

The INNO-GRIPS

Newsletter

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Special issue **innovation for recovery**
Innovation in times of crisis



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➔ Innovation for Recovery: Recovering Innovation

By Jennifer Hayden, MIOIR and Julie Basset, LL&A

September saw the wide-reaching failure of innovative, but avaricious, financial products spark off a massive credit crisis with global reach, deepening and creating recessions. Here we will take a brief look at the US and EU policy responses in terms of their ability to harness innovative measures for recovery and boost innovation through recovery.

The America Recovery and Reinvestment Act

The destructive force of this recession has led to an American job shedding on a scale unseen since the end of WWII; a turnaround is hoped for, at best, in early 2010. Government action, in the form of bold spending to maintain aggregate demand along with strong new financial regulation, is mandated.

The Senate and House rapidly hammered out details of a \$787 billion American Recovery and Reinvestment Act (ARRA) [1]. The massive stimulus funds a mix of infrastructure projects for immediate job creation and cash injection, coupled with innovative initiatives that aim to lay the foundation for the long-term viability of a new US economy. President Obama's team envisages a knowledge-based, 'green' economy, jumpstarted by a serious ramping up of science, technology and education expenditure.

Innovation in the energy and health sectors is stated as one of the Act's main goals. While there are large appropriations for much needed R&D facilities work, there are also earmarks for forward-thinking research into new technologies for health care delivery and energy efficiency. The ambitious push to ensure broadband access across rural and underserved communities is appropriated \$4.7 billion for a Broadband Technologies Opportunity Program and a further \$2.5 billion when bundled with telemedicine and distance learning funding.

Highlights from the stimulus bill that may be a boon to innovation include: 6 billion for the Innovative Technology Loan Guarantee Program; \$4.5 billion for electricity delivery and energy reliability (incl. energy storage R&D); \$2.5 billion for National Science Foundation research; \$2.3 billion in credits for technologically innovative energy manufacturing projects; \$2 billion for the Office of the National Coordinator for Health Information Technology; and \$750 million for worker training in high growth and



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Editorial

Riding Out the Storm - or Rising above it?

by Ian Miles, Manchester Institute of Innovation Research.



2009 is the European Year of Creativity and Innovation, but many are currently preoccupied with the possibility that it will go down in history as the year when it was officially conceded that we were spiralling into a second

Great Depression. Even if the gloomiest prognostications are far off the mark, and economic stimulus and confidence-restoring packages actually work, it is clear that the immediate and medium-term future is one of economic turbulence and crisis.

One encouraging sign though, is that many policymakers and commentators, from various shades of political opinion, are stressing the scope for innovation to help us out of recession. The Year of Creativity and Innovation is well-timed in this respect: its programmed events and more spontaneous occasions can be used to amplify this message.

Yet there is a danger that we will come to be seen as whistling in the dark. In previous economic downturns, the immediate response of many corporate managers has been to trim costs, particularly R&D and innovation investment. It is likely that much of the stress on the possible role of innovation is an effort to forestall this decline in investment. Decision-makers are being warned against cuts, as they risk losing out to competitors who will make the breakthroughs and disruptive innovations that may form the major business opportunities. However, these managers are likely to ask for evidence to support this and to demand policymakers back up their arguments not only with empirical evidence, but also with a commitment to support innovation in ways corresponding to new opportunities. These will need

to be linked convincingly not just to what is technologically possible, but also to what can be anticipated about the emerging economic context.

In fact, various forms of empirical evidence abound. History tells us how innovation fared during the last Great Depression, and what lessons may be drawn. Circumstances have changed dramatically, of course, and direct parallels are unlikely to be reliable, but fundamental factors are liable to remain in play. Some have looked to recent national experiences, with Japan's post-bubble economy and Finland's recovery from its 1990s crisis as obvious examples. It is important to move beyond the superficial accounts of these experiences to again elicit the important lessons, such as what sorts of innovation strategy proved to be effective and in what ways? Another promising line of approach relies on sectoral, especially firm-level, case study work - examining the strategies that promote good practice in terms of managerial response to economic downturn. The important story will not be whether innovation investments were reduced or maintained, but what procedures were used to determine innovation priorities? We can learn from the experience of different firms as to how well established procedures worked under pressure, what new ones were introduced to deal with funding difficulties, and what the results were. It will be especially interesting to find "success stories"; particularly those that were not a result of the firm just being in the right sector at the right time!

