

The case for industrial and innovation policies

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The crisis of 2008 has led to a prolonged recession and high unemployment in Europe, opening the way to a process of restructuring in all countries. The aftermath of the crisis in Europe will depend on the forces at work in reshaping the economy.

The dominant players, so far, are large firms with international systems of production, operating in the pursuit of short term profits, market power, financial rents. Their responses to the crisis so far have included drastic downsizing and plant closing; reduction of R&D, innovation and investment; concentration of production in the areas of greater strength and in the sectors of core businesses; consolidation and acquisitions, leading to more oligopolistic market structures; a further wave of international relocation of production towards industrialising countries with cost advantages and a large potential for growth in domestic markets. Their decisions - in manufacturing and well as in services - affect the possibility of economic recovery, the viability of suppliers and local economies, the opportunities for employment, professional qualifications and wages.

Large firms' strategies do not question the traditional industrial model based on technologies and productions with heavy environmental impacts - in terms of use of energy and materials, pollution and consequences on climate change. Even the attention paid to the Copenhagen Conference on Climate Change is not leading to a reconsideration of the environmental quality of outputs and of production processes.

In a context where European macroeconomic policies resist pressures to stimulate new demand and redistribute income towards wages and the more vulnerable social groups, a rapid return to economic growth is unlikely, with depression-like effects on the real economy. If decisions are left to economic players alone, the aftermath of the crisis in Europe is likely to be marked a permanent loss of production and jobs, a reduced ability to develop new technologies and economic activities, a more internationalised and polarised industrial structure. Weak countries, regions, industries and firms are likely to become weaker in terms of production, employment and incomes. Europe would be stuck in a traditional economic trajectory with old products, low innovation, slow demand, heavy environmental impact and growing inequality, while other countries may move quickly into new activities with high innovation, fast growing markets and environmentally friendly productions.

There is no need, however, to accept such an outcome as inevitable. The twin challenges of the crisis and the need to build a "greener" economy represent an opportunity for orienting economic change towards more desirable and sustainable directions. The tools for achieving such change are simple, well known and effective - *industrial and innovation policies*. In Europe, they have shaped the highly successful expansion of industrial production from the 1950s to the 1970s. In new industrial countries they are combining public and private efforts to develop knowledge, acquire technologies, invest in new activities, expand foreign markets.

Industrial and innovation policies, however, fell out of fashion in Europe in the last two decades, when governments largely left to markets - that is, to large multinational firms - decisions on the evolution of the economy, with waves of liberalisations and privatisation of public enterprises. The argument of such neoliberal policies was that markets are able to operate efficiently both in the short term - in the allocation of given resources - and in the long term - when the challenge is developing new activities, resources and markets. Policies lost their selectivity and were limited to automatic mechanisms, such as across-the-board tax incentives for R&D and acquisition of new machinery, or incentives to producers and consumers of major goods (such as cars). The result has been no change in the direction of industrial change.

Decisions on the future of the industrial structure in Europe have to be brought back into the public domain. A new generation of policies have to overcome the limitations and failures of past experiences - such as collusive practices between political and economic power, heavy bureaucracy, lack of accountability and entrepreneurship. They have to be creative and selective, with mechanisms of decision making on the priorities for using public resources that are more democratic, inclusive of different social interests, open to civil society and trade union voices. They have to introduce new institutions and economic agents, new rules and business practices that may ensure an effective and efficient implementation of such policies.

The general principles for industrial and innovation policies are simple enough. They should favour the evolution of knowledge, technologies and economic activities towards directions that improve economic performances, social conditions - addressing needs and increasing equity - and environmental sustainability. They should favour activities and industries characterised by learning processes, rapid technological change, scale and scope economies and a strong growth of demand and productivity. An obvious list would include activities centred on knowledge and ICTs, the environment and energy, health and welfare.

Industrial and innovation policies can rely on different policy tools. On the supply side, public funds could support selected R&D, innovation and investment efforts. Public and private institutions could support business start-ups in key fields with credits and venture capital. A new role could be played by public and community enterprises in fields - such as knowledge-based activities, environmental and local services - where public goods and public procurement are prevalent. On the demand side, far-sighted public procurement, the organisation and regulation of markets with high growth potential, support and incentives for early users on new technologies could help "pull" innovation and investments, shifting production and consumption towards more sustainable patterns. Finally, policies have to build closer relationships among all actors of national systems - firms, financial institutions, universities and policy makers - helping to coordinate decisions of public and private actors.

