 5: Short-Term Unemployment**



The trouble with the labor market has been brewing well before the Great Recession, suggesting that the temporary aggregate demand management policies that are typically employed in recessions have failed in the past to boldly deal with the unemployment problem and the significant underlying structural problems that have emerged in the US economy. While the fiscal push during the Great Recession has similarly helped put a floor on aggregate demand, it has not generated the vigorous job recovery that is expected or needed. Some economists have correctly argued that the fiscal response was too small (CEPR 2009), but there are good reasons to believe that “more of the same” is not the solution to unemployment. If we are serious about achieving and maintaining anything close to full employment, an entirely new approach is necessary.

## Rethinking fiscal policy

The primary problem with the traditional policy approach is twofold. First, it is implemented in a backward manner. Instead of targeting job creation and allowing growth to be a by-product of a high-employment policy, policymakers target growth, which they hope will generate the desired employment results. Secondly, because fiscal policy is upside down, the pro-growth model has continually failed to achieve anything close to the true full employment level that Keynes advocated, which is why the very objective of full employment has been abandoned altogether and replaced by the “natural unemployment rate” concept (Friedman 1968, Phelps 1994).

Keynes saw nothing natural about any level of unemployment (Keynes 1980: 303) and advocated a targeted approach for dealing with the unemployment problem that focused, not on just any kind of government spending, but specifically on direct job creation via public works. Reexamining the role of public works suggests that genuine full employment can be achieved via a policy of permanent “on-the-spot” employment programs open to all who are ready, willing, and able to work (Tcherneva 2011). The remainder of the paper will make the case that targeting employment directly is the only method for stabilizing an economy that simultaneously generates and sustains full employment over the long run. In sum, the policy approach proposed here is one of labor-demand targeting that would be utilized *during all phases of the business cycle*.

## Misspecification of Fiscal Policy

As already noted, for Keynes, the principal goal of fiscal policy was to secure true full employment and the principle measure for adjudicating among different policy responses was their employment-creation effects (Kregel 2008). Unfortunately, what is considered to be Keynesian policy today is largely a misinterpretation of the Keynesian prescriptions, which largely stems from a fundamental misidentification of Keynes’s theory of *effective demand* with the theory of *aggregate demand* (Tcherneva 2011). In the *General Theory*, Keynes carefully articulated that employment determination depended not on the volume of aggregate demand but on the *point of effective demand* which was very hard to stabilize and fix at full employment.

The conventional textbook theory of aggregate demand deals with the actual components of GDP and argues that, as consumption and investment decline in recessions, the government sector can boost its expenditures countercyclically to offset them. This is because the government is the only sector that can discretionarily change its level of spending. Note that the level of employment does not directly enter into this type of analysis. The main objective is to return the economy to the desirable growth path, as per Okun’s Law above. But there is a debate about the specific method by which an economy can be stimulated. Economists who see the downturn as a consequence of the fundamental workings of the economic system that endogenously produce unstable demand prefer a policy response that directly boosts aggregate demand through government expenditure. Economists who see downturns as a direct consequence of some external or exogenous shocks to the system (oil shocks, technology shocks, Katrina-type events, financial shocks, or any other external factors) prefer to work on the supply side and implement policies that deal with market incentives, which in turn are expected to boost consumption and investment independently of government spending, thereby providing a “market solution” to the downturn.

Such policy responses would include subsidies to firms, cuts in marginal tax rates, and reduction in wages. In both the demand-side or supply-side cases, however, it is hoped that consumption and investment will recover, either due to the direct government injection of expenditures in the economy or to the various incentives that reduce costs or increase after-tax incomes from employment and production. As a practical matter, modern fiscal policies adopt both demand-side and supply-side responses (such as direct government spending and cuts in marginal tax rates).

By contrast, when Keynes spoke of the problem of unemployment he identified it as a problem of deficient *effective* demand, not deficient *aggregate* demand (even if the two are interrelated) (Keynes 1964 [1936]). Put simply, employment in the aggregate is a function of the entrepreneurial decisions of investors, which depend on the *expected* future earnings that would validate the firms' decisions to hire a given number of people today. In other words, it is the *future* aggregate demand *and* aggregate supply conditions that determine employment decisions today. Employment then would depend on both the *level* and *type* of future total expenditures and the specific cost structure of production today and in the future.

More specifically, employment would depend on the percentage of income households decide to hoard (i.e., withdraw from consumption) and the manner in which they save (i.e., whether these savings end up financing real or financial investments). Household saving means that, in the aggregate, not all of the incomes that firms have paid out in wages return back to them in the form of revenues. In this instance, a demand gap develops that must be filled by investment. The liquidity preference of households and firms, however, determines the manner in which they save and the level of investment they undertake. In other words, even when the economy is strong, some of these savings may be locked in non-reproducible and non-employment generating financial assets. Similarly, in recessions, when profitable investment opportunities are relatively few, the desire to save liquid financial assets is even greater, meaning that aggregate income would fall as households and firms curb consumption and investment and save in increasingly liquid form. In other words, the liquidity preference of the community as a whole, *both in recessions and expansions*, produces consumption and investment levels that are not consistent with the level of full employment. Keynes also stressed that both consumption and investment are determined by certain subjective and independent factors, such as the marginal propensity to consume (*mpc*), the marginal efficiency of capital (*mec*), and the marginal efficiency of money (*mem*), that are not under the direct control of government policy. Thus, to bring the economy to its full employment equilibrium, he argued, government action was required, but not in the form of indiscriminate government spending. This is because boosting aggregate demand alone does not change the independent factors quickly enough in recessions to generate strong job growth. Additionally, and just as importantly, it never improves these factors sufficiently to make them consistent with a level of production where everyone who wants to work has a job.

To put it more simply, even though aggregate demand management fills the coffers of households, firms, and states, their expectations of the future may not improve fast enough to induce them to invest these newly acquired funds into employment-generating activities. In deep recessions in particular, the thirst for liquidity may not be quenched by the supply of more financial assets through government spending. As Keynes had argued, this is because "money is a bottomless sink of purchasing power... [and] there is no value for it at which demand [for it] is diverted ... into a demand for other things" (Keynes 1964 [1936]: 231). In other words when liquidity preference is high, "people want the moon" (Keynes 1964 [1936]: 231) and it is thus unclear how large an injection through aggregate demand is needed to

induce the private sector to stop hoarding net financial assets and start vigorous consumption and investment. But even when economic activity is buoyant, firms find it unprofitable to hire *all* who are ready, willing, and able to work. The liquidity preference of some private agents dictates that it is more profitable to invest their savings in money form than in production. Thus, both in recessions *and* in expansions, unemployment is a *monetary phenomenon* and, as it will be explained next, both in recessions and in expansions aggregate demand management has specific drawbacks in resolving this problem.

### **Drawbacks of aggregate demand management**

In recessions, aggregate demand management simply fails to stabilize expectations fast enough and make them consistent with strong employment. In expansions it fails to make them consistent with true full employment. This is because of the peculiar asymmetric nature of aggregate demand. Whereas a sharp decline in *aggregate* demand will produce a decline in *effective* demand and employment when it negatively impacts long-term expectations, once expectations become distressed, a sharp boost to aggregate demand will not improve effective demand swiftly. This is because firms, households, and states set certain processes in motion that exacerbate the economic downturn and further worsen expectations. Firms use recessions to slash employment in a process they euphemistically call “right-sizing,” in which they streamline the production process and implement labor-saving technologies where possible. Households similarly retrench and rapidly curb their spending. States, whose budgets are highly procyclical, raise taxes and slash social services, investments, and other programs. In addition, if all of these sectors are highly leveraged, as is the case in the current crisis, the readjustments in spending behavior is even more dramatic. For households the pain is particularly severe as many individuals not only lose their sole means of support—their job—but the value of their assets also declines precipitously (e.g., in the form of collapsing retirement portfolios or home values). In the face of such important shifts in behavior, the simple increase in aggregate demand will put a floor on collapsing demand, but will be far less effective in stabilizing expectations fast enough to reverse the job losses that quickly develop.

By contrast, in expansions, boosting aggregate demand does not create full employment even when the economy is strong because it will produce an incrementally smaller employment-creation effect the closer the economy gets to full employment. This is because part of the increase in aggregate demand is captured by price increases and not entirely by employment increases. In other words, even when the *mpc* or *mec* are very high, the structure of the economy ensures that priming the pump simply produces inflationary pressures in certain overheating sectors where the *mpc* is high, thus producing more unequal income distribution. This is because, as Keynes cautioned in the *General Theory*, when “the increase in demand is directed to products with a relatively low elasticity of employment, a larger proportion of it will go to swell the incomes of entrepreneurs and a smaller proportion to swell the incomes of wage earners and other price cost factors” (Keynes 1964 [1936]: 287). This kind of inflationary and income distribution distortions prompt policymakers to abandon aggregate demand policies and leave the economy below full employment or at, what they have subsequently dubbed, the “natural rate” of unemployment.

Thus, while the case for lavish spending to boost GDP is strongest in severe recessions, Keynes was suspicious of the efficacy in this approach. Indeed, although a boost in aggregate demand will improve effective demand, it *cannot fix it at full employment*. To

accomplish this, policy must implement a program of direct spending on employing the unemployed both in recessions and near the peak of the cycle.

Before discussing the advantages of the direct approach over aggregate demand management, a final word is needed about modern supply-side and demand-side policies. It is well-known that Keynes considered attempts to reduce the supply price of output by lowering wages to be counterproductive: because employers will likely be unable to sell the additional output, even if it could be produced at lower cost, they will *reduce* overall employment in the face of falling demand from falling incomes. Thus, Keynes considered reducing wages to be a “method [that] is socially disastrous in the process and socially unjust in the result” (Keynes 1981: 426).

While aggregate supply policies are clearly counterproductive, aggregate demand management has enjoyed relative popularity because it nevertheless shares some of the important macroeconomic benefits of government spending, even as it fails to produce high employment and better income distribution.

### **Macroeconomic Impacts from Government Spending**

There are three key impacts of government spending on the macro-economy. These are: 1) the income and employment effect; 2) the cash-flow effect; and 3) the balance sheet effect (Minsky 1986). These benefits ensue from any type of government spending, however, different fiscal policies will have different employment and distributional effects.

Government spending generates income for the private sector. The volume of public spending will affect the aggregate income in the economy and the direction of the spending will determine the distribution of that income. In the United States it is clear that while GDP has turned a corner, it has not yet posted strong growth. After a zero percent growth rate in 2008 and a 2.6 percent decline in 2009, the economy is poised to recover at 2.5 percent annual growth rate in 2010 (almost making up for the losses from the previous year). The employment effect from these expenditures, as already noted, has been dismal.

The second, cash-flow effect of government spending, reflects the basic accounting fact that outflows from one sector produce cash inflows to another. When the government awards contracts to firms at a time when firms are downsizing their labor force, government spending directly contributes to private sector profits.<sup>1</sup> And as the current recession has demonstrated, profits have been recovering in the middle of the recession, whereas employment has not. In other words, *before* the recession was over, after declining **by 20 percent annually in 2008**, corporate profits after taxes posted a 4 percent gain in 2009. In the 2001 recession, profits also grew, even if little (0.5 percent), whereas in the 1990–91 recession profits grew at an average of 8 percent per year (National Income and Product Account statistics). Such quick recovery of profits is quite typical of previous recessions as well—after a short dip they manage to reverse trend quickly. By contrast in every recession, without exception, unemployment has accelerated and then only sluggishly declined over many years during a recovery. In other words, these trends too attest to the fact that policy has become very effective in stabilizing aggregate incomes, profits, and cash flows, but not in stabilizing employment.

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<sup>1</sup> This is also evident from Kalecki’s equation (1954), which shows that government spending is a source of profits irrespective of the business cycle.



The final impact is the balance sheet or portfolio effect of government spending. When states, households, and firms receive cash flows from the federal government, these flows produce stocks of new financial assets in their respective balance sheets. But as cash flows have been primarily directed to the firm sector (in particular to the financial sector through the TARP program) and to a lesser extent to states (through various grants-in-aid) and households (through unemployment insurance), the balance sheets of firms have experienced greater improvements relative to those of states and households. Nevertheless, the grim profits outlook coupled with still highly leveraged balance sheets of the firm sector make it unlikely that it will boost hiring. Additionally, although households and states are deleveraging, they are still in a weak position to start spending aggressively and lead the recovery. The onus then remains on the federal government sector to continue with its stimulative policies. The challenge is to accomplish this by ensuring full employment. The question then is what type of fiscal policy can do the job.

### **Setting fiscal policy straight: the case for labor demand targeting**

Because expectations, liquidity preference, and portfolio decisions are subjective and beyond the direct control of policy, Keynes did not believe that policy should attempt to try and stabilize them in order to generate full employment. Instead, for Keynes, the only way to fix the point of effective demand at full employment was for the government to target the unemployed directly. There is considerable evidence to suggest that Keynes had in mind a public policy that would make an unconditional job offer in the public sector to all individuals who are willing and able to work but unable to find private employment (Tcherneva 2011). This job offer would be available to the jobless both in recessions and in expansions. It would be a long-term program for attaining and maintaining true full employment.

Before explaining the reasons why Keynes preferred public works over aggregate demand management, it must be stressed that he considered closing the demand gap—that is the gap between current and potential output—to be a misguided effort. This is because output, measured in real or current prices, gives little indication of the technical considerations and the precise character of the plant in use and of the amount of labor and capital that went into the production of a given level of output (Keynes 1980: 71). Potential output is a particularly troublesome measure (Keynes [1980: 72] called it an “impostor”) because estimating it in terms of its market value could not reveal the loss of capital or labor that would occur from any given shift in consumption or investment. Recall that potential output is *the* only proxy to full employment that the traditional fiscal policy approach *a la* Okun uses. Such a measure of potential output cannot tell us the true full utilization of resources (including labor and capital) over time and may be estimated only for “an instantaneous or brief period of time” (Keynes 1980: 71). For Keynes the only measure of potential output that would make sense would be calculated in terms of man-hours that might be worked (Keynes 1980: 73). Targeting the labor gap however—that is the gap between the number of people who are working and those who are willing to work in the aggregate—is a proper policy objective that can only be achieved through direct job creation.

There are three main benefits of the direct job-creation approach over alternative fiscal policies. First, it delivers the highest employment-creation impact due to its sizeable primary and secondary employment effects. Second, it circumvents the problem of fixing the point of effective demand at full employment by managing the independent factors of consumption and investment (the *mpc*, *mec*, and *mem*) and hires the unemployed directly.

Thus, a permanent direct job-creation program open to all would maintain full employment throughout all phases of the business cycle. Finally, this approach has a direct method for dealing with structural unemployment, which is generally neglected by traditional aggregate demand management policies (indeed, many economists consider structural unemployment to be part of the “natural unemployment” rate). By contrast, the direct job-creation approach would target its employment efforts to regions that may have experienced massive job losses due to restructuring and to individuals who may be deemed unemployable by those private industries that are employing. The direct job-creation program would provide not only on-the-job experience but would also be supplemented by training and education programs that would upgrade the skills of those individuals to help them transition to private sector work. Additionally, the program would be a safety net that provides an opportunity when there is none to new entrants into the labor force and individuals who have difficulty reintegrating into private sector work, such as stay-at-home moms with long gaps in their work experience, at-risk youth who have difficulty completing high school, elderly who wish to work but are being displaced by a younger and/or cheaper labor force, or welfare recipients who need to find work in exchange for the welfare support they receive but who are unable to find private sector employment.

### **Notable characteristics of the direct job-creation approach**

There are several aspects of this approach that must be emphasized. First, direct job creation through public works or public service is not a “depression solution.” Instead it is a solution to unemployment at all stages of the economic cycle. As already explained, even a strong economy fails to provide jobs for all. Such a program would be a safety net for the jobless in expansions as well.

Secondly, the goal of this program is to provide decent jobs to its participants. These are jobs that use the available idle resources to meet some unfilled need in the community and which establish a basic but decent wage-benefit package as a standard for the economy as a whole. These jobs do not compete with private sector pay, but simply set a universal floor to wages in the public and private sectors. They do not compete with private sector output either, as they are jobs that provide public goods and services, which the private sector does not supply.

Thirdly, job support to the poor and unemployed is a more effective stabilization method than providing income alone. This is because this policy would maintain and enhance human capital and would simultaneously increase both aggregate demand and aggregate supply. By contrast, income support for the unemployed and the poor is a policy that leaves many willing and able to work individuals in idleness and (often) for long periods of time—it is a policy that wastes human potential.

Fourth, this is a policy that does not rely on boosting aggregate demand to produce full employment. Even in severe recessions, when a great fiscal push is needed, this push must nevertheless be targeted. Today, for example, we need both more and better distributed demand—that is, more spending that is targeted to hiring the unemployed. Once a program of this kind is in place, not more demand, but better distributed demand, will be required to maintain full employment over the long run. Keynes himself argued during the buoyant interwar period that “we are in more need today of a rightly distributed demand than of a greater aggregate demand” (Skidelsky 2001: 21). As the economy expands and public sector

workers find employment in the private sector, such a program will shrink and full employment will be consistent with lower public sector demand.

Fifth, the first aim of this program is to provide jobs for all, but once the unemployed have been hired, “there can be only one object in the economy, namely to substitute some other, better, and wiser piece of expenditure” for individual projects (Keynes 1982: 146), i.e., to redesign those public works to address the specific challenges of specific communities as the need arises. Thus, contrary to common myth, Keynes did not advocate the creation of useless project for the sake of job creation but strongly advocated a carefully planned long-term full employment program—a program that was flexible, spontaneous, and experimental enough to accommodate any new unemployment that might quickly develop, but that was also carefully thought out and designed to address the key strategic objectives of a nation, while maintaining full employment over the long run.

Sixth, such a program could be executed through public or semi-public bodies. Job creation is done by the community as a whole, including both the private and public sectors. But as Keynes pointed out, it really wasn’t the business of the private sector to guarantee full employment “any more than it is their business to provide for the unemployed by private charity” (Keynes 1982: 151). It was the responsibility of the public sector to figure out how to employ those who were left behind. And employing them could be done in cooperation with the private sector in public-private partnerships that would manage this long-term program.

Seventh, this very policy would have the exact same income, cash-flow, and balance sheet effects that traditional aggregate demand management has, except that spending by the program would be targeted directly to households. It is a genuine bottom-up approach to economic recovery. It is a program that stabilizes the incomes and purchasing power of individuals at the bottom of the income distribution that trickles up and stabilizes the rest of economic activity. Strong and stable demand means strong and stable profit expectations. A program that stabilizes employment and purchasing power is a program that stabilizes cash flows and earnings. Stable incomes through employment also mean stable repayments of debts and greater overall balance sheet stability.

Finally, Keynes firmly objected to using unemployment as an inflation-fighting measure. If inflationary pressures developed near full employment, the public sector should retard new projects where possible and redirect its job creation efforts to particularly distressed areas in the periphery of economic activity. But by no means should it discontinue public works, because that is precisely the time when “private enterprise is stopping from overcapacity and is therefore not in a position to expand” (Keynes 1982: 150). Inflation, for Keynes, was to be addressed through various programs that would either defer payments or encourage thrift, but would not slash jobs.

These are the key features of a permanent program for full employment that is consistent with the Keynesian message and policy proposals. But to design such a program, a bold and imaginative approach is required, which weds fiscal policy to the goal of full employment. Not only has aggregate demand management failed to do so over the last several decades but the current ARRA program is particularly weak on imagination, considering the formidable labor market challenges today.

## Final considerations of some conventional objections

This program is not a panacea for all labor market problems. It is a solution to the problem of unemployment over the business cycle that stabilizes the floor to aggregate demand more effectively than conventional pump priming policies. Neither is this a program a substitute for all other meaningful fiscal policies. It is a voluntary safety net for all of the unemployed who wish to work. There will, nevertheless, remain certain segments of the population who will require income assistance such the young, the ill, or the elderly and they need to be supported through programs like universal child credits, Medicare, or social security. At the same time, governments will continue to be responsible for setting tax policies in a way to affect the income distribution and promote or discourage certain types of private sector activities that advance or harm the public interest.

Governments can use these tax policies to set investment or consumption on a more sustainable path if they are deemed to be wasteful, speculative, or destabilizing to overall economic activity. Nothing precludes governments from instituting important structural changes that would spur private domestic employment. This may include providing support to specific industries that the government may want to encourage—e.g., tax benefits and investment subsidies for green energy production. These are macroeconomic structural policies that may be warranted on their own merits, but these are not policies for *full* employment. The private sector has its own considerations that may conflict with the objective of hiring all individuals who wish to work. Therefore, wedding industrial policy that aims to spur private sector activity with the objective of generating *private sector* full employment may neither be possible nor desirable. Instead, there must be a public program that would stand ready to absorb all of the remaining unemployed individuals who have not found employment in these new industry ventures. In other words, there has to be a policy that takes workers as they are and that tailors the jobs to these workers in order to help them enhance their skills, gain the necessary work experience, and start climbing the economic ladder. By contrast, the private sector is in the business of looking for specific people with specific skills to fit specific jobs requirements. It is not in the business of providing jobs for all. But if the private sector faces a shortage of skilled workers, the public sector can work to prepare and upgrade the skills of the formerly unemployed public sector workers for the needs of modern private sector production. This visible public sector pool of labor will give firms a very clear idea of the work experience, training, and education these workers have acquired and their suitability for private sector employment.