This Newsletter focuses on some of these issues and the ways innovation is being shaped by the current crisis. We do stress that the task of translating the results of innovation research into formats of use to decision-makers has become more urgent, and we welcome feedback on how we are addressing these themes.

Editorial

➔ emerging industries (of which \$500 million for training in energy efficiency and renewable energy).

Additionally, the new administration has promised 'unprecedented accountability' by creating a widely advertised public website (recovery.gov) where the Act's enforcement can be tracked. The new administration's embrace of the cutting-edge can only benefit innovative capacity in the public sector with spillover to the private sector through the ARRA.

The President has been actively creating a new political climate in Washington by setting the standards for ethics and transparency at unprecedented levels. Perhaps the country's ability to recover will hinge more on a restoration of confidence than bank accounts alone. It is, after all, the greed of financiers that dropped the floor out just when it became shaky and if there is a sea change in Washington the culpable elites may be brought to justice [2]. This kind of innovation could bring America closer to embodying its purported 'values' than it has ever been before. The American people are right to be skeptical but can perhaps find a sliver of hope in what may be the dawn of a mentally and monetarily healthier country.

The European Response

With a view to providing a unified orientation for member state reactions, the European Commission (EC) presented a recovery plan in November that provided scope for customized economic policy initiatives. This plan calls for "a timely, targeted and temporary fiscal stimulus of around €200 billion or 1,5% of EU GDP, within both national budgets (around €170 billion, 1,2% of GDP) and EU and European Investment Bank budgets (around €30 billion, 0,3% of GDP)" [3].

The EC plan is similar to the US approach as it calls for a set of short and long-term measures. The former aim at immediately countering the crisis and its effects while 'smart investments' (green cars, green buildings and the 'factories of the future' initiatives, education and (re)training, support to energy and broadband infrastructure) are expected to place the EU on the path of sustainable growth. These measures are openly encouraging innovation in identified strategic fields, notably clean energy technologies, supporting the

convergence of American and European priorities towards creating a green, knowledge based economy.

While this plan calls for a coordinated approach to recovery and growth, how unified are member states' reactions to this crisis really? 85% of the financial efforts will be produced by national governments – under very different political, economic and budgetary constraints. Disagreements on short-term defensive actions are openly discussed; Germany opposes a reduction of VAT rates, while the UK has already enacted this measure. Synergies and cross-feeding effects expected from coordinated policy responses within the internal market will be difficult to achieve in these conditions.

It seems the EU, or rather its member states, lack the feeling of unity that the US has recently (re)gained. Governments have endorsed the green knowledge economy objective but, facing emergency in complicated budgetary situations, many chose to undertake politically visible actions such as public investments in infrastructure. Although understandable, this is not necessarily the best reaction. Finland, whose government successfully resisted the 1990s' crisis through innovation (mainly through R&D oriented actions), has unveiled a recovery plan that once again focuses on innovation.

Decisions made by different countries at various governance levels necessarily lead to a diversity of answers to this nearly global crisis. The London Summit, to be held on April 2nd (see last page) will provide the opportunity for a renewed dialogue between America and Europe. The UN has also convened a commission, led by Joseph Stiglitz, to rethink the structure of the global financial system [4]. Perhaps these cross-continent initiatives will give participants a chance to make more harmonious choices for recovery, which can in turn create a more economically and environmentally sustainable global system. While sobering, these are also exciting times, as crisis is the most fertile ground for a burgeoning of innovation [5]. ■



1 American Recovery and Reinvestment Act of 2009, H.R. 1, 111th Cong. (2009).

2 Lieber, J. (2009, Jan 28). What Cooked the World's Economy? It wasn't your overdue mortgage. The Village Voice.

3 EC Press Release IP/08/1771 (26 November 2008). The Commission launches a major Recovery Plan for growth and jobs, to boost demand and restore confidence in the European economy.