The policy framework should reconstruct a virtuous relationship between the generation and use of knowledge, research, innovation, investment and production, that is centred on a view of knowledge as a (largely) public good. Innovation rely on open, shared knowledge, that has to be supported by basic research, largely carried out in universities and public R&D centres, funded by public money; as publicly accessible knowledge bases expand, the protection of private intellectual property rights should be relaxed. Investment in new fields is marked by uncertainty and has to rely on public intervention for orienting the evolution of standards, markets and procurement, access to finance, coordination among competitive producers and, when necessary, with public enterprises carrying out production and providing services.

Policies should not be confined to the supply side alone. They could "empower the users", letting them define specific applications of existing technologies that may lead to the development of new goods and services with large markets. Public demand could direct research and investment decisions in fields such as environmentally friendly productions, renewable energy, information technology,

communications, the health sector and social services. Clear priorities for these policies include the following activities.

Knowledge and ICTs. Current change is dominated by the diffusion throughout the economy of the paradigm based on information and communication technologies; its potential for wider applications, higher productivity and lower prices, new goods and social benefits should be supported. However, ICTs and web-based activities are reshaping the boundaries between the economic and social spheres, as the success of open source software, copyleft, wikipedia, peer-to-peer clearly show. Policies should encourage the practice of innovation as a social, cooperative and open process, easing the rules on the access and sharing of knowledge, rather than enforcing and restricting the intellectual property rules designed for a previous technological era.

Environment and energy. The Copenhagen Conference on Climate Change has shown how important is to re-orient the current industrial model towards environmental sustainability. The technological paradigm of the future may be based on "green" products, processes and social organisations, that use much less energy, resources and land, have a much lighter effect on climate and eco-systems, move to renewable energy sources, organise transport systems beyond the dominance of cars, rely on the repair and maintenance of existing goods and infrastructures, protect nature and the Earth. Such a perspective raises enormous opportunities for research, innovation and new economic and social activities; a new set of coherent policies should address these complex, long-term challenges.

Health and welfare. Europe is an aging continent with the best health system in the world, rooted in its nature of a public service outside the market. Advances in care systems, instrumentation, biotechnologies, genetics and drug research have to be supported and regulated considering their ethical and social consequences (as in the cases of GMOs, cloning, access to drugs in developing countries, etc.). Social innovation may spread in welfare services with a greater role of citizens, users and non-profit organisations, renewed public provision and new forms of self-organisation of communities.

All these fields are characterised by labour intensive production processes and by a requirement of medium and high skills; innovation in such activities may lead to new products and services that expand output and "good" jobs; new processes may increase efficiency by reducing materials and energy use more than labour. The result would be a wave of technological and industrial change that is "employment-friendly" and capable to reduce current unemployment.

Governments and the EU should devote to these policies much larger resources - probably twice, on average, as much as is currently done; deficit spending for these purposes should be allowed, bypassing the constraints of the European Monetary Union Treaties, because such efforts provide a new foundation for European economic strength.

Part of the resources can be provided by a national tax system that should be adjusted to reflect the new priorities for policy, shifting the tax burden from labour to activities with high use of non renewable resources (land, energy, materials, etc.), including a carbon tax and higher VAT rates on selected goods that would provide clear incentives to shift to sustainable technologies and products. Personal taxation should include more progressive tax rates on higher incomes and a wealth tax on the richest social groups.

Part of the funds for industrial and innovation policies could be raised through targeted public debt. At the EU level, proposal have been made for financing EU projects through the emission of Union bonds,

guaranteed by the EU budget; a role of the European Central Bank in such efforts should also be considered.

At the national level, governments could set up Agencies funded by public bonds (that may pay an interest above that of Treasury bills) with the mission to provide venture capital, minority stakes, investment credits and R&D support to new activities in the above fields. More funds may come also from the banking sector that could be invited to participate to such new financing programmes. Once these new economic activities will start growing in European countries, private equity and lending may flow rapidly, and the public role could then be reduced.

These new approaches to industrial and innovation policies could play a key role for pulling Europe out of the current crisis. The politics behind such new departure has to be based on a wide social consensus over the distribution of the productivity and welfare gains deriving from new technologies and economic activities. In the past decades, firms have largely benefitted from higher profits and financial rents. Now, workers and citizens should obtain the benefits of new secure jobs, higher real wages, greater economic and social rights and a better quality of work and life.

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