Such a policy is not just an alternative to idleness, it is a policy that puts money in households' coffers through employment. It is also a policy that fills the communities' needs gap. This brings us to the final common criticism of public works: namely, that they are administratively difficult to run, prone to corruption, and cannot provide enough useful projects for the unemployed to do. The answer to the first charge is that administrative complexity is pervasive both in the private and public sectors and has hardly stopped firms or governments from undertaking important large-scale initiatives—be they providing global financial services, running military operations, or supporting medical scientific research. Neither are problems with fraud and corruption somehow unique to public sector operations. Pervasive fraud in the private sector, as in the Savings and Loans crisis of the 1980s, the Enron scandal of the 1990s, or the mortgage origination and securitization of the 2000s, should put those old arguments to rest. Fraud and corruption are a function of poor regulation and enforcement and every going concern, private or public, must have design features that enhance transparency and accountability.

The question of useful projects is perhaps the most frequently evoked. One way to answer this question is to note that even in the wealthiest and most prosperous nations one can always find rural or urban regions that are continually plagued by poverty and unemployment. In the case of the United States, there are whole cities and states which have suffered from deindustrialization or natural disasters and have seen little new economic activity to replace long-gone industry (think of Detroit or New Orleans). The revitalization of inner cities and rural areas alone will take years of strong job creation and dedicated work in order to rebuild those communities. The unemployed themselves will deliver that revitalization through a public employment program similar to the New Deal of the 1930s. But wealthier communities too have unfilled needs and unemployed individuals who can fulfill them. These may include upgrades to infrastructure, the construction of more public spaces, and the provision of public services. In the United States, many public programs and government services have been underfunded and understaffed for decades—at least since Nixon’s devolution of federal government programs. A once-strong public education system is on the brink of collapse, environmental standards have been eroded, the public health system is unfit to meet the needs of the US population—these are the challenges that can be met by fully utilizing labor resources. There are jobs to be done at every level of government and there are unemployed individuals with different levels of skills and education to do them. The examples provided here primarily include the regular maintenance and operation of public service jobs for which the government is already responsible. Other such examples would include an ongoing program of reforestation, water purification, and soil erosion improvements, which will provide steady but flexible public sector employment for many semiskilled and unskilled workers over the long run. The wholesale upgrade of US roads, rails, levies, and bridges can also be accomplished with a bold program of direct job creation. At the same time, child- and elderly-care services are wholly inadequate in this country. Homeless shelters are bursting at the seams and a staggering 12 percent of Americans rely on food banks for food assistance (Hunger Report 2010). There are many jobs to be done and there are many unemployed people to do them.

But the government can also undertake novel strategic initiatives that can be accomplished expediently only through a big-push policy of public works. The comprehensive weatherization of all public buildings and the complete transformation of current energy production grids to ones relying on alternative energy require the kind of massive infrastructure investment that only government can undertake. There are many more useful jobs one could create if the will to implement such a program was there. Clearly no country is a finished proposition. As countries grow, they face new challenges and develop new kinds of needs. The public sector can stand ready through a program of direct job creation to provide jobs for all who wish to work in projects that satisfy those needs.

## **Conclusion**

The Great Recession provided us with an important “teachable moment” to uncover the drawbacks of the standard policy response and to set fiscal policy straight. It also provided policymakers with an important moment for action, which may have unfortunately already passed. Two years after the financial crisis, the public has gone weary of massive government expenditures that have delivered so little in terms of job creation and will likely not support another large round of stimulus spending. What we seem to face ahead is stagnant growth, high unemployment and income inequality, increasing impoverishment, and a continual squeeze of the middle class. The aggregate demand stimulus may allow the US

economy to muddle through the next ten years, but it would be at the cost of great human suffering and worsening labor market conditions. Worse yet, if the current calls for fiscal austerity translate into actual laws, the future may be very grim indeed. We would be wise to remember Hoover's and Roosevelt's early attempts to balance the budgets in the midst of an economic downturn, which only plunged the economy further into the Depression. It is thus critically important that economists and policymakers reconsider the model of macroeconomic stabilization and go to the heart of this crucial problem of unemployment by tackling it directly.

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# Green capitalism: the god that failed

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## Abstract

In rejecting the antigrowth approach of the first wave of environmentalists in the 1970s, pro-growth “green capitalism” theorists of the 1980s-90s like Paul Hawken, Lester Brown, and Francis Cairncross argued that green technology, green taxes, eco-conscious shopping and the like could “align” profit-seeking with environmental goals, even “invert many fundamentals” of business practice such that “restoring the environment and making money become one and the same process.” This strategy has clearly failed. I claim first, that the project of sustainable capitalism was misconceived and doomed from the start because maximizing profit and saving the planet are inherently in conflict and cannot be systematically aligned even if, here and there, they might coincide for a moment. That’s because under capitalism, CEOs and corporate boards are not responsible to society, they’re responsible to private shareholders. CEOs can embrace environmentalism so long as this increases profits. But saving the world requires that the pursuit of profits be systematically subordinated to ecological concerns: For example, the science says that to save the humans, we have to drastically cut fossil fuel consumption, even close down industries like coal. But no corporate board can sacrifice earnings to save the humans because to do so would be to risk shareholder flight or worse. I claim that profit-maximization is an iron rule of capitalism, a rule that trumps all else, and this sets the limits to ecological reform -- and not the other way around as green capitalism theorists supposed.

Secondly, I claim that contrary to green capitalism proponents, across the spectrum from resource extraction to manufacturing, the practical possibilities for “greening” and “dematerializing” production are severely limited. This means, I contend, that the only way to prevent overshoot and collapse is to enforce a massive economic contraction in the industrialized economies, retrenching production across a broad range of unnecessary, resource-hogging, wasteful and polluting industries, even virtually shutting down the worst. Yet this option is foreclosed under capitalism because this is not socialism: no one is promising new jobs to unemployed coal miners, oil-drillers, automakers, airline pilots, chemists, plastic junk makers, and others whose jobs would be lost because their industries would have to be retrenched -- and unemployed workers don’t pay taxes. So CEOs, workers, and governments find that they all “need” to maximize growth, overconsumption, even pollution, to destroy their childrens’ tomorrows to hang onto their jobs today because, if they don’t, the system falls into crisis, or worse. So we’re all onboard the TGV of ravenous and ever-growing plunder and pollution. And as our locomotive races toward the cliff of ecological collapse, the only thoughts on the minds of our CEOs, capitalist economists, politicians and labor leaders is how to stoke the locomotive to get us there faster. Corporations aren’t necessarily evil. They just can’t help themselves. They’re doing what they’re supposed to do for the benefit of their owners. But this means that, so long as the global economy is based on capitalist private/corporate property and competitive production for market, we’re doomed to collective social suicide and no amount of tinkering with the market can brake the drive to global ecological collapse. We can’t shop our way to sustainability because the problems we face cannot be solved by individual choices in the marketplace. They require collective democratic control over the economy to prioritize the needs of society and the environment. And they require national and international economic planning to re-organize the economy and redeploy labor and resources to these ends. I conclude, therefore, that if humanity is to save itself, we have no choice but to overthrow capitalism and replace it with a democratically-planned socialist economy.

## I. Saving the earth for fun and profit

In rejecting the antigrowth “limits” approach of the first wave of environmentalism in the 1970s, pro-market, pro-growth “green capitalism” theorists of the 1980s and 90s such as Paul Hawken, Lester Brown and Francis Cairncross argued that green technology, green taxes, green labeling, eco-conscious shopping and the like could “align” profit-seeking with environmental goals, even “invert many fundamentals” of business practice such that “restoring the environment and making money become one and the same process.”<sup>1</sup> This

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<sup>1</sup> Paul Hawken, *Ecological Commerce* (New York: HarperCollins, 1993); Paul Hawken, Amory Lovins, L. Hunter Lovins, *Natural Capitalism* (Boston: Little Brown and Co.: 1999); Lester R. Brown, *Eco-Economy*

turn to the market was an expression of broader trends from the 1980s in which activists retreated from collective action to change society in favor of individualist approaches to trying to save the world by embracing market forces -- “shopping our way to sustainability.”<sup>2</sup> In the market mania of the Reagan-Clinton era, Herman Daly’s plea for imposing “limits to growth” came to seem dated -- like Birkenstocks and Bucky Fuller’s geodesic dome houses. Many American environmentalists bought into the “doing well by doing good” message of green capitalism because there had never been much of a left or socialist presence in the American environmental movement beyond a small anarchist fringe, unlike Europe where many if not most greens were also reds. So it was easy for American environmentalists to go with the market, and there were jobs. Protesting didn’t pay the rent. Some became eco-entrepreneurs or signed on with one of the hundreds of new green businesses from organic foods to eco-travel to certifying fair-trade coffee that sprang up in the eighties and nineties. Others connected with mainstream environmental NGOs like the Sierra Club to focus on petitioning and lobbying efforts. In these and other ways, protesting gradually gave way to lobbying and green capitalism.

*“There is no polite way to say that business is destroying the world”*

Of all the eco-economic futurist writers of the 1980s and 90s, entrepreneur and “Natural Capitalism” guru Paul Hawken has probably been the most influential voice for eco-capitalism. Hailed by *Inc.* magazine as “the poet laureate of American capitalism,” Hawken says he was inspired to pen his best seller *Ecology of Commerce* (1993) when his company Smith & Hawken won the prestigious Environmental Stewardship Award from the Council on Economic Priorities in 1991. When George Plimpton presented the award to Smith & Hawken at New York’s Waldorf-Astoria Hotel, Hawken says he “looked out over the sea of pearls and black ties, suddenly realizing two things: first that my company did not deserve the award and second, that no one else did either. What we had done was scratch the surface of the problem. . . but in the end the impact on the environment was only marginally different than if we had done nothing at all. The recycled toner cartridges, the sustainably harvested woods, the replanted trees, the soy-based inks, and the monetary gifts to nonprofits were all well and good, but basically we were in the junk mail business, selling products by catalogue. All the recycling in the world would not change the fact that [this] is an energy intensive endeavor that gulps down resources.” For the reality, Hawken said, was that:

Despite all this good work, we still must face a sobering fact. If every company on the planet were to adopt the best environmental practices of the “leading” companies -- say, the Body Shop, Patagonia, or 3M -- the world would still be moving toward sure degradation and collapse. . . Quite simply, our business practices are destroying life on earth. Given current corporate practices, not one wildlife preserve, wilderness, or indigenous culture will survive the global market economy. We know that every natural system on the planet is disintegrating. The land, water, air, and sea have

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(New York: Norton, 2001); Jonathan Porritt, *Capitalism as if the World Mattered* (London: Earthscan, 2005); Frances Cairncross, *Costing the Earth* (Boston: Harvard Business School Press, 1992) and *Green, Inc.* (Washington D.C.: Island Press, 1995); James Gustave Speth, *The Bridge at the End of the World* (New Haven: Yale University Press, 2008). See also Al Gore, *Earth in the Balance* (New York: Rodale, 1992), chapter 10. Nicholas Stern, *The Economics of Climate Change* (Cambridge: CUP, 2007) restates this green eco-economic orthodoxy.

<sup>2</sup> On this history see Andrew Szasz, *Shopping Our Way to Safety: How We Changed From Protecting the Environment to Protecting Ourselves* (Minneapolis: University of Minnesota Press, 2007).

been functionally transformed from life-supporting systems into repositories for waste. There is no polite way to say that business is destroying the world.<sup>3</sup>

So business is destroying the world. But, for Hawken, the problem wasn't capitalism as such but just bad "business practices" of corporations which, he thought, could be fundamentally "inverted" to save the world: "[T]his behavior is not the inherent nature of business, nor the inevitable outcome of a free-market system." The problem was that "the expense of destroying the earth is largely absent from the prices set in the marketplace. A vital and key piece of information is therefore missing in all levels of the economy."<sup>4</sup> The key was to get the market to "tell the ecological truth." In her Harvard Business School manifesto for green capitalism, *Costing the Earth*, the *Economist* magazine's environmental editor Francis Cairncross said "Governments need to step in to align private costs with social costs . . . [as] embodied the 'polluter pays' principle."<sup>5</sup> And in his book *Eco-Economy*, Worldwatch Institute founder Lester Brown explained that "Ecologists and economists – working together – can calculate the ecological costs of various economic activities. These costs could then be incorporated into the market price of a product or service in the form of a tax." So carbon taxes and the like would "discourage such activities as coal burning," "the generation of toxic waste, the use of virgin raw materials," "the use of pesticides, and the use of throwaway products."<sup>6</sup> Paul Hawken even went so far as to claim that "*there is no question that we could introduce a steady, incremental phase-in of a carbon tax on coal, one that would eventually tax coal out of business in two decade's time.*" "The whole key to redesigning the economy is to shift incrementally most if not all of the taxes presently derived from 'goods' to 'bads,' from income and payroll taxes to taxes on pollution, environmental degradation, and nonrenewable energy consumption." "The resulting changes in the marketplace would be dramatic. Every purchase would become more constructive and less destructive." Hawken described his vision of "Natural Capitalism" thusly:

The restorative economy described in this book . . . unites ecology and commerce into one sustainable act of production and distribution that mimics and enhances natural processes. In such an economy . . . restoring the environment and making money would be the same process. Business . . . needs a plan, a vision, a basis – a broad social mandate that will turn it away from the linear, addictive, short-term economic activities in which it is enmeshed and trapped. . . Rather than argue about where to put our wastes, who will pay for it, and how long it will be before toxins leak out into the groundwater, we should be trying to design systems that are elegantly imitative of climax ecosystems found in nature. Companies must re-envision and re-imagine themselves as cyclical corporations, whose products either literally disappear into harmless components, or [produce] no waste [at all.]<sup>7</sup>

NRDC founder and Yale Dean Gus Speth summed up this utopian vision of the market in green capitalism as well as anyone:

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<sup>3</sup> *The Ecology of Commerce* (New York:Harper, 1993), preface and p.3 (my italics).

<sup>4</sup> Ibid. pp. 15, 13

<sup>5</sup> *Costing the Earth*, p. 89.

<sup>6</sup> *Ecological Economics*, p. 234-36, my italics

<sup>7</sup> *Ecology of Commerce*, pp. 3, 11-12, 54-55, 87, 171.

The market can be transformed into an instrument for environmental restoration; humanity's ecological footprint can be reduced to what can be sustained environmentally; the incentives that govern corporate behavior can be rewritten; growth can be focused on things that truly need to grow and consumption on having enough, not always on more; the rights of future generations and other species can be respected.<sup>8</sup>

The “sustainable” “green” “natural” capitalism movement took off in the 1980s and 90s: Organic farming came into the mainstream and Whole Foods became the fastest growing sector of the grocery industry. Green businesses sprouted up in every sector from renewable energy to organic cottons to eco-travel. Stores added green products in every aisle. Hip, eco-conscious businesses like Patagonia gave “1% to nature.” (Ben & Jerry's gave 7 ½%!) “Sustainable investing” mutual funds looked to fund renewable energy. “Green certification” outfits sprung up to save the tropical forests and the sea turtles. Even big corporations like 3M and Walmart eventually embraced green “business practices” cutting waste, recycling, producing and adopting less toxic products. Europe introduced the first large-scale cap and trade system in January 2005. Finland introduced the first carbon tax in 1990 and many other countries followed suit including Sweden, Germany, Britain, South Korea, South Africa, some provinces of Canada, and even some American states including Maryland, Colorado, and California.

*The green capitalist god that failed*

There can be no doubt that we are better off for many of these initiatives. But two decades on, for all the organic groceries, the energy efficient lightbulbs, appliances and buildings, the carbon trading and carbon taxes, still, the global ecology is collapsing faster than ever. Climate change, as Bill McKibben tells us in his new book, *eaarth*, is no longer a distant threat; it's already upon us. CO<sub>2</sub> and other greenhouse gas emissions are currently growing at *four times* the rate they grew in the 1990s. Two thousand ten was the hottest year on record and the 2000s were the hottest decade on record. From peat fires around Moscow to huge floods in Pakistan, super hurricanes, super storms, super winter snowfalls, and floods or, alternately, extended drought (even both in Australia), are becoming the norm. Seas are rising and ice is melting faster than scientists imagined possible even as recently as 2007. Tropical forests continue to fall. Glacier melt is accelerating around the world with dire implications for agriculture from India to China, California to Peru. Rivers are drying up. Soil depletion continues unabated. Water tables are falling relentlessly around the world. Drought has become a permanent feature of the American southwest, of Australia, of regions of Africa and the Middle East, and northern China. Ocean fisheries are collapsing right and left. Coral reefs, scientists now think, could die off in many places by mid-century and over the entire planet by 2100. Penguin colonies are at risk. The collective impact of nearly 7 billion humans pumping their emissions into the atmosphere and dumping their excreta and runoff and toxics into drains and rivers that eventually issue into the seas is not only changing the climate but, incredibly, changing the chemical composition of the world's vast oceans, threatening the future both of living creatures in the oceans and those who live off the oceans. We're destroying life and wiping out species so fast that, in Bill McKibben's words, “We're running

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<sup>8</sup> *Bridge at the End of the World*, p. 12. See also pp. 180-191.

Genesis backward, decreasing.”<sup>9</sup> In short, for all the green initiatives, corporate business practices have changed little -- or the little they've changed has had no great effect. From Kyoto to Cancun, governments have all made it abundantly clear that they will not accept binding limits on greenhouse gas emissions. They will not sacrifice growth today to save the planet tomorrow. Europe's cap and trade scheme, the first large scale effort, enriched traders and polluters but failed to put the brakes on the relentless rise of greenhouse gas emissions. What few carbon taxes governments actually imposed have likewise failed to stem emissions. At the end of the day, the project of green capitalism is in disarray.

## **II. Delusions of “Natural Capitalism”**

Paul Hawken was right: We need a “restorative economy,” an economy that lives within nature's limits, that minimizes and even eliminates waste from production, and so on. But he was completely wrong to imagine that we could ever get this under capitalism. In what follows I will explain why this is so then discuss what I think are the implications of this critique. To start with, I'm going to state five theses about green capitalism and then develop these arguments in the rest of this paper.

1. First, the project of “sustainable” “green” “natural” capitalism was misconceived and doomed from the start because maximizing profit and saving the planet are inherently in conflict and cannot be systematically aligned even if, here and there, they might coincide for a moment. That's because, under capitalism, CEOs and corporate boards are not responsible to society; they're responsible to private owners and shareholders. CEOs might embrace environmentalism so long as this also increases profits but they're not free to subordinate profit maximizing to saving the world because to do so would be to risk shareholder flight or worse. I claim that profit-maximization is an iron rule of capitalism, a rule that trumps all else and sets the possibilities and limits of ecological reform -- and not the other way around as green capitalism theorists suppose.
2. Second, no capitalist government on earth can impose “green taxes” that would drive the coal industry or any other industry out of business, or even force major retrenchments by suppressing production because, among other important reasons, given capitalism, this would just bring on recession and mass unemployment if not worse. This means the carbon tax strategy to stop global warming is a non-starter. And without green taxes, the entire green capitalist project collapses.
3. Third, green capitalism theorists vastly underestimate the gravity, scope, and speed of the global ecological collapse of we face. They imagine that growth can continue forever if we just tweak the incentives and penalties a bit here and there with green taxes and such. I claim that the capitalist economic system is inherently eco-suicidal, that endless growth can only end in catastrophic global eco-collapse, that no amount of tinkering can alter the market system's suicidal trajectory, and that, therefore, like it or not, humanity has no choice but to try to find a way to replace capitalism with a post-capitalist ecologically sustainable economy.

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<sup>9</sup> See Bill McKibben's review of our current status in *earth* (New York:Henry Holt, 2010), chapter one, from which much of this paragraph is drawn.