4 <http://www.un-ngls.org/site/cfr.php3>

5 Why an Economic Crisis Could Be the Right Time for Companies to Engage in 'Disruptive Innovation' (2008, Nov 12). Knowledge @ Wharton.

Next exit: Greenauto?

By Pierre Bitard, ANRT

What would a green car be? How innovative would it be? In these times of profound economic and social crisis, are the automotive industry 'recovery' actions supportive of a "greening" of the auto industry? These are some of the questions this article aims to address.

According to Larry Burns [1], GM vice president for Research & Development and Strategic Planning, the greening of the automobile would require nothing less than transforming its DNA. The transmutation would involve exchanging a mechanical drive for an electrical one, petroleum for electricity and hydrogen, the internal combustion engine for an electric motor, mechanical and hydraulic controls for electrical and electronic ones, and stand-alone for "connected" vehicles. The innovation policy that the American industry hopes for involves the introduction of EVs (electric vehicles) and HEVs (hybrid electric vehicles). The three US giants (GM, Chrysler and Ford) surely need a lot of public support to venture into this area, while preserving current employment structure. At the end of January, the American government has approved €13.4bn of loans for General Motors and Chrysler.

The health condition of the automotive sector can be considered as a good indicator of health of the economy at large and curing the national automotive industry has always been among one of the major components of global recovery plans. As historians of this industry usually point out, governments, all over the world, have had close relations with the automotive sector, since its inception one hundred years ago. However, in these times of tougher socio-economic crises, the world's de facto shared development model, largely based upon resources consumption, is allegedly collapsing and uncertainty prevails about a common future direction. This is true for all players, consumers, businesses and governments alike. In economic terms, price ratios are being modified without any clear trend, resulting in tricky decision-making. Food prices have been rising all year long. Energy and especially gasoline prices have been playing yo-yo, and are expected to soar again. Still, renewable energies' industrial applications do not benefit from favourable price ratios.

Consequently, housing and transport systems are extremely vulnerable. Innovation is desperately sought while it cannot just be "more -or better- of the same".

We propose a rapid 'tour du monde' of the rescue packages for some countries' struggling automotive industries, focusing on the presence, nature and orientation of the innovation dimension. We have identified 8 countries with automobile aid packages, plus the EU initiative (cf. "CARS 21"). In Europe - in France, Germany, Ireland and the UK; in Asia - in China and Japan; in Australia; and in the US (where there are some significant differences between states; see California, Michigan and Oregon).

First, all the recovery plans put a special emphasis on selling (fuel-efficient) cars. This is not neutral, and at the end of the day, is quite narrow and conservative an approach: supporting the automotive sector implies mainly helping incumbent companies produce electric / hybrid vehicles. This will indeed take a lot of effort and investments of all kinds to innovate to do so. However, helping to sell new cars is very different from



supporting the collective services that the transport systems must provide to the world's mostly urban population. Second, common features also include a delicate mix of immediate rescue measures (i.e. saving jobs) and longer term investments for the future of the country's industry. It should be noticed that in any instance, most key policy avenues were already being explored: energy issues were not discovered overnight during the last quarter of 2008. Policy attempts to support the transition towards greener cars are highly imaginative and sophisticated.

The following three examples illustrate the main innovation policy action paths. Australia is among the very few countries where a car can be fully developed (from design to showrooms) [2] and in November 2008, the Australian Government launched the Green Car Innovation Fund (GCIF), the New Car Plan for a Greener Future's pivotal initiative. With AUS\$1.3bn (€ 700 million), the fund aims at supporting the design, development and manufacture of low-emission, fuel-efficient cars and components in Australia over the next 10 years (in effect, starting from 1 July 2009[3]). The grants will be allocated to the best innovative industry projects and this is a good illustration of an emergency, supply side policy measure, via the establishment of a dedicated fund.

China takes another road to the greening of its powerful car sector. Fiscal –demand-oriented-incentives are implemented to modify the price ratio to support energy-efficient vehicles, subsidising the difference between hybrid and conventional cars. Owners (starting with public agencies) are encouraged to scrap their



old models in favour of hybrid vehicles. This initiative is part of the '863' research programme on energy-efficient and alternatively-fuelled vehicles. In the first stage, funding will only apply to the government demonstration project known as 'Ten Cities, One Thousand Vehicles'. A medium-term objective is to have over 50,000 fuel-efficient and new energy-vehicles used by the public sector within the next three years, 90% of which will be hybrids. Rolling out the incentives to individual buyers may occur after completion of these first stages.

The UK is one of the most remarkable cases; not only because of the repeated objective to link the public financial support to manufacturers developing green technology in late January 2009, but because of the richness of the system implemented beforehand. The rescue package involved the Government guaranteeing to unlock up to €1.45bn of loans from the European Investment Bank to develop green technology and loans up to € 1.1bn to invest in low-carbon engines. Two

accompanying measures were a €5.6m investment to help car companies improve business performance and a €39m boost to funds to train workers at component suppliers. Note that Unions and industries estimated the required plan would cost 10 times more.

In addition, the new Integrated Delivery Programme (IDP) is noteworthy. The new €225m investment programme is to be jointly funded by Government and business, the aim of which is to speed up the introduction of new low-carbon vehicles, all along the innovation chain. It involves both university-based research (funded research on commercially viable future technologies) and industry-led actions (to shape technological

priorities). Collaborative R&D projects will be funded, taking technology through to systems and so will be the trialling and demonstration of innovative lower-carbon vehicle options.

Complementing the IDP, the Technology Strategy Board's Low Carbon Vehicles Innovation Platform will be the Government's R&D

funding body on low carbon vehicles. Two R&D competitions are already open. In addition, the UK's Centre of Excellence for Low Carbon and Fuel Cell Technologies (Cenex) also delivers the Department for Transport's Low Carbon Vehicle Procurement Programme (LCVPP). The latter's ultimate aim is to reduce overall carbon emissions from the UK vehicle fleet. Like in China, public sector organisations will be the first targets, with a €2.2m available to help them meet the additional costs of procuring lower-carbon vehicles (with the potential of a further €3.3m if successful). LCVPP will focus on the development of lower-carbon and all-electric vans, with smaller scale procurements of lower-carbon minibuses, and plug-in hybrid passenger cars. ■

1 Burns, L., 2009, Speech at the Chairman's Luncheon of the Transportation Research Board (TRB) 88th Annual Meeting in Washington, 13 January.

2 One usually considers that there are less than 15 countries able to build car from scratch.

3 The full plan will be much larger, and notably encompass the 'Automotive Transformation Scheme (ATS), running from 2011 to 2020 that will provide €1.7 billion to the industry.

What can innovation offer - in terms of faith, hope and charity?

By Kathryn Morrison, Paul Cunningham and Ian Miles, Manchester Institute of Innovation Research

The effects of the ongoing economic downturn on innovation are still to become fully apparent. Whilst the 'creative destruction' wrought by the impending recessions may act as a stimulus to innovation and innovative solutions, as companies and governments seek to ameliorate adverse economic conditions, it is highly likely that research, the cornerstone of much innovative activity, may feel the squeeze as funds dry up. Earlier economic disruptions show evidence of both trends, with different onsets in different locations.

One area that may be particularly hard hit is the charitable, private not-for-profit (PNP) sector. This sector is a major research player, especially in fields targeting social needs. In the UK, the PNP sector contributed over £1.5 billion in research expenditure in 2005 (5% of total funding) while it performed £759 million worth of R&D activities [1]. Though the sector is composed of a range of foundations and charities, by far the largest of these are located in the medical and health sector. Their financial contribution to medical research in the UK exceeds £1 billion per annum.

However, charities are under increased pressure, as they may witness a reduction in philanthropic donations, coupled with greatly reduced income from their investments and legacies. Organisations that derive much of their funds from endowment income have already witnessed some of these effects. In the US, for example, the net value of the Burroughs Wellcome Fund fell from nearly \$700 million to \$540 million last year; while the Bill and Melinda Gates Foundation lost \$3.6 billion in under a year [2]. In the UK, the real annual income growth of its largest fundraising charities was down to 1.2% in 2006-2007; and almost a third of charities have seen a fall in the real value of their fund-raised income. The long-term growth trend in social care charities has also slowed

since 2003, though they still play an instrumental role in delivering public services, and some fund research on social issues such as housing, eldercare and poverty.