4. Fourth, green capitalism theorists grossly overestimate the potential of “clean” “green” production and “dematerializing,” the economy whereas, in reality, much if not most of the economy from resource extraction like mining and drilling to metals smelting and chemicals production, as well as most manufacturing, cannot be greened in any meaningful sense at all. This means that the only way to reduce greenhouse gas emissions by the 80% that scientists say we need to do to save the humans, is to enforce a *drastic contraction of production* in the industrialized countries, especially in the most polluting and wasteful sectors. Most industries will have to be sharply retrenched. Some, the very worst polluting and wasteful, will have to be closed down entirely. Since, under capitalism, industries can’t be expected to voluntarily commit economic suicide, even to save the humans, the only way to carry out these necessary contractions and closures is to nationalize industry and socialize the losses, redeploy labor to sectors society does actually need to develop, like renewable energy, public transit, decent housing for all, and so on, and shorten the working day to spread the remaining work around.
5. Fifth, consumerism and overconsumption are not “dispensable” and cannot be exorcised because they’re not just “cultural” or “habitual.” They are built into capitalism and indispensable for the day-to-day reproduction of corporate producers in a competitive market system in which capitalists, workers, consumers and governments alike are all locked into an endless cycle of perpetually increasing consumption to maintain profits, jobs, and tax revenues. We can’t shop our way to sustainability because the problems we face cannot be solved by individual choices in the marketplace. The global ecological crisis we face cannot be solved by even the largest individual companies. Problems like global warming, deforestation, overfishing, species extinction, the changing ocean chemistry are even beyond the scope of nation states. They require national and international cooperation and global economic planning. This requires collective bottom-up democratic control over the entire world economy. And since a global economic democracy could only thrive in the context of a rough economic equality, this presupposes a global redistribution of wealth as well.

#### **A. The folly of cap & trade and carbon taxes**

Green capitalism’s problems start with the failure of cap and trade schemes and the refusal to of countries to adopt green taxes of real significance. By the end of the first decade of the twenty-first century, it was evident that the world’s first efforts at CO<sub>2</sub> and other greenhouse gas mitigation, the voluntary approach embodied in the 1997 Kyoto Protocols, was a failure. The Kyoto Protocol obliged the industrialized countries to cut carbon emissions by an average of 5.2 percent below 1990 levels by 2008-2012. Virtually no country honestly lived up to its promises. For example, Japan, the strongest promoter of the Kyoto Protocol, promised to reduce emissions 6 percent below 1990 levels by 2008. Instead, by 2009 Japan’s emissions *exceeded* its 1990 levels by 9 percent. Most of the rest of the world did much worse than that. Emissions skyrocketed.<sup>10</sup> By 2006, scientists reported that global emissions were then rising *four times faster* than they were a decade earlier. Thirteen of the 15 original EU signers of the accords increased their emissions, many sharply. Germany did better, almost meeting its target, but only because it incorporated East Germany and thus bettered its average by closing down dirty, inefficient communist-era plants. The U.K. also did better

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<sup>10</sup> See James Hansen’s summary of Kyoto’s failures in his *Storms of My Grandchildren* (New York: Bloomsbury, 2010), pp. 182-83, and p. 206.

but only because North Sea gas discoveries enabled it to close coal mines and replace coal-fired power with gas – a situation that is unlikely to last because North Sea gas peaked in 1999 and will be two-thirds gone by 2015.<sup>11</sup>

### *No green capitalism in one country*

Kyoto failed because, given a competitive globalized world market, for some countries to sign on these obligations while others – conspicuously the U.S., China, and India – did not, was to commit economic suicide. Analysts predicted that if they abided by Kyoto's requirements, the UK's GDP would fall by 1 percent by 2010, Italy's by 2 percent, Spain's by 3 percent and all three countries would lose at least 200,000 jobs each.<sup>12</sup> This is why, already by 2005, even ardent advocates of Kyoto were bailing out. So Tony Blair, erstwhile hardcore Kyoto fan, told the Clinton Global Initiative in September 2005 that *"I'm changing my thinking on this. . . . No country is going to cut its growth or consumption substantially in the light of a long-term environmental problem."*<sup>13</sup>

### **1. Cap and trade: the market solution to Kyoto's failed voluntary limits solution**

In the wake of Kyoto's failures, many economists and environmentalists embraced "cap and trade" schemes which, they claimed, would overcome the weaknesses of Kyoto's voluntary approach by relying instead on market incentives and penalties. The cap and trade idea was that governments would set ceilings on maximum allowable CO2 emissions – the cap – for a given set of polluting industries. Then, for every ton of CO2 that a polluter reduces under the cap, it is awarded one "permit" to pollute. Permits could be bought, sold, traded, or banked for the future. Any plant that cut its emissions below the mandated level could sell their excess allowances to overpolluters. Overpolluters could buy these indulgences and keep on polluting. But over time, governments would ratchet down the cap, restricting allowances. This would drive up the cost of permits. Dirty plants would face rising costs to keep buying permits to keep operating. Efficient plants would profit from clean technology. Eventually, as permit prices rose, fossil fuel costs would exceed renewable energy prices and fossil fuels use would pass from the scene. The theory had a certain elegance. But all the same, greenhouse gas cap and trade schemes failed just like Kyoto. The problem this time was that the "cap" was really a tax, therefore an added and growing cost to producers.<sup>14</sup> In a globalized market, governments were loathe to undermine the competitiveness of their own industries by imposing additional financial burdens. So in Europe, where the world's first mandatory trading market was established in 2005, governments, according to one report, were "beseeched by giant utilities and smokestack industries that feared for their competitiveness . . ."<sup>15</sup> In Germany, industry lobbyists badgered the government for higher caps, special exceptions of all sorts, they warned of unemployment, threatened to pack up

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<sup>11</sup> Cited in Mark Lynas, *Six Degrees* (New York: National Geographic/Harpers, 2008), pp. 269-70.

<sup>12</sup> Dana Joel Gattuso, "Kyoto's anniversary: little reason to celebrate," February 2006 (Washington D.C.: The National Center for Public Policy Research) at <http://www.nationalcenter.org/NPA537EuropeKyoto206.html>.

<sup>13</sup> Tony Blair, Remarks, Clinton Global Initiative, Special Opening Plenary Session (New York), September 15, 2005, quoted in *ibid*.

<sup>14</sup> Hansen, *Storms*, p.213.

<sup>15</sup> James Kanter and Jad Mouawad, "Money and lobbyists hurt European efforts to curb gases," *New York Times*, December 11, 2010

and leave Germany, and so on. In the end, governments caved. Jürgen Trittin, former Green Party leader and German minister of environment from 1998 to 2005, recalled being lobbied by executives from power companies and by politicians from the former East Germany seeking special treatment for lignite, a highly polluting soft brown coal common in central Europe. Handing out permits he says he felt “like a grandfather with a large family deciding what to give his favorite children for Christmas.” Mr. Trittin recalled a five-hour “showdown” with Wolfgang Clement, then economy minister, in which he lost a battle to lower the overall limit. Clement reproached the Greens saying that “at the end of their policy there is the de-industrialization of Germany.”<sup>16</sup> Similarly, in confrontation with the Federation of German Electricity Companies, “good sense triumphed in the end” and industry won: whereas under EU commitments, German electricity companies were supposed to receive 3 percent fewer permits than they needed to cover their total emissions between 2005 and 2007, which would have obliged them to cut emissions by that amount, instead the companies got 3 percent *more* than they needed – a windfall worth about \$374 billion dollars at that time. As governments caved, emissions soared, and the profits went to the polluters and the traders. As the *New York Times* described the process:

The European Union started with a high-minded ecological goal: encouraging companies to cut their greenhouse gases by making them pay for each ton of carbon dioxide they emitted into the atmosphere. But that plan unleashed a lobbying free-for-all that led politicians to dole out favors to various industries, undermining the environmental goals. Four years later, it is becoming clear that system has so far produced little noticeable benefit to the climate — *but generated a multibillion-dollar windfall for some of the Continent’s biggest polluters.*<sup>17</sup>

Cap and trade may as well have been designed to fail: Poland, which depends on coal-fired plants for 95 percent of electricity generation has threatened to block the next phase of Europe’s emissions plan unless it gets an “exception.”<sup>18</sup> Everyone needs higher caps, special exemptions, temporary relief. And so it goes. With Europe’s cap and trade plans in tatters, Obama dropped his own cap and trade plan, once the centerpiece of his environmental campaign platform. In 2010 Japan and South Korea shelved their proposed plans to start cap and trade schemes in 2013 under heavy pressure from businesses that complained it was unfair to burden them with such costs when the U.S. and China refused to do the same.<sup>19</sup> Australia has officially put off any decision on carbon-trading till 2013. And so it goes.

## 2. Carbon taxes: the market solution to the failed cap and trade market solution

Critics of cap and trade, like Al Gore and NASA’s James Hansen,<sup>20</sup> have argued for a simpler, more transparent direct approach that supposedly cuts out all the profiteering – a flat carbon tax. No more lobbying. No more loopholes. In James Hansen’s words: “All sweet

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<sup>16</sup> Ibid.

<sup>17</sup> Ibid., my italics.

<sup>18</sup> Ibid.

<sup>19</sup> “East Asian cap and trade plans hit the wall,” January 18, 2011, *Carbonpositive* at <http://www.carbonpositive.net/viewarticle.aspx?articleID=2235>.

<sup>20</sup> See Jim Hansen’s arguments for a carbon tax in *Storms*, p. 215ff. For Al Gore’s arguments see his *Our Choice* (Emanus, PA: Rodale, 2009), pp. 342-45.

deals will be wiped off the books by a uniform carbon fee at the sources, which will affect all fossil fuel uses.”<sup>21</sup> But carbon taxes are no more a solution to curbing greenhouse gases than cap and trade. Contradictions abound. For a start, green taxes have proven no more immune to “sweet deals” than were the cap and trade schemes. Dozens of nations and local governments have introduced carbon taxes since 1990 but these have not led to significant declines in emissions. That’s because, everywhere, industries lobbied to keep taxes low (instead of caps high), various groups demanded exemptions, unions resisted taxes that could cost jobs, consumers resisted new taxes. So when finally introduced, after all the negotiations, carbon taxes have been too low to effect much change: Pollution is taxed but not enough to stop it, or even reduce it by much. The French case illustrates all of these contradictions: Nicolas Sarkozy sought to push France into the lead of the fight “to save the human race” (after all, this is France) by implementing a carbon tax in 2009. But days before the tax was to take effect, a French court ruled it unconstitutional because it would have let off most industrial polluters entirely plus it allowed generous discounts and exceptions to various sectors such as truckers, farmers, fishing fleets, while placing a disproportionately heavy burden on ordinary households. The court said that more than 1,000 of France’s biggest polluters could have been exempted from the charges, and that 93 percent of industrial emissions would not have been taxed at all.<sup>22</sup> But even if Sarkozy had successfully imposed his carbon tax, this tax would have raised the price of gasoline by just 25 US cents per gallon. Given that the French already pay nearly \$9 per gallon for gasoline, it’s hard to see how an additional 25 cents would seriously discourage consumption let alone “save the human race.” James Hansen proposes a carbon tax of \$1 per gallon of gasoline in the U.S. But given that gasoline prices in the U.S. are only a third the cost of those in Europe, so cheap that that gas-guzzling SUVs, light trucks and bloated luxury cars are the best selling vehicles in the U.S., it’s hard to imagine how tacking another buck onto a gallon of gas is going to change consumption patterns here either.

Hansen, like most environmentalists, blames the “special interests” and spineless political leadership for the failure to enact carbon taxes:

Today we are faced with the need to achieve rapid reductions in global fossil fuel emissions and to nearly phase out fossil fuel emissions by the end of the century. Most governments are saying that they recognize these imperatives. And they say they will meet these objectives . . . Ladies and gentlemen, your governments are lying through their teeth. . . Moreover, they are now taking actions that, if we do not stop them, will lock in guaranteed failure to achieve the targets that they have nominally accepted. . . First, they are allowing construction of new coal-fired plants. Second, they are allowing construction of coal-to-liquids plants that will produce oil from coal. Third, they are allowing development of unconventional fossil fuels such as tar sands. Fourth, they are leasing public lands and remote areas for oil and gas exploration to search for the last drop of hydrocarbons. Fifth, they are allowing companies to lease land for hydraulic fracturing, an environmentally destructive mining technique . . . to extract every last bit of gas . . . Sixth, they are allowing highly-destructive mountain-top removal and long-wall mining of coal . . . And on and on.

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<sup>21</sup> *Storms*, p. 210.

<sup>22</sup> Lizzy Davies, “Humiliation for green convert Sarkozy as carbon tax ruled unconstitutional,” *Guardian*, December 30, 2009.

The problem is that our governments, under the heavy thumb of special interests, are not pursuing policies that would restrict our fossil fuel use . . . Quite the contrary, they are pursuing policies to get every last drop of fossil fuel, including coal, by whatever means necessary, regardless of environmental damage. [And this is despite the fact] that we have all the ingredients we need to meet this challenge – except leadership willing to buck the special financial interests benefiting from business as usual.”<sup>23</sup>

But the problem is not just special interests, lobbyists and corruption. And courageous political leaders could not turn the situation around. Because that's not problem. The problem is capitalism. Because, *given capitalism*, it is, perversely, in the *general interest*, in *everyone's immediate interests* to do all we can to maximize growth right now, therefore, unavoidably, to maximize fossil fuel consumption right now – because practically every job in the country is, in one way or another, dependent upon fossil fuel consumption. And any cutback, particularly the massive and urgent cuts that climate scientists like James Hansen say we have to make to save the humans in the decades and centuries to come, can only come at the expense of massive layoffs for the humans in the here and now. There is no way to cut CO2 emissions by anything like 80 percent without imposing drastic cuts across the board in industrial production. But since we live under capitalism, not socialism, no one is promising new jobs to all those coal miners, oil drillers, gas frackers, power plant operators, farmers and fertilizer manufacturers, loggers and builders, autobuilders, truck drivers, airplane builders, airline pilots and crews and the countless other occupations whose jobs would be at risk if fossil fuel use were really seriously curtailed.<sup>24</sup> So rational people can understand the science, grasp the implications of the failure to act right now, *and still find they have to “live in denial” to carry on*. Given capitalism, they have little choice but to focus on the short-term, to prioritize saving their jobs in the here and now to feed their kids today – and worry about tomorrow, tomorrow. That's why, when in 2009 President Obama tried to eliminate some tax credits and deductions tied to coal, oil and natural gas, there was furious protest from coal states and Congress never enacted the changes. That's why UAW autoworkers have often joined their bosses in protesting against EPA efforts to impose higher CAFE fuel economy standards. It's not that *personally* those workers don't understand that we all need to consume less oil.<sup>25</sup> But what other choice do they have given that, today, Detroit's best defense against the Asian invasion is to concentrate on its niche market building giant gas-hog Ticonderogas, Escalades, Suburbans, Dodge Ram and Ford F150 trucks? Given capitalism, tragically, the autoworkers' best hope for job security today is to work to destroy their childrens' tomorrows.

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<sup>23</sup> Storms, pp. 185-86.

<sup>24</sup> Eg. Elizabeth Rosenthal, “Grim local choices as Europe goes green,” *International Herald Tribune*, September 16, 2010. The EU passed its first law to phase out coal in 2002, especially in the coal-dependent East European states, but deadlines have been repeatedly moved back because, with the transition to capitalism, workers just face unemployment as state job guarantees have been capitalist-rationally eliminated. And as one worker told Rosenthal: “After 20 years in the mine, your body is pretty damaged and so you're not so employable.”

<sup>25</sup> There have been conspicuous exceptions to this pattern. For example, in the midst of the 2009 recession, a UAW caravan brought UAW workers from Detroit to Washington D.C. to demand that shuttered auto plants be converted to making much-needed mass transit and light rail vehicles, or alternative energy equipment like windmill turbines. See “Auto caravan voices grievances of union autoworkers” by Wendy Thompson, Detroit Green Party and UAW convention delegate, in *Green Pages*, February 5, 2009 at <http://gp.org/greenpages-blog/?p=992>.

*The science vs. the political economy*

This is the awful choice workers face in every industry under capitalism. That's why, with the world's leading industrial economies locked in ferocious global competition, especially against China's capitalist police-state advantage, with unemployment levels at 10 percent in the U.S. and Europe, 20 to 40 percent or more for youth, and half the youth population from Mexico to Egypt to India unemployed, the last thing any capitalist government wants to do right now is impose a carbon tax because the first consequence of making fossil fuels more expensive would be to threaten the extremely fragile global "recovery" and compound their already severe unemployment problems, if not actually provoke revolt. And given the state of global competition today, with their economies already half de-industrialized, American and European industrialists not unreasonably protest that, why should their industries be so burdened when everyone knows that China is never going to impose any such tax? In today's world, American industrialists would not be wrong to say, like their German counterparts, that at the end of the day, a carbon tax would just bring on "the de-industrialization of America." And yet even in the best of boom times, when America ruled the world economy, every president from Ronald Reagan to Bill Clinton to George Bush père and fils and all their congresses, Democratic and Republican alike, refused to support legislation that would in any way threaten growth and "the American way of life." In an economy where after more than half a century of efforts, we can't even get a lousy 5 cent bottle deposit bill passed in more than a handful of states (9 to be precise), let alone a serious gasoline tax anywhere, why would Paul Hawken imagine that congress would pass a carbon tax that would "drive the coal industry out of business in two decades time?"

### **3. The inevitable failure of market solutions**

Since no government is going to impose carbon taxes, the entire green tax strategy collapses because, as Hawken, Brown and Cairncross freely concede, profit-seeking and environmental protection are irreconcilably opposed. Yet the worst problem with the carbon tax idea is that even if serious carbon taxes were actually imposed, *there is no guarantee whatsoever that they would reduce greenhouse gas emissions* because they would do little if anything to stop overall growth and consumption. That's why, even though in the U.S., calls for green taxes have elicited fierce opposition from many quarters, nevertheless, many in government, many businesses, and a long list of industrial CEOs including Rex Tillerson, CEO of ExxonMobil and Paul Anderson, CEO of Duke Energy, *support* carbon taxes – because they understand that unlike cap and trade, carbon taxes would add something to the cost of doing business, like other taxes, but they pose no finite limit to growth.<sup>26</sup> Worse, because carbon taxes are transparently a tax (whereas cap and trade is a disguised tax), most carbon tax advocates have tendered their proposals as "revenue neutral" to make them more palatable to politicians, business and consumers. Paul Hawken and Al Gore call for "offsetting" carbon taxes by reducing income taxes. James Hansen's "tax and dividend" plan proposes "returning 100 percent of the collected tax" back to the public in the form of a "dividend."<sup>27</sup> Yet, as ecological economist William E. Rees, co-founder of the science of ecological footprint analysis, points out, if carbon tax offsets are revenue neutral, then they

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<sup>26</sup> For the list of CEOs who support carbon taxes, see The Carbon Tax Center at <http://www.carbontax.org/who-supports/opinion-leaders/>.

<sup>27</sup> Hawken, above, p. 4. Al Gore, *Our Choice* (Emmaus PA: Rodale Press, 2009), p. 343. Hansen, *Storms*, p. 209.



are also “impact neutral.” Money returned to consumers will likely just be spent on something else that consumes and trashes the planet. So, says Rees if, for example, a consumer, say, takes an eco-car rebate from the government to junk his/her clunker for a Prius, this could save a several hundred bucks in fuel costs each year. But if the consumer then spends the savings on, say, a round trip air ticket to some vacation destination (which s/he could do every year with the fuel savings) or buys a new heavily polluting flat-screen TV, the carbon “savings” would evaporate. And, meanwhile, s/he’s added more to the global waste heap by junking the clunker.<sup>28</sup> In the end, to coin a phrase, taxing pollution is a problem, not a solution.

Of course, the government could just drop these market approaches and directly regulate CO2 output by imposing fixed limits on greenhouse gas emitters, like governments already regulates many toxic chemicals. Legally, President Obama has the authority under clean air legislation to do just that, and since his election, the somewhat reenergized E.P.A. has asserted its right to do so. But where fossil fuels are concerned we’re not just talking about banning or restricting a single chemical here or there. If we’re talking about 80 percent cuts in CO2 and other greenhouse emissions, then we’re talking about the need to impose huge cuts in everything from farming to fashions – which is why business is fiercely resisting Obama’s emboldened E.P.A.<sup>29</sup>

## **B. The economics vs. the science on the scope of the problem**

When climate scientists like James Hansen tell us to stop global warming we have to “shut down the coal industry” and “leave most of the fossil fuels in the ground,” it’s only natural that, like those autoworkers, *none of us really want to think about the full implications of this imperative*. The tendency is to think about this issue in isolation from the rest of economy, as if fossil fuels are just in the “energy sector” which we could fix by switching to renewables, trading in the gas hog for a Prius, and then go on driving and consuming as before while, hopefully, the economy keeps on growing. But this is a delusion because in our economy, fossil fuels are in virtually everything we depend upon. Today, most of the fossil fuels we extract are burned directly to produce energy in power plants, to provide heating, and to propel our cars, planes, trains and ships. The rest become chemical feedstocks embodied in everything we consume from food to clothes to manufactures of every sort. And we use gargantuan quantities of the stuff. Right now, adding up the coal, oil and natural gas, the world is consuming some 200 million barrel equivalents of oil every day just to produce energy. That’s equal to more than 23 times the daily output of Saudi Arabia, the world’s largest producer.<sup>30</sup> Currently, renewables like solar and wind provide a grand total of about 0.6 percent of global energy consumption. So “leaving fossil fuels in the ground” is going to require radical changes in consumption and lifestyles of Americans. Indeed, the Australian

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<sup>28</sup> See William Rees and Mathis Wackernagel, *Our Ecological Footprint: Reducing Human Footprint on the Earth* (Gabriola Island, BC, Canada: New Society Publishers, 1996). See also, Rees, “BC’s carbon tax shell game,” in *The Tyee* (British Columbia) February 26, 2008 at <http://thetyee.ca/Views/2008/02/26/TaxShellGame/>.