The US Center on Philanthropy reports that corporate giving falls by 5 percent during recessions. (A longer and deeper depression might have a more marked effect, but we have limited historical evidence to go on) Whilst this is a worrying trend, it may be argued that such times of stress force charities to become more innovative in order to weather economic storms. As many see an increased demand for their services to deal with those most affected by the effects of recession, they are challenged to meet these demands with less money coming in. Can the PNP sector – perhaps applying some of the research it sponsors itself - become more innovative and creative, introducing radical innovations to support target communities and create new income streams via fundraising?

Philanthropy has been much celebrated of late, with the American model being contrasted with Europe's more statist approach to social problems. This discussion has been somewhat detached from the parallel dialogue about the incidence of certain social problems and of inequality in income and health outcomes in the US and Europe! But the potential of philanthropy to help meet income shortfalls, to facilitate innovative solutions, and to address newly emerging problems where PNPs have had limited activity to date, should not be dismissed. Richard Branson, for one, does not believe this current economic 'crisis' will sound the death knell for philanthropy and that it may in fact present an opportunity for developing new partnerships, smarter giving techniques, and more effective use of resources [3]. He suggests that the face of capitalism is now changing and there is a switch of focus towards greater social responsibility.

Not all are reducing their philanthropic donations in these difficult times. Bill Gates, founder of Microsoft, has seen his fortune plummet by more than £26 billion in the past year. Despite this, the Bill and Melinda Gates Foundation awarded more than £1 billion last year, mainly to fight disease in the Third World and improve education in America. However, the foundation is trimming growth to 10 per cent this year, compared to 30 per cent in 2008. Gates states that “the wealthy have a responsibility to invest in addressing inequity. This is especially true when the constraints on others are so great.

Otherwise, we will come out of the economic downturn in a world that is even more unequal, with greater inequities in health and education, and fewer opportunities for people to improve their lives”. Gates is in another league to that of most philanthropists, and has vast resources accumulated in years of plenty to draw upon. How far his lead is followed will be a subject of much interest. Likewise, the impact of tighter belts on philanthropists’

willingness to fund longer-term innovation activity, as opposed to funding the more immediate provision of social and medical care, is of considerable significance.

Charities will need to review and adapt their funding strategies and persuade donors, that their charitable donations should remain a priority by being very clear about need, effectiveness, impact, and the potential effects of recession on beneficiaries. The results of giving will need to be more tangible, which is particularly challenging for research investments.

Beyond the quantitative flow of resources, there is a case for qualitative change: the collaboration between business and the social sector must be increased and modified so that partnerships can be established and two sides can work together to mutually benefit - including the development and application of social and technological innovations.

So does the cloud have a silver lining - and are there exciting opportunities for innovation in the charitable sector? A growing trend in fundraising is the ‘restricted funds’ model, where supporters give money for a specific campaign or activity. This way, charities



can play an important role in allowing donors to channel their donation to the recipients and attract those who want a social connection as well as a return on investments. The challenge is in setting up a strong charities-business-society network. Strategic use of technological innovation (e.g. Web 2.0 and social networking) is crucial to achieve this (as evident in online microfinance charities like Kiva, Microplace and MyC4) [4]. NGOs have often been pioneers of social innovations and new technologies so it will be worth seeing whether the PNP sector can be creative as well as resilient in the current crisis. New approaches in Corporate Social Responsibility (CSR) from donations to participation and engagement, have also become forces in the changing relationship between corporation and society. This will create more space for collaboration and new ways for business to actively engage with the social sector. Here, charities can play an important role as intermediaries between business and the public.

Possible future trends here may encompass:

- innovation around the restricted funds business model
- continued growth in online fundraising & sponsorship
- growing importance of social networking sites and other online spaces
- better interaction with individual supporters
- more open and collaborative approach to fundraising innovation (e.g. Cancer Research)
- greater creativity (see

<http://www.nesta.org.uk/innovations-in-fundraising/>)

Researchers, managers and policymakers concerned with the innovation process and its outcomes would do well to watch developments in the third sector, as well as those in private firms and public service bodies. ■

1 ERAWATCH Research Inventory: United Kingdom.
<http://cordis.europa.eu/erawatch/index.cfm?fuseaction=ri.content&topicID=60&countryCode=GB&parentID=502>

2 Economic Woes Threaten to Deflate Plans for 2009, Jennifer Couzin, Science 7 November 2008: Vol. 322. no. 5903, p. 841

3 Source: Richard Branson ‘Charity must not become a casualty of the recession’, Daily Telegraph, 29 Jan 09

4 See <http://www.microfinancegateway.org/content/article/detail/54777>

About GRIPS



INNO-GRIPS is a project funded by the EC Directorate General Enterprise and Industry under the PRO-INNO Europe initiative. The INNO-GRIPS initiative compiles and analyses existing studies and information world-wide on innovation policy making, business innovation and academic discussions.

INNO-GRIPS provides a platform for open discussion among experts on relevant innovation policy and business issues to foster intellectual debate and provide a workshop setting for future developments. This contributes to building an "early-warning" system for policy-makers to facilitate the timely adoption of appropriate policy responses.

Key INNO-GRIPS activities are research, analysis, consultation and dissemination activities involving the Commission, researchers and other important stakeholders in the innovation process.



Louis Lengrand & Associés



Association Nationale de la Recherche et de la Technologie



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For more information...

The European Economic Recovery Plan

EC, 29.10.2008. Communication from the Commission. From financial crisis to recovery: A European framework for action. COM(2008) 706 final
http://ec.europa.eu/commission_barroso/president/pdf/press_20081029_en.pdf

EC, 26.11.2008. Communication from the Commission to the European Council. A European Economic Recovery Plan. COM(2008) 800 final
http://ec.europa.eu/commission_barroso/president/pdf/Comm_20081126.pdf

The American Recovery and Reinvestment Act 2009

The Act is available at:

http://www.whitehouse.gov/the_press_office/arra_public_review/

The www.recovery.gov website will monitor actions taken under the American Recovery and Reinvestment Act of 2009.

The London Summit, April 2nd 2009. www.londonsummit.gov.uk

The London Summit brings together leaders of the world's advanced and emerging economies, including the G20, and representatives of international financial institutions. The Summit aims to reach international agreement on coordinated actions to revive the global economy, and on principles to reform and improve the financial sectors and systems.

The European Year for Creativity and Innovation

http://create2009.europa.eu/index_en/debates.html

Throughout the year, six debates on key topics around creativity and innovation will be held in cooperation with the European Policy Centre (EPC).

Innovation in times of crisis – short literature review

The references listed below can be accessed through INNO-GRIPS website's Knowledge Base:

http://grips.proinno-europe.eu/knowledge_base/

- Euractiv, Jan 29th 2009. Investing in innovation 'key to economic recovery'
- Business Insight (2008, 15 Dec) How Hard Times Can Drive Innovation. The Wall Street Journal.
- Knowledge@Wharton (2008, 12 Nov). Why an Economic Crisis Could Be the Right Time for Companies to Engage in 'Disruptive Innovation'.
- Leadbeater, C. & Meadway, J. December 2008. Attacking the Recession – How Innovation Can Fight the Downturn. NESTA Discussion paper. With Harris, M., Crowley, T., Mahroum, S., and Poirson, P.
- Levine, L. (2008). Job loss and infrastructure job creation during the recession (R40080). Washington, DC: Congressional Research Service.
- Rae-Dupree, J. (2009, Jan 3). Innovation Should Mean More Jobs, Not Less. The New York Times.
- Rossi, V. (2009, Jan). Coming up for air after the recession: Which countries and sectors will lead the recovery? Chatham House Think Piece n.10.
- Teslik, L. (2009, Jan 27). Backgrounder: The U.S. Economic Stimulus Plan. The New York Times.

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