<sup>29</sup> Louise Radnofsky, “Business groups’ target: EPA,” *Wall Street Journal*, February 7, 2011. And, predictably, given capitalist governments’ perennial subservience to business: “After business outcry, E.P.A. significantly revises emission rules for boilers,” John M. Broder, *New York Times*, February 24, 2011. Also: John M Broder and Sheryl Gay Stolberg, “E.P.A. delays tougher rules on emissions,” *New York Times*, December 10, 2010.

<sup>30</sup> Robert Bryce, *Power Hungry* (New York:Public Affairs, 2010), p. 75.

social scientist Ted Trainer argues that “The greenhouse problem cannot be solved without large scale reductions in the volumes of economic production and consumption taking place, and therefore cannot be solved at any cost within a society committed to affluent ‘living standards,’ maximum levels of economic output, and economic growth.”<sup>31</sup>

But you would not get that impression from listening to the optimistic scenarios of mainstream economists. Thus the UK’s Sir Nicolas Stern, former World Bank Chief Economist and author the widely publicized *Stern Review* commissioned by the UK government, concluded that “climate-change mitigation is technically and economically feasible at a cost of around 1% of GDP.”<sup>32</sup> Paul Krugman, echoing Stern and citing figures from a U.S. Congressional Budget Office survey of models concludes that “strong climate-change policy would leave the American economy between 1.1 percent and 3.4 percent smaller in 2050 than it would be otherwise.”<sup>33</sup> Stern, Krugman and a host of mainstream economists, politicians and the media have trumpeted this happy face win-win message that “tackling climate change is a pro-growth strategy” (Tony Blair). The whole process, they reassure us, will be fairly painless. Best selling *New York Times* columnist Thomas Friedman, cheerleader for globalization and author of *Hot, Flat and Crowded* (2008), even claims that if we transition to solar and other renewable energies, then we can even *increase* growth, turn clean energy into a “new growth driver” and produce all the consumer goodies that the billions of Chinese and Indians and the whole world could want, so the whole planet can enjoy “the American way of life.”

#### *Cooking the climate numbers to support GDP growth*

The science, however, sharply contradicts these optimistic scenarios. Stern’s *Review* has been criticized on many grounds, not least for overestimating the mitigation potentials of renewable and underestimating rising future demands in a misguided effort to support perpetual growth when the science clearly demonstrates that perpetual growth is unsustainable.<sup>34</sup> For a start, when the *Stern Review* claims that the cost of reducing greenhouse gas emissions to three-quarters of current levels by 2050 will cost around \$1 trillion or roughly -1.0 percent of GDP in that year, *it says this is to stabilize CO2 emissions at between 500 and 550 ppm (which would cause average temperatures to increase at least 3° C (5.4°F) above pre-industrial levels).*<sup>35</sup> But this target is well above what climate scientists consider safe. In 2008 James Hansen and his colleagues at NASA’s Goddard Institute for Space Studies wrote that: “If humanity wishes to preserve a planet similar to that on which civilization developed and to which most life on earth is adapted, paleoclimate evidence and ongoing climate change suggest that CO2 will need to be reduced from its current 385 ppm to at most

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<sup>31</sup> “A critical discussion of the Stern and IPCC analyses of carbon emission mitigation possibilities and costs,” *Energy & Environment* vol. 21, no. 2, 2010, pp. 49-73.

<sup>32</sup> Stern, *The Economics of Climate Change: the Stern Review* (Cambridge: CUP, 2007), p. 239.

<sup>33</sup> Nicolas. Paul Krugman, “Green economics,” *New York Times Magazine*, April 11, 2010, p. 39.

<sup>34</sup> See, for example, Ted Trainer, “A short critique of the Stern Review,” *real-world economics review*, issue no. 45, March 2008, at <http://www.paecon.net/PAEReview/issue45/Trainer45.pdf>. Yet Stern has also been criticized for proposing any GDP cut at all: Frank Ackerman, “Debating climate economics: the Stern Review vs. its critics,” Report to the Friends of the Earth England, Wales and Northern Ireland, July 2007 at [http://sei-us.org/Publications\\_PDF/SEI-FOE-DebatingClimateEcon-07.pdf](http://sei-us.org/Publications_PDF/SEI-FOE-DebatingClimateEcon-07.pdf).

<sup>35</sup> Stern, op cit., pp. xvi-xvii, 227, 234, 239, 260.

350 ppm.”<sup>36</sup> Climate scientists have been strenuously lobbying governments to do everything possible to suppress CO<sub>2</sub> emissions in order to contain average temperature increases to no more than 2°C, beyond which scientists fear feedback loops including reduced carbon absorption capacity of warmer seas, methane release from melting tundra and methane hydrates at the bottom of the Arctic ocean, loss of reflectivity from retreating Arctic ice, and so on, could sharply accelerate global warming with catastrophic implications.<sup>37</sup> In his powerful new book *Storms of My Grandchildren* James Hansen, generally considered the world’s pre-eminent climate scientist, writes that the speed of climate change, especially the speed of temperature increase in relation to CO<sub>2</sub> ppm levels, and the shocking speed of Arctic and Antarctic melting, has taken even climate scientists by surprise such that they have had to their revise worst-case scenarios of only a few years ago, in 2007. Whereas scientists used to think that we could tolerate warming up to 2°C without too much damage, “Unfortunately, what has since become clear is that a 2-degree Celsius global warming, or even a 1.7 degree warming, is a disaster scenario.” Hansen now believes that we have to have “a carbon dioxide target of no more than 350 ppm” in order to avoid ice sheet disintegration, loss of mountain glaciers and fresh water supplies, expansion of the subtropics, increasingly extreme forest fires and floods, massive species loss, and destruction of the great biodiversity of coral reefs.<sup>38</sup> Three degrees is not a world we want to see:

[T]he last time the Earth was 2 or 3 degrees warmer than today, which means the Middle Pliocene, about three million years ago, it was a rather different planet. Sea level was about 25 meters (80 feet) higher than today. Florida was under water. About a billion people now live at elevations less than 25 meters. It may take a long time for such large a sea level rise to be completed – but if we are foolish enough to start the planet down that road, ice sheet disintegration likely will continue out of our control.<sup>39</sup>

Given the enormous dangers that such a high target implies, critics have asked why is Stern so reluctant to aim for a safer target? Marxist ecologist John Bellamy Foster and his colleagues suggest that the answer is to be found in Stern’s economics, not the science:

The *Stern Review* is very explicit, however, that such a radical mitigation of the problem *should not be attempted*. The costs to the world economy of ensuring that atmospheric CO<sub>2</sub>e stabilized at present levels or below would be prohibitive, destabilizing capitalism itself. “Paths requiring very rapid emissions cuts, “ we are told, “are unlikely to be economically viable.” If global greenhouse gas emissions peaked in 2010, the annual emissions reduction rate necessary to stabilize CO<sub>2</sub>e at 450 ppm, the *Stern Review* suggests, would be 7 percent, with emissions dropping by

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<sup>36</sup> Hansen et al. ““Target atmospheric CO<sub>2</sub>: Where should humanity aim?” *Open Atmospheric Science Journal* 2 (2008), p. 217 at [http://pubs.giss.nasa.gov/docs/2008/2008\\_Hansen\\_et.al.pdf](http://pubs.giss.nasa.gov/docs/2008/2008_Hansen_et.al.pdf).

<sup>37</sup> Malte Meinshausen et al., “Greenhouse emission targets for limiting global warming to 2°C,” *Nature* vol. 458 April 30, 2009, pp. 1158-1163 at [http://www.ecoequity.org/wpcontent/uploads/2009/07/meinshausen\\_nature.pdf](http://www.ecoequity.org/wpcontent/uploads/2009/07/meinshausen_nature.pdf).

<sup>38</sup> *Storms*, pp. 142, 164-165, 180.

<sup>39</sup> *Ibid.*, p. 141. For summaries of what climate scientists think a 3°C or 4°C world would look like, see Lynas, *Six Degrees*, chapters 3 and 4.

about 70 percent below 2005 levels by 2050. This is viewed as economically insupportable.<sup>40</sup>

Stern asserted that “the world does not have to choose between averting climate change and promoting growth and development.”<sup>41</sup> But if the climate science is right that we need to keep emissions below 400 ppm, or even below 350 ppm, then not only can’t we keep on growing but we would have to make radically deeper cuts in GDP than even the -7 percent per year Stern calculates would be necessary just to get us down to 450 ppm. Since, under capitalism, anything like an economic contraction on the order of -7% would mean economic collapse and depression, *it is difficult to see how we can make the reductions in green house gasses the scientists tell us we have to make to avoid climate catastrophe unless we abandon capitalism*. This is the dilemma. So far, scientists have tended to avoid getting into the contentious economic side of the question. But with respect to the issue of growth, the science is unequivocal: never-ending growth means the end of civilization, if not humanity itself – and in the not-so-far distant future. For a summary of the peer-reviewed science on this subject, read a few chapters of Mark Lynas’ harrowing *Six Degrees*.<sup>42</sup>

### *No pain, no gain*

Global warming is surely the most urgent threat we face, but it is far from the only driver of global ecological collapse. For even if we switched to clean renewable electric power tomorrow, this would not stop the overconsumption of forests, fish, minerals, fresh water. It would not stop pollution, or solve the garbage crisis, or stop the changes in ocean chemistry. Indeed, given the Jevons paradox I discussed elsewhere, the advent of cheap, clean energy could even *accelerate* these trends.<sup>43</sup> Numerous credible scientific and environmental researchers back up what the climate scientists have been telling us to demonstrate why perpetual growth is the road to collective social suicide. For example:

In 2005 the *United Nations Millennium Ecosystem Assessment* team of 1300 scientists from 95 countries issued a landmark report on humanity’s overconsumption of “nature’s services.” The scientists reported that 60% (15 of 24) of the ecosystems examined that are critical for human survival are being “degraded or used unsustainably” including fresh water, capture fisheries, coral reefs, wetlands, drylands, and forests. Around the world, many of these are deteriorating and on the verge of collapse. Thus nature’s ability to provide the resources for growing future populations is very much in doubt unless radical steps are taken very soon.<sup>44</sup> World population is expected to rise to at least 9 billion by 2050 while demand for fossil fuels to support unsustainable lifestyles is expected to multiply by several times this increment.<sup>45</sup> How can “nature’s services” support this exponential growth in demand?

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<sup>40</sup> John Bellamy Foster, Brett Clark, and Richard York, *The Ecological Rift* (New York: Monthly Review Press, 2011), p. 155 and the sources cited therein. Their powerful critique should be read in its entirety.

<sup>41</sup> Stern, *Review*, p. xvii.

<sup>42</sup> *Six Degrees* (Washington D.C.: National Geographic Society, 2008).

<sup>43</sup> See my “Beyond growth or beyond capitalism,” *Real-World Economics Review*, no. 53, May 2010, pp. 28-42.

<sup>44</sup> *Millennium Ecosystem Assessment, Synthesis Report* (New York: United Nations, 2005), available at <http://www.maweb.org/>.

<sup>45</sup> Again, see Trainer, “A critical discussion,” op. cit., pp. 51-52.

In its *Living Planet Report 2010*, the World Wide Fund for Nature (WWF) similarly concluded that people are plundering the world's resources at a rate that far outstrips the planet's capacity to sustain life. As of 2007, the planet's 6+ billion people have been using 50 percent more natural resources and sinks per year than the earth can sustain. Put another way, humanity's current "global footprint" is equal to 1.5 planets. Under a "business as usual" scenario, even with modest projections for population growth, consumption and climate change, the UN predicts that by 2030 humanity will need the capacity of two Earths to absorb CO<sub>2</sub> waste and support natural resource consumption. Of course we don't all consume equally: The footprint of high income countries is three times that of middle income countries and five times that of low-income countries. Americans have the biggest footprint of all, consuming the most energy and producing the most waste. If everyone lived like Americans do, we would need 5.3 planets to support all this. James Leape, Director General of WWF, concludes that "The implications are clear. Rich nations must find ways to live much more lightly on the Earth – to sharply reduce their footprint, in particular their reliance on fossil fuels. The rapidly-growing emerging economies must also find a new model for growth – one that allows for them to improve the wellbeing of their citizens in ways the Earth can actually sustain." <sup>46</sup>

And in its own *2010 State of the World Report* the World Watch Institute says that:

As consumerism has taken root in culture upon culture over the past half-century, it has become a powerful driver of the inexorable increase in demand for resources and production of waste that marks our age. . . . More than 6.8 billion human beings are now demanding ever greater quantities of material resources, decimating the world's richest ecosystems, and dumping billions of tons of heat-trapping gases into the atmosphere each year. Despite a 30-percent increase in resource efficiency, global resource use has expanded 50 percent over the past three decades. And those numbers could continue to soar for decades to come as more than 5 billion people who currently consume one tenth as many resources per person as the average European try to follow the trail blazed by the world's affluent. <sup>47</sup>

In short, as Erik Assadourian, the lead author concludes: "*the American or even the European way of life is simply not viable.*"

Add to this fact that population is projected to grow by another 2.3 billion by 2050 and . . . it becomes clear that while shifting technologies and stabilizing population will be essential in creating sustainable societies, neither will succeed without considerable changes in consumption patterns, *including reducing and even eliminating the use of certain goods, such as cars and airplanes, that have become important parts of life today for many.* <sup>48</sup>

*Got 4 more planets?*

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<sup>46</sup> WWF, *Living Planet Report 2010* at [http://wwf.panda.org/about\\_our\\_earth/all\\_publications/living\\_planet\\_report/](http://wwf.panda.org/about_our_earth/all_publications/living_planet_report/).

<sup>47</sup> (New York: Norton, 2010) pp. xvii-xviii.

<sup>48</sup> *State of the World 2010*, pp. 6-7 (my italics). Also: Michael T. Klare, *Resource Wars* (New York: Holt: 2001).

These are to say the least, rather different conclusions about the implication of endless growth than that drawn by Krugman, Stern and Friedman. The world's leading scientists, scientific bodies and environmental think tanks have warned us that not only that growth just can't go on, but that, at least in the industrialized economies, *we have to stop and go into reverse*. This is a message not many of us really want to hear despite the benefits of such sacrifices – like our children's survival. But if the science is right, we don't have much choice. Either we completely transform our economic system or we face the collapse of civilization. It's that simple. But of course the problem is, as always, how can we “cut back” under capitalism?

### **C. Natural limits to “greening” any economy**

Green capitalism proponents often take it as an article of faith that technological breakthroughs will enable us to sharply cut resource use, to “dematerialize” production and, in the words of the *Stern Review*, to “decouple growth from greenhouse gas emissions” such that production can grow forever while resource consumption declines.<sup>49</sup> While no doubt there are many green technological miracles on the horizon, they cannot save us so long as we live in a capitalist economy. That's because, first, as noted above, under capitalism, there is no assurance that greater energy efficiency or materialist conservation would mean less consumption or less pollution *so long as there is no extra market limit set to the growth of overall production*. Efficiency gains could just as easily enable producers to use saved resources to expand production even more instead of “saving” resources. And, given capitalism, there is every incentive to do just that and every penalty for failing to do so. Secondly, the prospects for “dematerialization” are extremely limited, often completely impossible, outside of a very few industries. Thirdly, in many instances where companies actually adopt clean production technologies or waste minimization, such “green practices” are beside the point since the main cause of pollution are the products the company produces, such as toxic pesticides, not the process of producing them. And fourthly, “green” industries very often just create new problems in the place of old. Taking the last first:

#### **1. Certified organic: green gone wrong**

Many “green” start-ups have found that it's hard to go green in the real world. Even when it's theoretically possible to shift to greener production, given capitalism, as often as not, “green” industries just replace old problems with new problems: So burning down tracts of the Amazon rainforest in order to plant sugarcane to produce organic sugar for Whole Foods or ethanol to feed cars instead of people, is not so green after all. Neither is burning down Indonesian and Malaysian rainforests to plant palm-oil plantations so Britons can tool around London in their obese Landrovers. But such examples are what Heather Rogers calls “green gone wrong” instead of the “win-win” solutions touted by pro-market environmentalists just a few years ago.<sup>50</sup> Aquaculture was supposed to save wild fish. But this turns out to be just another case of “green gone wrong” because, aside from contaminating farmed fish (and fish eaters) with antibiotics to suppress disease in fish pens, most farm-raised fish are carnivores. Feeding ever-more farmed fish requires capturing ever-more wild forage fish to grind up for fishmeal for the farm-raised fish which leaves ever-fewer fish in the ocean, starving those up

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<sup>49</sup> Elaborated most fully in *Natural Capitalism*. See also Stern, op cit., p. xvii.

<sup>50</sup> Heather Rogers, *Green Gone Wrong* (New York: Scribner, 2010).



the food chain like sharks, seals, dolphins and whales. So instead of saving wild fish, fish farming has actually *accelerated* the plunder the last remaining stocks of wild fish in the oceans.<sup>51</sup> “Green certification” schemes were supposed to reduce tropical deforestation by shaming Home Depot and similar big vendors into sourcing their wood and pulp from “certified” “sustainable” forests – i.e. wood plantations. But such wood plantations are never planted on land that was previously unforested. Instead, they just replace natural forest. There’s nothing sustainable about burning down huge tracts of native tropical forests, killing off or running off all the wild animals and indigeneous people that lived there, in order to plant sterile eucalyptus plantations to harvest pulp for paper. To make matters worse, market demand from overconsuming but guilt-ridden Americans and Europeans has forced green certifiers to lower their standards so much to keep up with demand such that, today, in most cases, ecological “certification” is virtually meaningless.

For example, the Forestry Stewardship Council (FSC), the largest such organization, has come under fire for allowing its tree-with-checkmark logo to be used by rainforest-aping lumber and paper companies, for taking the word of auditors paid by the companies, for loosening its standards to allow just 50 percent certified pulp to go into paper making, and other problems. The problem is that *the FSC is not an international government body with a universal mandate and authority to certify the world’s lumber*. It’s just a self-funding NGO environmental organization like the NRDC or the WWF or Greenpeace. Such organizations live on voluntary contributions from supporters, on contributions from corporate funders, and/or on payment for services. As these organizations grew in size and ambition, they sought bigger budgets to better fulfill their “missions” -- more than they could solicit from individual contributors. With few exceptions, nearly all these organizations eventually adopted “business” models that drove them into the arms of their corporate contributors, in this case, lumber companies. When the FSC was founded in 1993 it certified just three producers whose lumber was 100 percent sustainable and not many more in the following years. But by 1997, as the organization faced competition from new “entrants” into the green product-labeling “field” (to use capitalist lingo), the FSC faced the problem, as the *Wall Street Journal* reported, of “how to maintain high standards while promoting their logos and increasing the supply of approved products to meet demand from consumers and big retailers.” This is ever the contradiction in our capitalist world. They started off, seeking to protect the forest from rapacious consumers. But demand by luxury consumers in the North is insatiable. To make matters worse, because no one certifier has a monopoly, new certifiers could come into the market, and if they were not so fussy about their criteria for “green certification,” they might be more attractive to big retailers hungry for “product.” So competition ensued, and in the end, the FSC could only hold onto its dominant position, aka “share of the market,” by caving in: introducing more relaxed labeling standards, letting producers use just 50 percent sustainable pulp in paper manufacture, letting industry pay for “independent” FSC auditors, and so on. In the end, “green” lumber certification, like so many other nominally “green” NGOs has steadily drifted away from its mission and become more and more co-partners in corporate plunder of world’s remaining forests.<sup>52</sup>

<sup>51</sup> Daniel Pauly, et al. “Fishing down marine food webs” *Science*, 279, 1998 pp. 860-863. Nancy Baron, “Global appetite for farmed fish devouring world’s wild fish supplies,” *Environmental News Network*, February 19, 2001. Rosamond L. Naylor, et al. “Feeding Aquaculture in an Era of Finite Resources” *Proceedings of the National Academy of Sciences*, Vol. 106 no. 36, pp. 1503-15110.

<sup>52</sup> See Tom Wright and Jim Carlton, “FSC’s ‘green’ label companies cut virgin forest,” *Wall Street Journal*, October 30, 2007. More generally, see also, *Green, Inc.* (Guilford Conn.: The Lyons Press, 2008).

## 2. Fantasies of de-coupling and dematerialization

In the 1980s and 90s eco-futurists like Paul Hawken and Amory Lovins predicted that big technological fixes would make it possible to “de-link” or “de-couple” growth from pollution. Nicolas Stern makes the same claim in his 2006 *Stern Review*.<sup>53</sup> Some governments and industries have tried. For example, in the 1990s, the British government under Tony Blair tried to get serious about climate change. Parliament passed a major climate-change bill in 2007 that mandated a 26 percent reduction below 1990 levels of greenhouse gases by 2020, and a 60 percent cut by 2050. But as Boston University economist Juliet Schor reports, so far “the British approach is failing and dramatically so.” That’s because while calling for emissions reductions the Labour government was also “*adamant about growth*, arguing that efficiency, clean energy, and a market for carbon would sever the link between emissions and GDP.”<sup>54</sup> So the environment ministry enacted programs to reduce food waste, plastics consumption and other measures to reduce the “carbon footprint.” But to no avail. U.K. CO2 emissions actually fell during the 2008-09 recession and the U.K. was one of the only European successful cases under the first round of the Kyoto agreements. But virtually all those reductions came from phasing out coal, which has been displaced by North Sea oil, and all agree that this gain can’t last once the oil runs out. During the Blair period from 1997-2006, despite government efforts, carbon dioxide emissions actually rose. As Schor says, “Refusal to reconsider their stance on growth has doomed efforts to meet even the now scientifically inadequate targets of the 2007 bill. Projected growth in one sector alone, aviation, will likely account for the entire country’s carbon budget in 2050.” And, as Schor further describes, “de-linking” has fared even worse in the United States:

Since 1975, the U.S. has made substantial progress in improving energy efficiency. Energy expended per dollar of GDP has been cut in half. But rather than falling, energy demand has increased, by roughly 40 percent. Moreover, demand is rising fastest in those sectors that have had the biggest efficiency gains – transport and residential energy use. Refrigerator efficiency improved by 10 percent but the number of refrigerators in use rose 20 percent. In aviation, fuel consumption per mile fell by more than 40 percent, but total fuel use grew by 150 percent because passenger miles rose. Vehicles are a similar story. And with soaring demand, we’ve had soaring emissions. Carbon dioxide from these two sectors has risen 40 percent, twice the rate of the larger economy.<sup>55</sup>

So time and again, growth outstrips efficiency gains. It almost seems like a law of nature: Making more stuff uses more stuff. Who’d have thunk it?

## 3. The electric/hybrid car solution to what?

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<sup>53</sup> *Stern Review*, p. xvii and chapter 16.

<sup>54</sup> *Plenitude*, p. 91, my italics.

<sup>55</sup> *Ibid.*, pp. 89-90, 92, my italics.

In the same way, green tech enthusiasts like Amory Lovins have argued that huge efficiency gains, super-light materials, hybrid-electric propulsion systems and such could revolutionize auto transportation and clear the air. But the first problem with this scenario is, as Lovins himself points out, the advent of his hypercars could just as easily “worsen traffic and road congestion by making driving even cheaper and more attractive.” Because that’s exactly what’s happened with every other advance: “The fuel saved by the 1980s doubling of U.S. new-car efficiency was promptly offset by the greater number of cars and more driving. . . Global car registrations have been growing more than twice as fast as the population – 50 million cars in 1954, 350 million in 1989, 500 million in 1997.”<sup>56</sup> And they’re growing even faster now that China has become the world’s biggest car market. So we cannot assume that even the advent of super fuel efficient cars would lessen pollution at all *if there is no extra-market limit on the number of automobiles produced*. Yet for Lovins and his green capitalist colleagues, imposing any sort of “limit” to car production is anathema because this would defeat their whole vision of endlessly “making money and saving the planet.”

To make matters worse, vehicle pollution is not confined to what comes out of the tailpipe. A life cycle study of the automobile by the Umwelt-und Prognose-Institut of Heidelberg Germany in 1993 found that only 40 percent of an average car’s pollution is emitted during the car’s “driving” life stage. The other 60 percent results from other life stages: Most of the pollution any car will ever cause is generated in the production process *before the car even arrives at the showroom* – in the production of all the steel, aluminum, copper and other metals, glass, rubber, plastic, paint and other raw materials and inputs that go into every automobile, and in the manufacturing process itself. Cars produce 56 percent of all the pollution they will ever produce before they ever hit the road, and 4 percent after they are retired and junked. So even if automakers could produce dramatically lighter and more fuel efficient cars, *so long as they are free to produce automobiles without limit, more cars will just mean more pollution, even if the cars are hybrids or plug-in electric cars.*<sup>57</sup>

#### *Those coal powered cars of the future*

To further confound green hopes for an electric car tech fix, it turns out that electric cars could be even be *more polluting* than the current generation of gasoline-powered cars. That’s because electric cars are only as clean as the fuel used to produce the electricity they run on. And in the real world, plug-in electric cars are in most countries largely *coal-powered cars* and likely to become increasingly so. Thus, paradoxically, in the real world of today, gasoline-powered cars produce fewer emissions than electric cars. Scientists at Oxford University recently modeled projected emissions from battery electric vehicles given different power generation mixes and concluded that if countries like India and China power their automobilization booms with battery electric vehicles, this would be actually produce more CO<sub>2</sub> emissions than if they did so with conventional petroleum powered vehicles.<sup>58</sup> That’s because coal is the dirtiest of fossil fuels, far dirtier than gasoline, but according to the

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<sup>56</sup> Hawken, *Natural Capitalism*, p. 40

<sup>57</sup> See John Whitelegg, “Dirty From Cradle to Grave,” (1993) a translated summary of the German study. Available at <http://www.worldcarfree.net/resources/free.php>

<sup>58</sup> Reed T. Doucette and Malcom D. McCulloch, “Modeling the CO<sub>2</sub> emissions from battery electric vehicles given the power generation mixes of different countries,” *Energy Policy* 39.2, February 2011, pp. 803-811.

International Energy Agency (I.E.A.), the share of coal used for global electricity generation is likely to increase. According to the I.E.A., in 2006, coal comprised 41 percent of electricity generation fuel, natural gas 20 percent, hydropower 16 percent, nuclear 15 percent, and “other” (solar and other renewables) 2 percent. By 2030 the I.E.A. predicts that coal’s share will rise to 44 percent of electricity generation, gas will account for 20 percent, hydropower 14 percent, nuclear 10 percent, with “other” rising only to 9 percent.<sup>59</sup> And since oil is slated to run out long before coal, coal’s share could rise still further. So electricity generation is still likely to remain a very dirty business for a long time, and indeed, the share of electricity generated by the dirtiest fuel, coal, may increase.

Finally, if we turn to the actual production of electric vehicles, it turns out that this process is heavily polluting as well. That’s because producing those endless nickel and lithium batteries, mining the iron and copper and rare earths that go into the motors and controls, not to mention the as-yet-barely-discussed problem of what to do with all the millions and eventually billions of large, toxic, worn out batteries that have to end up somewhere, creates somewhat different resource consumption and pollution problems from those of gasoline and diesel engines, but by no means fewer problems.<sup>60</sup> For example, each of the one million Priuses that Toyota has sold in the United States has a battery that contains 32 pounds of nickel. Just the production of that one car, at current rates, is said to consume fully 1 percent of all the world’s annually produced nickel. And the mining and smelting of nickel is one of the most polluting of all industrial operations. Norilsk Nickel, a Russian company in northern Siberia, is the world’s largest producer of nickel and largest smelter of heavy metals. According to WorstPolluted.org, Norilsk ranks no. 7 of the 10 most polluted industrial sites on the planet. The city (founded as a slave labor camp under Stalin), where the snow is black, the air tastes of sulphur and the life expectancy of workers is 10 years less than the Russian average is one of the most unhealthy places in an unhealthy country. Production at that plant has poisoned the soil for 60 kilometers around the plant, local adults and children suffer from numerous respiratory diseases, cancer, etc.<sup>61</sup> A Norwegian government study reports that Norilsk’s SO<sub>2</sub> emissions (2,000,000 tons a year) produce acid rain around the Arctic circle. The company also discharges large amounts of copper, nickel, as well as cobalt, vanadium and other metals into freshwater lakes, streams, and much ends up in the Arctic Sea.<sup>62</sup> And that’s just the nickel nightmare. Lithium mining is another nightmare.<sup>63</sup> And then there’s the ‘rare earths’ nightmare.<sup>64</sup>

<sup>59</sup> These figures are quoted in Robert Bryce, *Power Hungry* (New York: Public Affairs, 2010), p. 58 Figure 5.

<sup>60</sup> Don Sherman, “When electric-car batteries die, where will they end up?” *New York Times*, June 13, 2010.

<sup>61</sup> “Top 10 Most Polluted Places, 2007,” at [http://www.worstpolluted.org/projects\\_reports/display/43](http://www.worstpolluted.org/projects_reports/display/43).

<sup>62</sup> “To the Ministry of Finance, Recommendation of 16 February 2009” by the Council on Ethics, Norwegian Government Pension Fund (2009) at [http://www.regjeringen.no/upload/FIN/Statens%20pensjonsfond/recommendation\\_norilsk.pdf](http://www.regjeringen.no/upload/FIN/Statens%20pensjonsfond/recommendation_norilsk.pdf).

<sup>63</sup> See, for example, the excellent report by Dan McDougal: “In search of Lithium: the battle for the third element,” *Daily Mail Online* (London) April 5, 2009 at <http://www.dailymail.co.uk/home/moslive/article-1166387/In-search-Lithium-The-battle-3rd-element.html>. Also, Damian Kahya, “Bolivia holds key to electric car,” *BBC News Online*, November 9, 2008 at <http://news.bbc.co.uk/2/hi/7707847.stm>.

<sup>64</sup> Keith Bradsher, “A new reckoning on costs of rare earths,” *New York Times*, November 1, 2010; and idem, “In China, illegal rare earth mines face crackdown,” *New York Times*, December 29, 2010.

In short, efforts to decrease air pollution by getting "old, polluting" cars off the road to only replace them with new, "cleaner" cars can be misguided because such efforts have typically focused on pollution emitted solely during the driving stage and thus have missed 60 percent of the problem, and also because they have tended to overlook the pollution resulting from electricity generation. Seen in this light, I would not be surprised if the most ecological cars on the planet today are not those Toyota Priuses or even the Chevy Volts with their estimated 7-10 lifespan, but those ancient Fords, Chevrolets, and Oldsmobiles cruising around the streets of Havana. For even if their gas mileage is lower than auto producer fleet averages today, they were still only produced *once*, whereas American "consumers" have gone through an average of seven generations of cars since 1960 (when the U.S. embargo ended car imports to Cuba), with all the manufacturing and disposal pollution that entailed. Surely an ecological society has to come up with cars, gas or electric or whatever, that that can be rebuilt, reused, upgraded, shared, and completely recycled when it's most rational to do so instead of just junked every few years so new ones can be sold.

#### **4. The clean, green energy solution to what?**

Energy generation is probably the one field where there are substantial possibilities for greening industry. The prospect of "clean green energy" – solar, wind, and other renewable -- is everybody's favorite green tech innovation. Shifting most electricity generation to solar, wind and other renewables could radically dematerialize this sector and reduce the largest single demand for coal as well as oil and natural gas, and so could, in principle, dramatically reduce greenhouse gas emissions, acid rain, and also bring wide health benefits. But, the first problem with this tech fix is that it's difficult to produce "base-load" power – consistent 24/7 power generation -- with renewables.<sup>65</sup> Sunlight, wind, and water flow are all variable and unpredictable. But trainloads of coal and oil can normally be depended upon. Renewable energy scientists argue that integrated comprehensive systems can solve the problem of base-load generation. The I.E.A. estimates that solar power alone could produce almost a quarter of the world's electricity needs by 2050.<sup>66</sup> But as Ted Trainer points out, given the variable and intermittent output of renewables like solar and wind, even if sun and wind were to be large contributors to electricity supply, given the need for backup reserve capacity, little or no reduction in the amount of coal or nuclear capacity would be feasible.<sup>67</sup> This is one reason why scientists like James Hansen and James Lovelock, who are skeptical about the base-load potential of renewables, have called for a radical shift to nuclear power as the only way to get 24/7 power in the near future. But of course, nuclear reactors pose a different set of problems. For a start, there is the virtually inevitable threat of accidents somewhere, sometime. Then there is the as-yet-unsolved problem of what to do with all the spent fuel. But in addition, it is also not clear that uranium fuel is any less an inexhaustible resource than oil was once thought to be. And the potential tech fix for the tech fix – the thesis that "next generation" "fast" nuclear reactors could recycle their own fuel or run on spent fuel,

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<sup>65</sup> On this see Hansen, *Storms*, chapter 9, and Vaclav Smil, *Energy Transitions: History, Requirements, Prospects* (Santa Barbara, CA: Praeger, 2010).

<sup>66</sup> Joel Kirkland, "IEA: Solar power could produce nearly one-quarter of global electricity by 2050," *Scientific American*, May 12, 2010 at <http://www.scientificamerican.com/article.cfm?id=solar-power-global-electricity>. Also: "Beyond fossil fuels: David Mills on solar power," interview in *Scientific American*, April 28, 2009, at <http://www.scientificamerican.com/article.cfm?id=energy-mills-aura>.

<sup>67</sup> Trainer, "A critical discussion," op. cit. pp. 64-65.



has a certain familiar “too-cheap-to-meter” ring to it, but remains for the moment hypothetical, and in any event, will certainly be a hugely expensive and dangerous way to boil water.<sup>68</sup>

Yet even if we could get a dramatic shift to solar and other renewables for energy generation, given the Jevons paradox noted above, we cannot assume that this would necessarily lead to large permanent reductions in overall pollution. For if there are no non-market constraints on production, then the advent of cheap clean energy production could just as easily encourage the production of endless electric vehicles, appliances, lighting, laptops, phones, iPads and new toys we can’t even imagine yet.<sup>69</sup> The expanded production all this stuff, on a global scale, would just consume ever more raw materials, more metals, plastics, rare earths, etc., produce more pollution, destroy more of the environment, and all end up in some landfill somewhere someday. In short, at the end of the day, *the only way society can really put the brakes on overconsumption of electricity is to impose non-market limits on electricity production and consumption, enforce radical conservation, rationing, and stop making all the unnecessary gadgets that demand endless supplies of power.*

## 5. Green resource extraction?

And energy generation is one of the very few industries where dematerialization is seriously possible on a significant scale. For most of the economy, there are few possibilities of dematerialization at all. Start with resource extraction. Virtually everything we consume starts with primary extraction of raw materials – oil, natural gas, minerals, lumber, food, fiber and oil crops, fresh water, and so on. These are either consumed directly or become the basis of further processing and manufacturing. But logging can’t really be “dematerialized” in any meaningful way. Fishing can’t be dematerialized. Farming can’t be dematerialized. And I am still trying to figure out how chopping and burning down Javanese rainforests and replacing them with “teak plantations” to furnish so-called “sustainably harvested wood” for the signature *Teak for Life* lawn furniture that Smith & Hawken flogs to overconsuming American suburbanites, squares with Paul Hawken’s notion of a “restorative economy.”<sup>70</sup> Again, drilling for oil and gas are polluting industries. Same with refining. Accidents happen. Regularly.<sup>71</sup> And as easily tapped sources are exhausted, oil companies have to go further offshore, taking on additional risks to drill in deep water.<sup>72</sup> They have to turn to tar sands in Canada and Venezuela which are both heavily polluting and energy intensive to develop. Gas drillers are turning to “fracking” to reach deeper gas supplies in the United States. Coal mining is just destructive and polluting. There’s no way around it. Metals mining, smelting and refining is heavily polluting. There is just no way to extract metals from their ores in any way that “mimics nature.” It’s just a “linear” process, period. But coal is not only burned to generate electricity (a “bad” for Paul Hawken), coal is critical for steel, aluminum, copper and

<sup>68</sup> See the options discussed in “The Future of the Nuclear Cycle, an Interdisciplinary MIT Study” published in September 2010 and available at <http://web.mit.edu/mitei/docs/spotlights/nuclear-fuel-cycle.pdf>. Also, Hansen, op cit. pp. 194-204.

<sup>69</sup> “Beyond Growth” in op cit.

<sup>70</sup> Smith & Hawken, *Teak For Life* (Summer 1999 catalogue), wood source noted on p. 6.

<sup>71</sup> Tom Knudson, “Quest for oil leaves trail of damage across the globe,” *McClatchy Newspapers*, May 16, 2010, at [www.quest-for-oil-leaves-trail-of.html](http://www.quest-for-oil-leaves-trail-of.html). Joe Brock, “Africa’s oil spills are far from U.S. media glare,” *Reuters*, May 19, 2010, at <http://www.commondreams.org/headline/2010/05/19-3>.

<sup>72</sup> Jad Mouawad and Barry Meier, “Risk-taking rises to new levels as oil rigs in Gulf drill deeper,” August 30, 2010. Russell Gold, “Exxon dives deep into high-risk exploration,” *Wall Street Journal*, February 2, 2010. Guy Chazan, “BP taps deep water to grow,” *Wall Street Journal*, March 12, 2010. Clifford Krauss, “Accidents don’t slow Gulf of Mexico drilling,” *New York Times*, April 23, 2010.



other metals. Coal is used in thousands of products from paper manufacture to pharmaceuticals. Coal by-products are used for chemicals, carbon fibres, rayon and nylon, carbon filters and silicon. So no coal, no steel and aluminum windmills, no copper wiring, no silicon solar panels, no computers or cellphones, no carbon fibre hyper cars. So “taxing coal out of business” would undermine some of Paul Hawken’s other environmental goals. Same with oil. Oil and oil-byproducts are indispensable for petrochemicals, plastics, plastic film for solar panels, plastic insulation for electric wires and countless thousands of other products. Oil is so critical for so many industrial products and processes that it is just inconceivable to imagine a modern industrial society without oil. Rare earths mining is no less a dirty process. But no rare earths, no windmill generators, no electric cars, no cell phones or iPads. Lithium is crucial for the batteries for all those electric cars but it threatens fragile ecologies from Bolivia to Finland, Mexico to Canada.<sup>73</sup> In short, in any conceivable economy, resource extraction and processing are bound to be destructive and polluting. There is just no way around it.

In an effort to get around this dilemma, Lester Brown actually argued that we could dramatically reduce, even almost stop producing some metals, like steel and aluminum, because these metals are, in principle, endlessly recyclable. So he wrote that

Advanced industrial economies will come to rely primarily on the stock of materials already in the economy rather than on virgin raw materials. For metals such as steel and aluminum, the losses through use will be minimal. With the appropriate policies, metal – once it is invested in the economy – can be used indefinitely.<sup>74</sup>

This is a perfect example of the unreal, other-worldly, a-historical thinking that is rife in eco-futurist writing. How could we ever do this in a capitalist economy? Are Toyota or General Motors looking to produce the same number of steel cars next year as this year? Is Airbus Industries looking to sell the same number of aluminum airplanes in the next decade as in this decade? To ask the question is to answer it. Is Suntech, China’s largest manufacturer of solar panels, planning to manufacture the same number of steel and aluminum-framed solar panels next year as it made this year? Well, actually, I imagine Lester Brown would want Suntech to make *more* panels next year – a lot more. But *there will be environmental costs to that*, of course. Many metals are recyclable, but world demand for aluminum, copper, steel, nickel and other metals, not to mention “rare earths,” is soaring as more and more of the world modernizes and industrializes. That’s why resource-starved China is “buying up the world,” snapping up Australian coal mines, Afghani and Peruvian copper mines, Indonesian forests, Mozambiquan farmland, and more to feed its huge and rapidly growing economy – an economy that the West is pushing the Chinese to grow even faster to pull the rest of the world out of recession -- and to feed its huge and growing population as more and more of its farmland is planted with factories.<sup>75</sup> It is scarcely necessary to point out that there are not enough soda cans on the planet to melt down to support such exponentially increasing demand. So here again, *unless humanity places some non-market constraints on the consumption and use of coal, metals and other minerals, then drilling and mining with all their associated destruction and pollution, will grow exponentially as well*. And some of this growing

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<sup>73</sup> Clifford Krauss, “The lithium chase,” *New York Times*, March 10, 2010.

<sup>74</sup> *Eco-Economy*, p. 138 (my italics).

<sup>75</sup> See eg., the cover stories: David Leonhart, “Shop China Shop! Can the Chinese discover the urge to splurge?” *New York Times Magazine*, November 28, 2010; and “Buying up the World,” *The Economist* for November 13-19, 2010.

destruction will be directly attributable to the production of all the “green technology” that Hawken, Stern and others claim is going to save us.

## 6. Green manufacturing?

Much the same can be said for most manufacturing. Manufacturing and processing industries can't help but consume natural resources and produce pollution. The whole point of manufacturing is to turn raw materials into products. And there is hardly any manufacturing process that does not produce some waste and pollution as a byproduct. In addition, many products themselves are also toxic and polluting and some, like pesticides, deliberately so. In *Natural Capitalism*, Hawken and the Lovins rhapsodized about the potential of miracle tech fixes, huge potential gains in efficiency, dematerialization of production. Lovins predicted (in 1999) that his designs for super efficient “hybrid-electric hypercars” which could weigh two or three times less than a conventional car, use 92 percent less iron and steel, one-third less aluminum, three-fifths less rubber, and up to four-fifths less platinum and “last for decades” would soon be adopted by industry. Lovins even declined to patent his designs, offering his design ideas to the auto industry for free to encourage their adoption.<sup>76</sup> They called for transforming industry to “mimic nature” and recycle its own waste.<sup>77</sup> They lionized eco-capitalist heroes like John Browne, the CEO of British Petroleum who broke ranks with the oil industrial complex in 1997 declaring that man-made climate change was indeed a threat and announced that BP was no longer an oil company but an “energy company” that would transition into renewables like solar. They applauded when BMW promised to make its cars completely recyclable. They hailed The Body Shop, Patagonia, Herman Miller, 3M Company, Wal-Mart, even Dow Chemical and Dupont for their environmental initiatives. Above all, they celebrated Ray Anderson, founder and CEO of Interface, the world's largest modular carpet manufacturer, born-again environmentalist and hero of Joel Bakan's film *The Corporation* who credits reading Paul Hawken's *The Ecology of Commerce* with an epiphany that prompted him to remodel his company. In a message to his customers and employees in 1997, published in the *Interface Sustainability Report* of 1997 Anderson explained how he envisions “natural capitalism” in his own carpet factories:

As I write this, there is not an industrial company on earth that is sustainable in the sense of meeting its current needs without, in some measure, depriving future generations of the means of meeting their needs. When earth runs out of finite, exhaustible resources or ecosystems collapse, our descendants will be left holding the empty bag. But, maybe, just maybe, we can change this.

At Interface, we are on a quest to become the first sustainable corporation in the world . . . creating the technologies of the future – kinder, gentler technologies that emulate nature. . .

The technologies of the future will enable us to feed our factories with closed loop, recycled raw materials that come from harvesting the billions of square yards of carpets and textiles that have already been made – nylon face pile recycled into new nylon yard to be made into new nylon carpet; backing material recycled into new baking materials for new carpet; and in our textile business . . . polyester fabrics

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<sup>76</sup> *Natural Capitalism*, chapter 2.

<sup>77</sup> Hawken, *Ecology of Commerce*, p. 38 (my italics). Brown, *Eco-Economy* chaps. 4 and 12. Hawken and Lovins, *Natural Capitalism*, pp. 37-38 and passim.

recycled into polyester fiber, then to be made into new fabrics – closing the loop; using those precious organic molecules over and over in cyclical fashion, rather than sending them to landfills . . . Linear must go; cyclical must replace it. That's nature's way. In nature there is no waste; one organism's waste is another's food. For our industrial process, so dependent on petro-chemical, man-made raw materials, this means technical "food" to be reincarnated by recycling into the product's next life cycle. Of course, the recycling operations will have to be driven by solar energy, too. .

We look forward to the day when our factories have no smokestacks and no effluents. If successful, we'll spend the rest of our days harvesting yesteryear's carpets, recycling old petro-chemicals into new materials, and converting sunlight into energy. There will be zero scrap going into landfills and zero emissions into the ecosystem. Literally, it is a company that will grow by cleaning up the world, not by polluting or degrading it.<sup>78</sup>

Ray Anderson is as sincere as he is eloquent and I will come back to discuss the results of his company's efforts below. But for all the eco-capitalist innovations of the 1980s and 90s, not much has changed in corporate board rooms. BP's Board fired John Browne in 2007, sold off his boutique solar power outfit, cashiered the "*Beyond Petroleum*" ads, and reassured investors that BP would not be deserting its core business in a misguided attempt to become an "energy" company. Rest assured, BP is emphatically an **OIL** company -- as we've recently been reminded. Shell Oil, Chevron and other oil companies likewise sold off their solar power ventures and ramped up fossil-fuel exploitation, including tar sands and gas fracking.<sup>79</sup> Anita Roddick was forced out as CEO of the Body Shop after shareholders rebelled and demanded that management prioritize the bottom line over her political and environmental agenda. Ben and Jerry's sold out in 2000 to Unilever so no more 7 ½ % for the planet. Patagonia still gives "1% for the planet" but why bother since, like Smith & Hawken, Patagonia is just another resource-hogging mail order company and almost all of its products are made of unsustainable synthetics. Herman Miller seems to have abandoned re-manufacturing customers' chairs, I would guess because, on second thought, there was more money to be made in the "linear" process of selling new ones and junking the old ones than in remanufacturing old ones. And from Detroit to Stuttgart to Tokyo, the world's auto makers have studiously ignored Amory Lovin's advice that "light and small is beautiful" in favor of the traditional industry wisdom which holds that "big car big profit, small car small profit." For all the hybrid hype, the auto show plug-ins, the Leafs and Volts, automakers still slight production of econoboxes and Priuses in favor of giant Toyota "Sequoias," Nissan Tundras, GM Sierras, Yukons and Escalades, oversize and overaccessorized luxury Mercedes and BMWs – which remain everywhere the key to profitability.<sup>80</sup> Ten years after their introduction,

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<sup>78</sup> Quoted in *Natural Capitalism*, pp. 168-169. See also Ray C. Anderson, *Mid-Course Correction* (Atlanta: The Peregrinazilla Press, 1998), and Eileen P. Gunn, "The Green CEO," *Fortune*, May 24, 1999, pp. 190-200.

<sup>79</sup> Jad Mouawad, "Not so green after all: alternative fuel still a dalliance for oil giants," *New York Times* April 8, 2009.

<sup>80</sup> Vanessa Fuhrmans, "Land yachts launch unexpected revival," *Wall Street Journal*, September 23, 2010. Nick Bunkley, "Sales of larger vehicles bring automakers an upbeat start for 2011," *New York Times*, February 2, 2011. Edward Niedermeyer, writing in the *New York Times* at the end of 2010 notes that for all the bailout promises by Obama that Detroit would "lead the world in building the next generation of clean cars," Detroit's sales of fuel efficient cars actually dropped in 2010. In fact, sales of *actual* cars has fell by about 6% even over 2009's anemic numbers while sales of light trucks, SUVs, minivans and crossovers were up by 16%: "Despite the rolling out of the much-hyped Cruze compact and the Volt plug-in hybrid, G.M. still sells half again as many trucks and SUVs as it does cars. This

hybrid cars accounted for just 2.5% of vehicle sales in the United States in 2008.<sup>81</sup> And even with the recent rampup, auto industry analyst J.D. Power and Associates predicts that global sales of hybrid electric and battery electric vehicles will reach just 5.2 million vehicles in 2020, or only 7.3 percent of the 70.9 million autos expected to be sold in that year.<sup>82</sup> And “hybrid” is an overstatement for most of these vehicles: Few electric hybrids are really fuel-efficient like the Toyota Prius. Most are just bloated luxury cars with a hybrid add-on that gets them a few miles per gallon better mileage than their non-hybrid equivalents – a little sales cachet but nowhere near enough to make any serious dent in global gasoline consumption, especially given that the global fleet of gasoline consuming cars on the road is growing by tens of millions every year. European automakers, *The Independent* reported, have “failed miserably” to meet their Kyoto pledges to tackle climate change by reducing emissions. Instead of focusing on boosting fuel economy, Landrover, Jaguar, Porche, BMW, Mercedes and even Volvo lobbied to win exceptions from EU-wide fuel economy standards in order to keep producing their profitable luxury gas guzzlers, some of which put out more than double the target fleet emissions level.<sup>83</sup> Finally, given the global glut of cars, the last thing the world’s automakers want to do is make are cars that “last for decades.” If anything, the auto makers’ Holy Grail would be to get their customers to junk their clunkers and buy a new one every year. The problem with eco-futurist inventors like the Lovins is that they understand technology but they don’t understand capitalist economics.

## 7. Saint Ray Anderson and the limits of the possible

The seeming exception to the dismal trends reviewed above proves the rule: CEO Ray Anderson has probably pushed the limits of industrial environmentalism as far as it’s humanly possible to go in an actual factory operating within the framework of capitalism. Ray Anderson is everybody’s favorite eco-capitalist and he and his company Interface Inc. have been applauded by virtually every eco-futurist book written since the 1990s as *the* eco-capitalist example to emulate. But what Ray Anderson’s case really shows us is the *limits of the possible*, especially under capitalism. For after almost two decades of sustained effort, the goal of “zero pollutants” is still as unreachable as ever at Interface Inc. It is not in the least to diminish Ray Anderson’s sincerity, his passionate dedication, his efforts or his impressive achievements. But the fact is, according to *The Interface Sustainability Report* of 2009, Interface has “cut waste sent to landfills by more than half while continuing to increase production,” “reduced greenhouse gas emissions by more than 30%,” “reduced energy intensity by 45%,” while “over 25% of raw materials used in interface carpet are recycled and biobased materials in 2007,” and non-sustainable materials consumed per unit of product

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year, 73 percent of Chrysler’s sales have been light trucks.” He found the same trends with the imports. “The impressive per-unit profit margins” still gives automakers big incentives to push their luxury gas guzzlers over their gas-sipping hybrids and econoboxes. See Edward Niedermeyer, “A green Detroit? No, a gulping one,” *New York Times*, December 16, 2010. Also: Mike Spector and Joseph B. White, “Horsepower nation: new car models boast speed, size, power,” *Wall Street Journal*, April 5, 2007; and idem, “Car-show dilemma: future isn’t now,” *Wall Street Journal*, April 5, 2007. And, to make matters worse: “Drivers offer a collective ho-hum as gasoline prices soar,” *New York Times*, March 30, 2007.

<sup>81</sup> “2009 hybrid cars – year in review” post July 21, 2009 post at <http://www.hybridcars.com/2009-hybrid-cars#market>.

<sup>82</sup> J.D. Power and Associates, “Drive Green 2020: More Hope Than Reality,” November, 2010, available at <http://businesscenter.jdpower.com/news/pressrelease.aspx?ID=2010213>.

<sup>83</sup> Cahal Milmo, “Car makers failing on emissions targets,” *The Independent*, April 24, 2006. Vanessa Fuhrmans, “Porche presses for easier fuel rules,” *Wall Street Journal*, March 26, 2010.

have declined from 10.2 lbs/yd<sup>2</sup> in 1996 to 8.6 lb/yd<sup>2</sup> in 2008.<sup>84</sup> *Read that last sentence again.* Make no mistake: These are impressive, even heroic industrial-environmental achievements. But if after more than fifteen years of sustained effort, the most environmentally dedicated large company in the United States, if not the entire world, can only manage to cut non-sustainable inputs from 10.2 to 8.6 pounds per square yard of finished product, to inject a mere 25% recycled and biobased feedstock into its production process, so still requiring 75% of new, mostly petroleum-based nonsustainable feedstock in every unit of production, then the inescapable conclusion must be that *even the greenest businesses* are also on course to “destroy the world.” So if the reality is that, when all is said and done, there is “only so much you can do” in most industries, *then the only way to bend the economy in an ecological direction is to sharply limit production, especially of toxic products, which means completely redesigning production and consumption – all of which is certainly doable, but impossible under capitalism.*

## 8. Tax the polluters but let them pollute?

Perhaps nowhere are the contradictions of the “tax the polluters” strategy more evident than with respect to the problem of taxing toxics. In his *Ecology of Commerce* Paul Hawken says that “*Nothing* is more central to the argument of this book than the proposition that disposal of hazardous waste is *not* the root problem. Rather, it is the root symptom. The critical issue is the *creation* of toxic wastes.” Hawken says we need a “restorative economy that thinks cradle-to-cradle, so that every product or by-product is imagined in its subsequent forms even before it is made. . . . Rather than argue about where to put our wastes, who will pay for it, and how long it will be before the toxins leak into the groundwater, we should be trying to design systems that are elegantly imitative of climax ecosystems found in nature.”<sup>85</sup> I couldn’t agree more. But how can we ever get this under capitalism? For a start, who is the “we” Hawken is talking about? “We” ordinary citizens don’t design manufacturing systems for the benefit of humankind, the natural world, and future generations. Corporations design manufacturing systems for the benefit of shareholders and their shareholders profit by manufacturing, spraying, pumping and dumping all those toxics all over the world and pushing the environmental costs of all this onto us. “We” have no vote in the boardrooms and “we” do not tell the boards of directors what technologies to use or not use. Nor in fact does Hawken think “we” ought to either (see below). Corporate decisions are private decisions. Of course we have a theoretically representative government which ought to express the will of the people, if necessary, against the corporations. But as Hawken himself recounts at some length, in our dollar democracy, governments more often represent the interests of the corporations against the people than the people against the corporations.<sup>86</sup> So the problem is that, since in Hawken’s restorative economy, corporations would still rule production, CEOs and corporate boards would still make all the critical decisions, how can “we” redesign the system to serve the needs of humanity instead of the needs of investors?

### *“Natural Capitalist” hypocrisy*

What then is Paul Hawken’s solution to the nightmare of toxic chemical contamination? Ban or regulate their production like the government used to do in the 1970s?

<sup>84</sup> These quotations and data are from the Interface Corporation website: <http://www.interfaceglobal.com/Sustainability/Progress-to-Zero.aspx> accessed 12/30/2009.

<sup>85</sup> Op cit., pp. 49, 54, and 71, my italics.

<sup>86</sup> Ibid., pp. 108-119.



Compel industry to “redesign manufacturing systems so that they do not create hazardous and biologically useless waste in the first place”? Not at all. For it turns out that, just like regular capitalists, “natural capitalist” Paul Hawken is more concerned to keep the government out of the market than he is to use government regulation to solve the problems caused by the market’s “efficient” and “optimal” allocation of resources to poison people with toxic chemicals. Hawken says we should “Honor market principles. No ‘plan’ to reverse environmental degradation can be enacted if it requires a wholesale change in the dynamics of the market.”<sup>87</sup> So on this Paul Hawken, Ronald Reagan, and Milton Friedman agree: “Capitalism good. Government bad.” Even if “business is destroying the world,” *still* Hawken says “the guardian [his locution for ‘the government’] of human and natural systems must recognize its own limitations in relation to commerce. *It cannot tell companies what to make and how. It does not have the ability to allocate resources in an efficient manner.*”<sup>88</sup> Neither we the citizenry nor our nominal representative, the government, should tell polluters to stop producing all these hideously toxic chemicals and redesign their production. So what should the “guardian” do about the problem? Hawken says what the government should do is just *tax the polluters*: “not only should energy use be taxed more heavily, but so too, should all agricultural chemicals, from artificial fertilizers to toxic pesticides.”<sup>89</sup> So it turns out that even in Hawken’s “restorative economy,” toxic polluters would still be free to spread their carcinogens everywhere -- if they just *pay to pollute*. It is hard to imagine a more bankrupt strategy, guaranteed to fail, nor for that matter, a more hypocritical and *immoral* strategy. And the fact is Hawken knows very well that this tax-the-polluters strategy is just a “toll road for polluters,” “a license to kill and maim.”<sup>90</sup> If he read his own book, he would find this on page 66: “*The problem with pollution permits is that they do just that – permit pollution.* Illinois Power Company, which had been building a \$350 million scrubber to remove sulfur dioxide at its plant, has decided to scrap the scrubber and buy pollution permits instead. . . . By purchasing pollution credits, it can save \$250 million over a 20-year period, and continue to buy high-sulfur coal from Illinois.”<sup>91</sup> Let’s be clear about exactly what this means: It means that even in Hawken’s “restorative economy,” those living downwind from this plant would continue to breathe in sulfur laden air *for decades*. And, not only sulfur. For burning coal also releases mercury, arsenic and other toxic pollutants. That means their kids will continue to suffer from increased birth defects, impaired intelligence, develop respiratory problems, asthma, and cancer rates will continue to rise – and all this just so that investor-owners can maximize returns on the investments they have so “efficiently allocated” to this sector for more decades to come. So it turns out that in Hawken’s eco-capitalist utopia, the role of the “guardian” is to guard business, not “we” the public. This is not quite what one would hope to hear from new-age thinking “restorative economy” eco-futurists like Paul Hawken.

And if this weren’t enough, as part and parcel of their anti-government, anti-regulatory program, Paul Hawken, Lester Brown and Francis Cairncross also call for “tax shifting” – shifting from taxing income and capital (what they call “goods”) to taxing “bads” like

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<sup>87</sup> *Ecological Commerce*, p. xv, italics in original.

<sup>88</sup> *Ibid.* p. 168.

<sup>89</sup> *Ibid.*, p. 185.

<sup>90</sup> *Ibid.*, p. 83.

<sup>91</sup> *Ibid.*, p. 66, my italics.



pollution.<sup>92</sup> Aside from the fundamental unfairness of such flat taxes, one wonders if it ever occurred to these thinkers that if governments were actually to become dependent on pollution taxes for revenue, would they not then find it in their interest to let the pollution continue, if not actually grow, to augment revenues? What am I missing here?

### III. Capitalism without consumerism?

Paul Hawken naturally looked to CEOs like himself who he imagined would be the prime agents of change “from above” as they revolutionized their mind-sets and redesigned production. Other eco-economic futurists have looked to bottom-up “consumer choice” as the driver forcing corporate producers to change. Still others, most recently Juliet Schor and Bill McKibben, duck the question of what to do about capitalism altogether, and argue that we should get out of the market to the extent we can, retreat to the periphery and thereby reduce consumerism and overconsumption. So the Worldwatch Institute, Juliet Schor, Bill McKibben - even Martha Stewart -- all tell us to get off the treadmill of consumerism and “live simply.”<sup>93</sup> They're right. We have to do this. Our very survival is at risk if we don't. Thus in its 2010 Report, subtitled “Transforming Cultures From Consumerism to Sustainability,” The Worldwatch Institute tells us that:

Preventing the collapse of human civilization requires nothing less than a wholesale transformation of dominant cultural patterns. This transformation would reject consumerism . . . and establish in its place a new cultural framework centered on sustainability. In the process, a revamped understanding of “natural” would emerge: it would mean individual and societal choices that cause minimal ecological damage or, better yet, that restore Earth's ecological systems to health.<sup>94</sup>

But how can we “reject consumerism” when we live in a capitalist economy where, in the case of the United States, more than *two-thirds of market sales, and therefore most jobs, depend on direct sales to consumers* while most of the rest of the economy, including the infrastructure and not least, the military, is dedicated to propping up this super consumerist “American way of life?” Indeed, most jobs in industrialized countries critically depend not just on consumerism but on ever-increasing *overconsumption*. We “need” this ever-increasing consumption and waste production because, without growth, capitalist economies collapse and unemployment soars, as we've seen. The problem with the Worldwatch Institute is that, on this issue, they're looking at the world upside down, as idealists rather than as materialists. They think its consumerist culture that drives corporations to overproduce. So their solution is to “transform the culture,” get people to read their Worldwatch reports and educate themselves so they understand the folly of consumerism and resolve to forego unnecessary consumption – *without transforming the economy itself*. But it's not the culture that drives the economy so much as, *overwhelmingly*, the economy that drives the culture: It's the insatiable demands of shareholders that drive corporate producers to maximize sales, therefore to constantly seek out new sales and sources in every corner of the planet, to endlessly invent, as the Lorax had it, new “thneeds” no one really needs, to obsolesce those thneeds just as soon as they've been sold, so the cycle can begin all over again. *This* is the driving engine of

<sup>92</sup> Hawken, *Ecology of Commerce*, pp.183-184 and passim. Brown, *Eco-Economy*, pp. 235-239. Cairncross, op. cit., pp. 97-100.

<sup>93</sup> Bill McKibben, *Eaarth* (New York: Henry Holt, 2010), Juliet Schor, *Plenitude* (New York: Penguin, 2010).

<sup>94</sup> Op cit., pp. 3-4.

consumerism. Frank Lloyd Wright's apprentice Victor Papenek had it right: "*Most things are not designed for the needs of people, but for the needs of manufacturers to sell to people.*"<sup>95</sup> This means that *pace* the Worldwatch Institute, "consumerism" is not just a "cultural pattern," it's not just "commercial brainwashing" or an "infantile regression" as Benjamin Barber has it.<sup>96</sup> Insatiable consumerism is an everyday *requirement* of capitalist reproduction, and this drives capitalist invention and imperial expansion. No overconsumption, no growth, no jobs. And no voluntarist "cultural transformation" is going to overcome this fundamental imperative so long as the economic system depends on overconsumption for its day-to-day survival.

#### IV. Climate Change or System Change?

The green capitalist project crucially rested on the assumption that the capitalists' goal of endless growth and profit maximization and society's goal of saving the world from never-ending plunder and pollution could be "aligned" by imposing green taxes to discourage the generation of toxic waste, overconsumption of raw materials, the use of pesticides, the production of throwaway products, and could even, so Paul Hawken thought, "tax coal out of business." But this vision, as I have argued throughout this article, was always a delusion (albeit a profitable one for some) because, not only is it impossible to "align" these inherently contradictory interests, but to save the world, corporations would have to subordinate profit making to environmental goals: the coal industry, the makers of toxic pesticides, the generators of toxic wastes, the consumers of raw materials, the producers of throwaway products would have to agree, in effect, to commit economic suicide. But how could they do this? How could they be responsible to society and their shareholders at the same time? The problem is always the private property form, especially the corporate form, and competitive production for market. Once capital is sunk into a given industry, staff and workers trained, markets secured, producers have every incentive and little choice but to grow their business or see their share prices fall as investors seek greener pastures. So Massey Coal has no choice but to mine and sell ever more coal till the ice caps melt because that's the company's fiduciary and legal responsibility to its shareholders. Monsanto has no choice but to produce and sell as many ghastly pesticides as possible no matter the consequences for life on earth. Formosa Plastics has no choice but to trash the world with plastic bags, and so on. Same with "green" businesses. Biofuels, windpower and organic crops – all might be environmentally rational here or there, but not necessarily in every case or forever. But once investments are sunk, green industries have no choice but to seek to maximize profits and grow forever regardless of social need and scientific rationality, just like any other for-profit business. So for example: Horizon Organic Dairy started out as a group of cooperatives paying premium prices to its small organic farmer suppliers. But once it was bought out by Dean Foods, the country's biggest milk distributor, and became a big publicly-traded corporation with its own centralized large-scale production operations, it dispensed with its founding pro-farmer ethic, cut payments to small suppliers, even used its scale of operations to undercut and drive them out of business while simultaneously adding to the nation's pollution by refrigerator-trucking its milk thousands of miles all over the country instead of buying it from local farmers. As one

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<sup>95</sup> Quoted in Giles Slade, *Made to Break* (Cambridge: Harvard, 2006), p. 52 (my italics). On this very interesting subject of the colossal waste of designed-in obsolescence and "forced consumption," Slade's book is excellent but Vance Packard's brilliantly ironic *The Wastemakers* remains unsurpassed (New York: David McKay, 1960).

<sup>96</sup> Benjamin R. Barber, *Consumed: How Markets Corrupt Children, Infantilize Adults, and Swallow Citizens Whole* (New York: Norton, 2007).

observer noted: “Dean’s goal is to maximize shareholder value. That’s not the same as maximizing farmer value.” Nor is it the same as maximizing consumer value either, as Horizon is now ditching its organic commitment as well, adding synthetic additives to its milk.<sup>97</sup> And so it goes down the slippery slope. Sustainable production is certainly possible but not under capitalism. To get a little ahead of the argument of this paper, I wouldn’t think it’s necessary to eliminate all markets in a sustainable ecological, even socialist, society. Offhand, I don’t see the harm in small producers producing for market – family farmers, farmers markets, artisans, co-operatives, mom-and-pop restaurants, and so on. The problem is capitalist private property, especially in the corporate form: When owners become abstract anonymous “shareholders,” concerned only to maximize profits, then all the evils of capitalism inevitably follow. To put it in Marxist terms, C-M-C (petty commodity production) seems harmless enough. The problem is M-C-M’ – capitalism. I just don’t see how large-scale production can be geared to the needs of society and the environment, and both for present and future generations, unless it is socialized and managed by democratic social institutions. But I’ll take this up elsewhere.

*One world, one people, one economy*

We can’t shop our way to sustainability because the problems we face cannot be solved by individual choices in the marketplace. In fact most of the ecological problems we face from global warming to deforestation, to overfishing, to pollution, to species extinction and many others, are way beyond the scope of companies, industries, even countries. They require concerted, large-scale national and international action. And they require direct economic planning at global, national and local levels. For example, the world’s climate scientists tell us we’re doomed unless we shut down the coal industry and sharply reduce our consumption of all fossil fuels. But even the world’s largest corporations, such as Exxon Mobil, can’t afford to take such losses, to sacrifice its owners – merely to save the humans. Corporations can’t make the socially and ecologically rational decisions that need to be made to save the humans because they represent only private particular interests, not the social and universal interests of humanity, the environment, and future generations. But society can afford to close down coal, retrench oil production and socialize those losses. Society can ration oil, like we did during World War II, and society can redeploy labor and resources to construct the things we do need to save the humans, like renewable energy, public transit, energy efficient housing for all, and many other social needs that are currently unmet by the market system. In the final analysis, the only way to align production with society’s interests and the needs of the environment is *to do so directly*. The huge global problems we face require the visible hand of direct economic planning to re-organize the world economy to meet the needs of humans and the environment, to enforce limits on consumption and pollution, to fairly ration and distribute the goods and services we produce for the benefit of each and every person on the planet, and to conserve resources so that future generations of humans and other life forms can also live their lives to the full. All this is inconceivable without the abolition of capitalist private property in the means of production and the institution of collective bottom-up democratic control over the economy and society. And it will be impossible to build functioning national and global economic democracies unless we also abolish global economic inequality. This is both the greatest moral imperative of our time and it is also essential to winning world-wide popular support for the profound changes we must

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<sup>97</sup> Noel C. Paul, “Horizon Organic, now Dean Foods, threatens livelihood of organic farmers, *The Christian Science Monitor*, September 15, 2003 at <http://www.csmonitor.com/2003/0915/p16s01-wmcn.html>. Cornucopia Institute: “New organic milk contains illegal synthetic additive,” February 23, 2011 at <http://www.cornucopia.org/>.

make to prevent the collapse of civilization. A tall order to be sure. But we will need even taller waterproof boots if we don't make this happen. If Paul Hawken, Lester Brown, Francis Cairncross and Paul Krugman have a better plan, where is it? <sup>98</sup>

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<sup>98</sup> I would like to thank Nancy Holmstrom and Ted Trainer for reading an earlier version of this manuscript and offering many helpful suggestions.

## The deficit-reducing potential of a financial speculation tax

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While a number of commissions and organizations around Washington have produced plans for reducing the projected deficit in the decades ahead, most have not included a financial speculation tax (FST) in the mix.<sup>1</sup> This seems peculiar since an FST has several features that could make it attractive as a revenue source.

First, it would help reduce the economic rents earned by the financial sector. A tax on the turnover of stocks, options, credit default swaps and other financial instruments would make it less profitable to trade these assets. To a large extent current trading patterns reflect rent-seeking behavior with little or no economic benefit.

For example, the complex computer algorithms that can allow sophisticated traders to purchase assets ahead of ordinary investors – and therefore gain at their expense – provide no obvious benefit to the economy. In fact, the use of algorithms to jump ahead of ordinary investors reduces the expected gains from long-term investment. If an FST can reduce this sort of trading, it will impose no loss on the economy. This is one of the reasons that even the IMF, an institution generally friendly to banks, has advocated increased taxation of the financial sector.<sup>2</sup>

In addition, this sort of short-term trading can be enormously profitable. The large banks and hedge funds that engage in this trading are the source of many of the country's highest salaries. In an economy where inequality has soared over the last three decades, a tax that will reduce the high-end salaries in the financial sector can be an important factor in reducing inequality.

It is also important to recognize that the tax will be borne almost entirely by the financial sector, not by ordinary investors. The financial sector is likely to bear almost the entire burden of the tax since investors are likely to respond to an increase in trading costs by reducing the number of trades they make. Most research suggests that trading volume is relatively elastic, meaning that investors will sharply reduce the frequency of their trades if the cost of a trade goes up.

For example, if the cost of an average trade of a share of stock were to double as a result of a tax, the evidence suggests that it would lead to a 50 percent reduction in trading volume. In this case, investors would be paying no more for their trades in total after the tax than they did before the tax. They would pay twice as much on each trade as a result of the

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<sup>1</sup> There were at least three economic/budget plans put forward that did include a financial speculation tax as a revenue option: "Investing in America," by the Century Foundation, Demos, and the Economic Policy Institute, available at [http://www.ourfiscalsecurity.org/storage/Blueprint\\_OFS.pdf](http://www.ourfiscalsecurity.org/storage/Blueprint_OFS.pdf); "Report and Recommendations of the Citizens Commission on Jobs, Deficits, and America's Economic Future," available at <http://www.ourfuture.org/report/citizenscommission>; and Bowles-Simpson Commission member, Andy Stern's "The 21st Century Plan for American Leadership," available at <http://www.safeandsecureig.org/sites/default/files/Stern%20Finalversion12-3.pdf>. These plans have received far less attention than proposals that do not mention financial speculation taxes.

<sup>2</sup> International Monetary Fund. 2010. "A Fair and Substantial Contribution from the Financial Sector: Final Report for the G-20." Washington, DC: International Monetary Fund, available at <http://www.imf.org/external/np/g20/pdf/062710b.pdf>.

tax, but since they make half as many trades, they would end up paying the same amount in total for their trades. This would mean that, on average, the tax would not increase the amount that investors pay for their trades. (It is worth noting that bills introduced in the last session of Congress exempted from the tax the vast majority of trades carried through by ordinary investors.)

The United Kingdom has long had a tax of 0.25 percent on each side of a stock trade. This tax raised an amount that was just under 0.3 percent of the U.K. GDP in 2007, before world stock markets plunged.<sup>3</sup> An equivalent amount of revenue in the United States would be more than \$40 billion a year.

The U.K. experience is important for two reasons. First, it shows that a tax on financial transactions is collectable. The government has been able to collect a substantial amount of revenue through this tax with relatively little difficulty. In fact, the Board of Inland Revenue (now HM Revenue and Customs) reported that the administrative cost of collecting this tax is lower than for any other tax.<sup>4</sup> While some amount of financial transactions has undoubtedly been shifted away from the U.K. to avoid the tax, there clearly is still a substantial amount of trading that is subject to the tax, as the London Stock Exchange remains the largest in Europe..

This raises the second reason why the U.K. experience is important. The existence of the tax has not prevented the U.K. from having a vibrant financial market. The London Stock Exchange is the fourth largest stock exchange in the world. Apparently investors view the benefits of trading on the London exchange as being valuable enough to outweigh the cost of the tax. Presumably this would be even more true in the case of the United States since the U.S. market is even larger. Furthermore, the U.S. government is better positioned than the U.K. government to use economic and political power to discourage countries from establishing havens for avoidance of this tax.

The revenue from the U.K. tax is based exclusively on the taxation of stock trades. Ideally a financial speculation tax would tax not only stock trades but also trades of options, futures, credit default swaps and other derivatives. A recent analysis that applied a scaled set of taxes to a range of assets showed that an FST could easily raise more than 1.0 percent of GDP (approximately \$150 billion in 2011) even assuming very substantial reductions in trading volume.<sup>5</sup> Given the size of the potential revenue from an FST, there is remarkably little interest in Washington policy circles in implementing such a policy.

By comparison, the amount of revenue that could be raised from an FST is more than two and a half times the amount of money needed to pay for the extension of Unemployment

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<sup>3</sup> This calculation is derived from the U.K. Board of Inland Revenue's reported total revenue from its stamp tax of 14.1 billion pounds in its fiscal year running from 2006-2007 (available at [http://www.hmrc.gov.uk/stats/tax\\_receipts/menu.htm](http://www.hmrc.gov.uk/stats/tax_receipts/menu.htm)). Of this revenue, 10.0 billion pounds was attributable to the stamp tax on property sales (available at [http://www.hmrc.gov.uk/stats/stamp\\_duty/table15-3-0910.pdf](http://www.hmrc.gov.uk/stats/stamp_duty/table15-3-0910.pdf)), leaving 4.1 billion pounds from the tax on stock trades. This is equal to 0.28 percent of the GDP of the United Kingdom at the time.

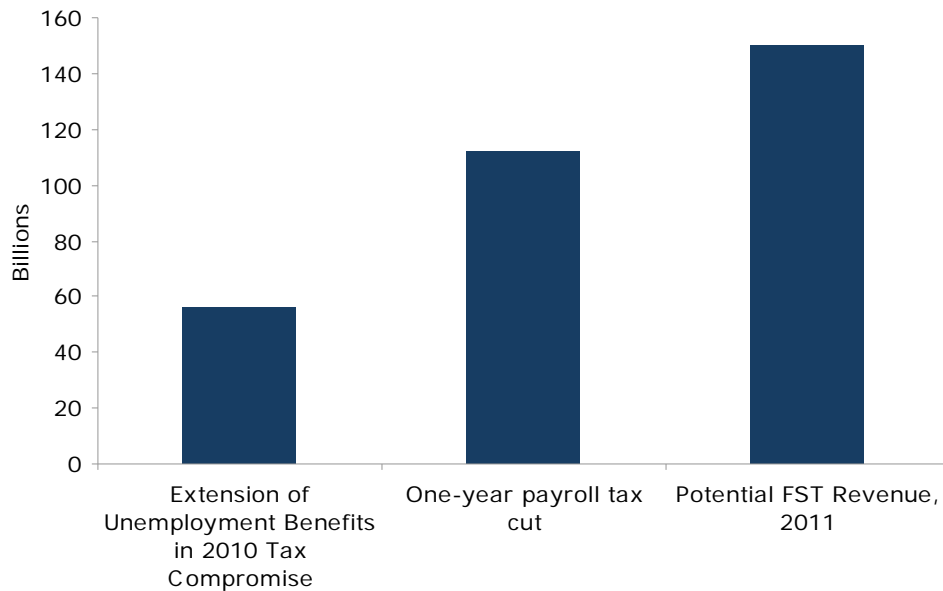
<sup>4</sup> See Bond, Steve, Mike Hawkins, and Alexander Klemm. 2004. "Stamp Duty on Shares and Its Effect on Share Prices." London: The Institute for Fiscal Studies, WP04/11 (p 4), available at <http://www.ifs.org.uk/wps/wp0411.pdf>.

<sup>5</sup> Baker, Dean, Robert Pollin, Travis McArthur, and Matt Sherman. "The Potential Revenue from Financial Transactions Taxes." Washington, DC: Center for Economic and Policy Research, available at <http://www.cepr.net/documents/publications/ftt-revenue-2009-12.pdf>.



Insurance benefits in the recent tax agreement signed into law at the end of 2010, as shown in **Figure 1**.<sup>6</sup> It is more than one-third larger than the size of the 1-year payroll tax reduction that will be in effect in 2011.

**FIGURE 1**  
**Yearly Revenue from a Financial Speculation Tax Compared with Other Costs**



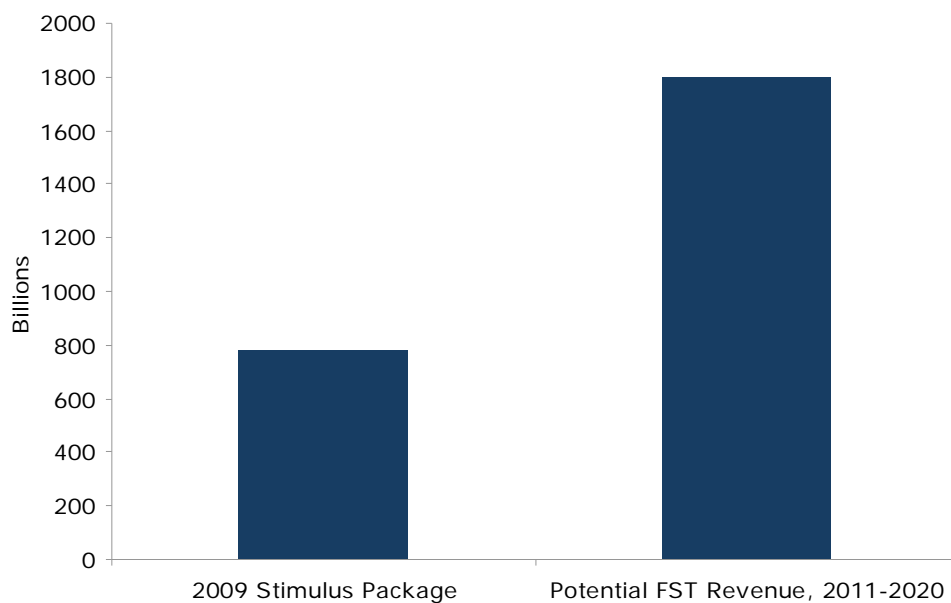
Source: Congressional Budget Office and Baker *et al.*

The potential revenue from an FST is also large relative to other budget items. At one percent of annual GDP, it would raise more than \$1.8 trillion over the course of the next decade. This is more than twice the size of the estimated cost of the stimulus package that Congress approved in 2009, as shown in **Figure 2**.

<sup>6</sup> The estimate of the cost of the extension of unemployment insurance benefits and the payroll tax cuts were taken from the Congressional Budget Office's Cost Estimate for HR4853, "Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010," available at <http://www.cbo.gov/doc.cfm?index=12020&zzz=41468>.

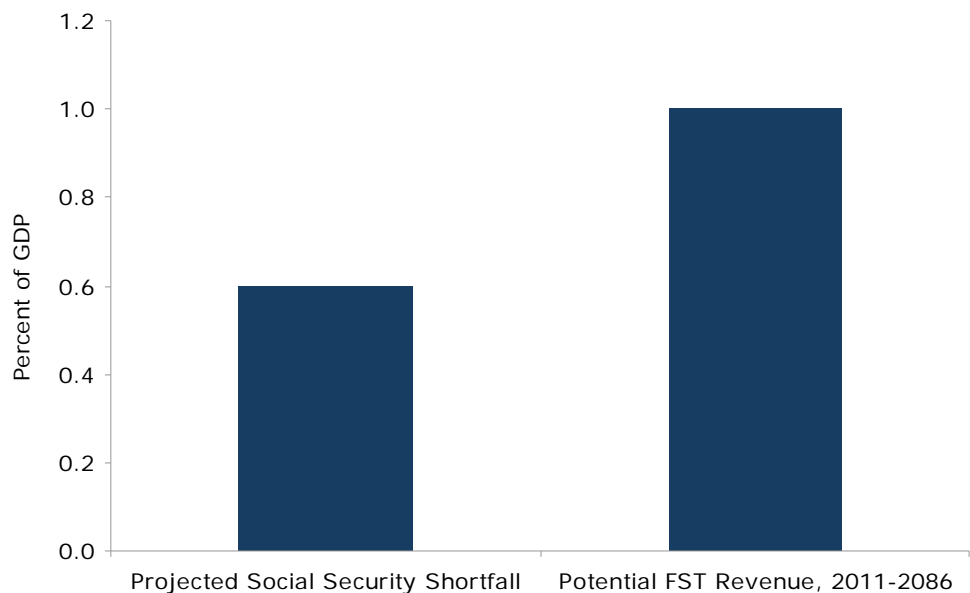
**FIGURE 2**

**Revenue from a Financial Speculation Tax 2011-2020 Compared with President Obama's Stimulus**



**FIGURE 3**

**Revenue from a Financial Speculation Tax Compared with the Projected Shortfall in Social Security over the 75-Year Planning Horizon**

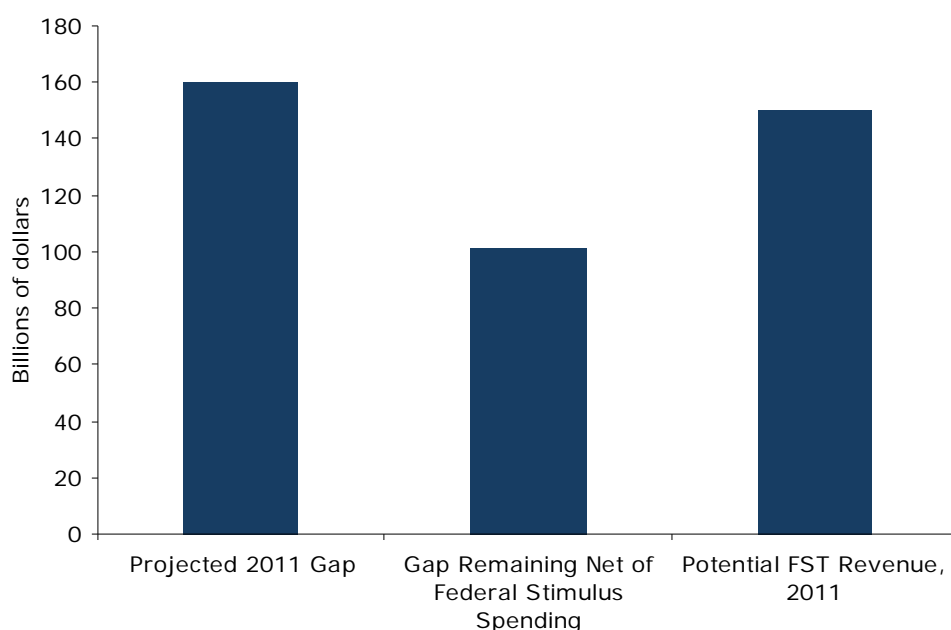


Source: Congressional Budget Office and Baker *et al.*

The projected shortfall in the Social Security trust fund provides another useful comparison with the potential revenue from an FST. The Congressional Budget Office projects that the shortfall over the program's 75-year planning horizon will be equal to 0.6 percent of GDP over this period.<sup>7</sup> This means that at 1.0 percent of GDP, the potential revenue from an FST is more than 50 percent larger than the projected size of the Social Security shortfall as shown in **Figure 3**. In other words, the Social Security shortfall could be entirely filled with the revenue from a tax on financial speculation, with a substantial sum still available for other purposes.

Another item that provides a useful comparison to the revenue that could be raised from an FST is the projected gap in state budgets. The Center on Budget and Policy Priorities projects that the cumulative shortfall in state budgets in fiscal 2011 will be \$160 billion, with a gap of \$101 billion remaining after taking account of funds coming from federal stimulus programs.<sup>8</sup> If an FST raised \$150 billion in 2011 then it could provide the federal government with almost enough revenue to fill the full gap and \$50 billion more than the amount of revenue needed to fill the remaining gap in state budgets, as shown in **Figure 4**.

**FIGURE 4**  
**Revenue from a Financial Speculation Tax Compared with the Projected Gaps in State Budgets for Fiscal 2011**



Source: Center on Budget and Policy Priorities and Baker *et al.*

<sup>7</sup> Congressional Budget Office, 2010. "CBO's 2010 Long-Term Projections for Social Security: Additional Information." Washington, DC: Congressional Budget Office, Exhibit 5, available at [http://www.cbo.gov/ftpdocs/119xx/doc11943/SocialSecurity\\_SummaryforWeb.pdf](http://www.cbo.gov/ftpdocs/119xx/doc11943/SocialSecurity_SummaryforWeb.pdf).

<sup>8</sup> McNichol, E, P. Oliff, and N. Johnson, 2010. "States Continue to Feel Recession's Impact." Washington, DC: Center on Budget and Policy Priorities, available at <http://www.cbpp.org/cms/?fa=view&id=711>.

## Conclusion

In a context where deficit reduction is now playing a central role in Washington policy debates, it is striking that financial speculation taxes have received almost no attention. Calculations that assume sharp reductions in trading volume from current levels show that an FST can raise an amount of revenue that exceeds 1.0 percent of GDP. This is not just a hypothetical; the revenue collected by the U.K. on its more narrow tax on stock trades shows that it is possible to collect large amounts of money through such taxes. Furthermore, the incidence would be almost entirely on the financial industry and those involved in very active trading.

The potential revenue from such a tax far exceeds the amount of money involved in most items that are heavily debated in Congress, such as the extension of unemployment benefits or the tax breaks going to the wealthiest two percent of the population. The revenue from an FST also vastly exceeds the size of the projected Social Security shortfall. Given the amount of money potentially at stake and the progressivity of the tax, it is surprising that it does not feature more prominently in policy debates. It is not clear what possible downsides would be posed by such a tax, except for its negative impact on the income of people connected with the financial industry.

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## U3 or U5: a note

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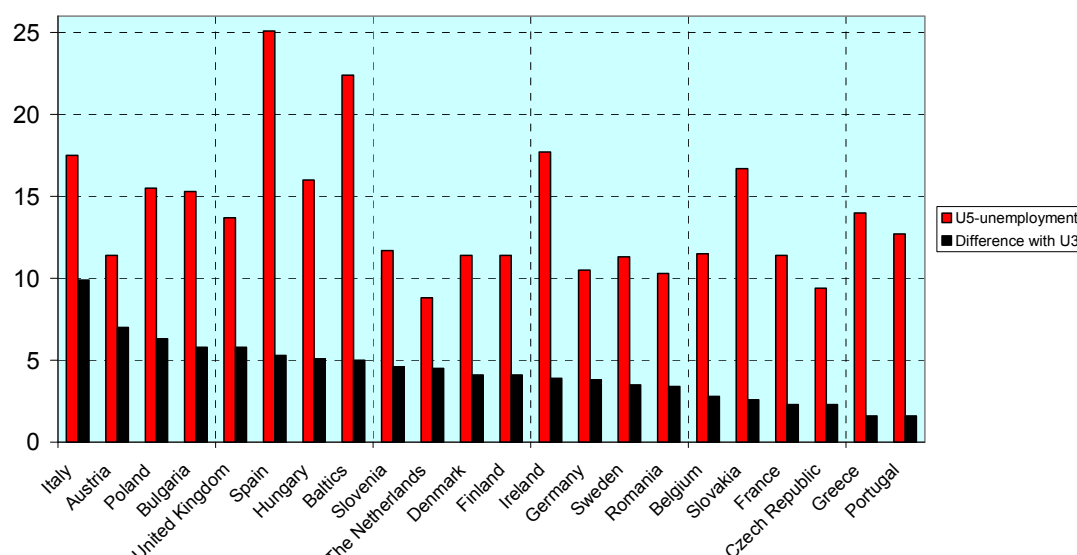
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**Summary.** In EU countries, differences between the widely used 'U-3' measure of unemployment and the less often used and broader 'U-5' measure vary from 1.5% for Greece to 9.9% for Italy, whereas in the USA state level differences vary only from 0.5% to 2.0%. Therefore, contrary to the situation in the USA, U-5 seems a better metric than U-3 for analyzing differences in EU unemployment. Looking at U-5 we see that Italy and the UK do relatively worse, while France does relatively better. As a consequence, differences within the Euro area as well as within the EU, which after the 2008 demand crash increased, become even more pronounced when considering U-5, complicating EU-level economic policy.

Despite minimal economic growth during the Berlusconi era, U-3 unemployment in Italy is, comparatively, surprisingly low. It is about as high as in the UK and quite a bit lower than in France. And the increase of U-3 unemployment in Italy between 2008 and 2010 was one of the lowest of the EU. Is this the result of a dynamic labor market, a phenomenon so rare in rich, capital intensive economies: adapting labor demand to labor supply without growth? Or are we just looking at the wrong metric? Eurostat has recently published estimates which enable calculation of 'U-5' unemployment, i.e. 'normal' U-3 unemployment plus the jobless willing and able to work *who do not seek actively for a job* (Eurostat (1) and (2), 2010, third quarter).<sup>2</sup> 'U-5' unemployment in Italy is, at 17,5%, surprisingly high. And much higher than in France or the UK. So, looking at 'U-5' instead of 'U-3' does make a difference. How does our view of the European situation change when we look at U-5 instead of U-3 for all EU countries (graph 1)?<sup>3</sup>. Some remarks:

Graph 1. U5-unemployment and difference with U3, 2010-III



Source: Eurostat. The Baltics: Estonia, Lithuania, Latvia.

<sup>1</sup> This research has been done independently of the author's position at Wageningen University and Research.

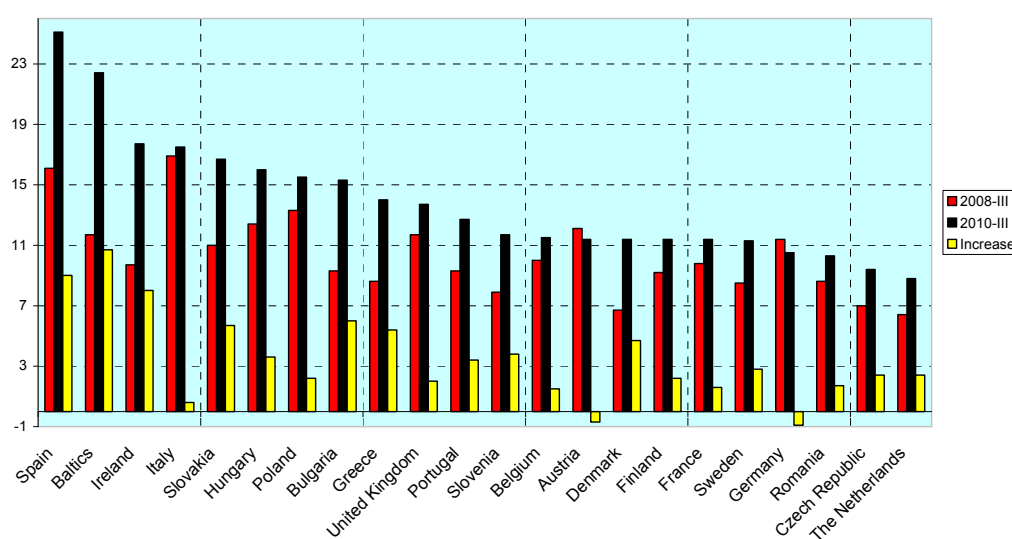
<sup>2</sup> As far as I could find, there is no Eurostat publication which shows U-5, it just publishes the building blocks. The exact definitions of U-5 can be found on the Bureau of Labor Statistics (BLS) website as well as on the OECD website.

<sup>3</sup> The more widely used U-6 index also adds those with involuntary short time work.

1. U-3/U-5 differences between countries are large and range from about 1,5% (Greece, Portugal, some transition countries) to about 6% in the UK and 10% in Italy.
2. Italy has by far the largest difference between the U3 and the U5 figures and does, despite the limited increase of unemployment between 2008 and 2010, as badly as countries heavily hit by the 2008 crisis, like Ireland and Slovakia and worse than Portugal and Greece (though unemployment in Greece is increasing).
3. Differences between the northern 'relatively (!) low unemployment' countries (Austria, the Netherlands, Germany) become smaller, and Finland, the Czech Republic, Sweden and Belgium also belong to this club (11,5% threshold). Denmark (11,7% U-5) is not added because it now seems to be in the feared 'double dip' as its GDP is declining and unemployment is rising. France might soon join the club.
4. Differences between countries with comparatively high unemployment (>15%) also become smaller, and Poland and Bulgaria join this club.
5. This means that differences within the EU, as well as the Euro area, become more pronounced.
6. Romania and Slovenia have quite low unemployment, which is not very consistent with their present level of economic development.

U-5 therefore accentuates differences between 'Greater Germany' and the rest of Europe. But should we generally look at U-5 unemployment instead of U-3 unemployment? Does it yield more meaningful information than looking at U-3? That, of course, depends on our goal. Looking at the data, I do get the idea that U-5 is better suited when one wants to make international comparisons, as the boundary between U-3 and U-5 seems to be sensitive to the phase of the business cycle and institutional differences between countries. Tellingly, state level differences in a more homogenous economic area like the USA differ, according to ocular inspection of the Bureau of Labor Statistics 2010 data, only between 0,5% for North Dakota to 1,8% for Mississippi (BLS (2)). For comparison: U-5 in the entire EU is 14,3%, up from 14% a year ago (2010, third quarter). In the USA it's 10.5%, down from 11.9% a year ago (2011, February, BLS (1))<sup>4</sup>. So, U-5 might, especially for the EU, tell a better comparative story than U-3. What happens when we look at post-2008 developments (Graph 2)?

**Graph 2. U5 unemployment in Europe, 2008 and 2010 (third quarter)**



Source: Eurostat

<sup>4</sup> The EU metric not based on national data but on an EU wide survey. Eurostat (1).



I will restrict my comments to three noteworthy aspects of these data.

- A. *Real estate, real estate, real estate.* Of the five countries with the highest unemployment, four were characterized by housing bubbles which were at least partly fuelled by capital inflows (Italy is the exception). And they are not alone: of the three countries with the lowest increase in unemployment, two experienced a very or quite sluggish housing market (Italy and Germany, I do not know about Austria). *I'm not the first to state this, but preventing and detecting real estate bubbles is an urgent task for policy makers and economists. It's beyond the scope of this article, but we might start with observing the difference between (re)building costs of dwellings (without land) and the price of land.*<sup>5</sup>
- B. *Flexibility or growth?* The OECD has a metric on 'employment protection', to measure the flexibility of labor markets (OECD (1)). There is no apparent relation between this metric and levels of and changes in unemployment. Alas, OECD economists do not seem to realize the consequences (Wölfl and Mora-Sanguinetti (2011)). Spain has the highest unemployment of the large EU countries. The OECD analysis of events is clear. Pre-2008 Spain had the most dynamic job market in Europe – despite existing rigidities. Post-2008, Spain had the fastest rise of unemployment, not because of labor market rigidities but because of a demand crisis induced by an exploding, easy credit induced investment bubble. Surprisingly, the report states that demand crisis unemployment has to be solved by taking away rigidities. Increasing the efficiency of the labor market might lower the 25% U-5 unemployment rate by, well, maybe about 0.2% - by lowering the vacancy rate. It's like stating that an Usain Bolt (the Olympic champion) with pneumonia has to be cured by making his shorter leg as long as his other leg by advanced surgery instead of giving him anti-biotics (yes, he has a shorter leg, as well as a bad back. Just like the Spanish labor market he's not perfect... but it does not stop him). Let's be honest: solving 25% unemployment does not require supply or demand side tinkering, it requires an entirely different economy, just as the Great Depression was solved by the rise of the middle-class, the backward bending supply curve of labor and the welfare state (when U-5 unemployment is 25%, the number of jobs has to increase by a quarter to bring unemployment back to 5%!) Anybody any ideas?
- C. *Euro-problems.* As U-5 indicates that differences within the Euro area, which post 2008 already increased, are even larger than indicated by U-3, designing Euro (or EU) level economic or monetary policy becomes even more awkward.

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Gaffney, M., F. Harrison, and K. Feder *The Corruption of Economics*. (London: Shephard-Walwyn).

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<sup>5</sup> Which boils down to making a conceptual difference between produced capital goods (and profits) on one hand and natural assets (and rent) on the other. See Gaffney e.a. (1994) on how neo-classical economists tried to extinguish this distinction, thereby doing the exact thing which they were, some decades earlier, accused by Marx of doing. To get an idea of the difference: is the wealth of the Saudi royals (or the Koch brothers in the USA) based upon profit and enterprise – or upon the expropriation of rents from society?

Bureau of Labor Statistics:

<http://www.bls.gov/news.release/empsit.t15.htm> (1)

<http://www.bls.gov/lau/stalt.htm> (2)

Eurostat:

[http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Unemployment\\_statistics](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Unemployment_statistics) (1)

[http://epp.eurostat.ec.europa.eu/cache/ITY\\_OFFPUB/KS-SF-11-008/EN/KS-SF-11-008-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-11-008/EN/KS-SF-11-008-EN.PDF) (2)

[http://epp.eurostat.ec.europa.eu/cache/ITY\\_OFFPUB/KS-SF-10-012/EN/KS-SF-10-012-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-10-012/EN/KS-SF-10-012-EN.PDF) (3)

OECD:

<http://stats.oecd.org/index.aspx>

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## Reflections on the “Inside Job”

Peter Radford

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It's depressing to watch the movie “Inside Job” simply because it is true. Shockingly true. It is also interesting to watch the comments come in from Europe where the movie is just now playing. I wonder whether it will alter public opinion of America. It should.

The American economic policy elite, by which I mean the academics, politicians, and business leaders that comprise it, is shamefully inadequate. In my more extreme moments I would call them irretrievably corrupt. They all shift from one seat to the next. They all intermingle. They all attend the same schools. They all believe the same basic ideas. They are all out to enrich themselves. They all deny any wrongdoing or fault. They all work endlessly in the interests of the system.

In fact they are the system.

So, neutering bank reform was essential in order to protect their rent seeking ability. Shifting the focus of debate onto the national debt was essential in order to mask their collective culpability and graft. Imposing austerity on the rest of us was essential in order to avoid paying the consequences of their ineptitude and indifference. In order to protect themselves they had to stand together and spew out platitudes and patronizing homilies about how tough we all need to be in order to dig out from the crisis. A crisis that their ideas, their actions, and their greed caused.

All around the world everyday people are suffering a loss of wealth and, or, income as a direct result of the ability of this small group to impose its own agenda on us. Yet that group has emerged unscathed. They still rotate through the same jobs. They still teach at elite schools. They still control the academic agenda. They still run the same banks. They still staff the Treasury or the Federal Reserve Board. And they still dictate how our national wealth will be divided: 95% for them, 5% for the rest. Just the way it ought to be in a society where democracy has been weakened by decades of free market dogma, slipshod oversight, defunded government, and an extraordinary collapse in ethical standards.

No wonder the Tea Party is up in arms. Our social fabric is beginning to fray. Anger permeates debate. Reason flies out the window. Facts become opinions. Opinions become facts. We stopped being we. Instead we became them versus us. Turned in on ourselves by the needs of the system.

Only one group wins when society turns on itself: the elite in charge. That dark and amorphous group we dare not contest for fear of the unknown. Or at least that is what they tell us.

America is not what it was. Its political system is horribly corrupted by the flow of money. Rich companies and individuals impose their views simply by dint of their ability to spend. The rest of us, those who object, are muted by the flow of cash that drowns out dissent. Supreme Court justices cavort in private jets and take cash sums for speaking to lobbyist groups. They then ask us to believe they are impartial. Politicians view fund raising as

their primary task. They then ask us to believe they are impartial when they vote. Professors write papers supporting the objectives of their sponsors, and then see no conflict of interest. Business leaders pay themselves whether their companies succeed or fail. Boards of directors stand idly by as CEO's leave with millions – hundreds of millions – even though they are unmitigated failures. Managers stay put even though they are manifestly incompetent. The concept of shareholder control is laughed at: the SEC actively prevents shareholder democracy. It might destabilize the system. So no one owns big business. There is no control. The system just is. It is a mockery of capitalism. It is a mockery of democracy. But especially of democracy.

And all the while they preach that this is the land of opportunity.

Their opportunity.

Once America embarked on its great experiment with illusion, back in 1980, it deliberately stepped away from a fact based narrative. It plunged into Hollywood. Or Disneyland. Politicians realized they could cast balm across fears by talking in hopelessly unreal dreamlike terms. They also learned to demonize the opposition and the government. Words were recast with new and derogatory meanings. Alternative ideas and views were systematically eliminated or stifled. Their new way was simplified, black and white, and unrelentingly self regarding. Gradually the great utopians were able to kick away reality. They were able to shut out what Judge Brandeis called the disinfecting capacity of sunlight. In the shadows they constructed a version of laissez faire, updated and outfitted for the modern era.

They have persuaded regular people to vote consistently against their own best interests. They have led the country into decline. They have started wars on a lie and a whim. And they have shifted the national wealth in unprecedented amounts into their own pockets.

The crisis did not hurt them at all. It hurt us. It was their mess. It is ours to clean up.

And we agree to do this, why?

Because we are told the system must be preserved. The nation is fragile and we must surely understand the need for tough austerity action. We must take our medicine. We must sacrifice those pensions. We must give up those immature dreams of rising wages. This is, we are told, a global economy. We must suffer the consequences of the dreams of the poor who aspire to be like us. Capital is free to shift around the world. Profits are to be found abroad. If that hurts us here, then that's just the system at work. And we must never disrupt the system. Never, ever, disrupt the system. It is a work of nature just like the oceans or the mountains. The market is an artefact, not of humans, but of the natural world. It is invisible to us. But we are caught in its dehumanizing grip. If the mechanism requires that you accept a lower wage, please do, it makes the model work so much more smoothly.

And the corruption stinks. Yet it exists. The lack of ethics reeks. Yet it persists. Just recently the economics profession failed to come to grips with its ugly lack of ethics. Apparently market forces will impose some form of ethics. So economists don't need to abide by the same rules that the rest of society seems to think are important.

When you have sunk so far down the free market rabbit hole that you believe it will fix everything, ethics becomes just another exogenous variable to be assumed away. When you

assume that all social ends are best met by efficient outcomes from constrained optimization models, ethics is obliterated by the great machinery that guarantees that optimum. And when you become irritated by the niceties of reality and its inexorable muddiness such that you treat it as an unfortunate intrusion into the sublime order of your theory, you have left behind both humanity and the need to balance work with an ethical view. Mad science is mad, however complex or elegant its math.

All of this stems from my viewing of that movie.

I guess it put me in a bad mood.

My distemper stems from the grim truth the movie tells. It reveals just how far America has lurched from its earlier, more prosperous, trajectory. It tells us how hard it will be to get back, if we can, to a more balanced, less extreme, less unequal state.

And economics, at least its orthodox brand, isn't helping. Indeed it has been co-opted, willingly so, by the system and those who benefit from it. Many of our most renowned economists are guilty of aiding and abetting the gutting of our democracy, and of feeding at the same trough as the bankers who destroyed the economy. There are some, well meaning, that claim economics is apolitical. Possibly. They claim the bourgeois values of capitalism are worthy of protection and nurture. After all we are all so much better off. Perhaps. But they ignore the ease with which orthodox economics has been turned into an ideological exercise. They ignore the inequality. They dismiss social remedies as pathologies eating away at the fine muscle of capitalism. Maybe they are right. But they are not politically neutral.

Democracy and capitalism are in conflict. The one protects the weak by giving them power. The other exploits the weak by concentrating that power in the hands of the wealthy. The two groups fight. Those who deny this struggle deny reality. They would prefer a pleasant world where the rich and poor cohabit in joint interest. Where labor and capital are equals. Utopia. Harmony. Quiet. And not the cacophony of the real world.

I do not seek the supremacy of either democracy or capitalism. Either, *in extremis*, can be volatile and unhealthy. I seek a balance. And when I watch the "Inside Job" I am reminded of how far from balance we are. Right now it is our democracy that is lost. We have a surfeit of capitalism. We are bloated by the corruption and lack of ethics that it has brought. We need to change.

In my world, that means economics has to change.

But you all know that already.

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