Introduction

The 2008 financial crisis is significant not only from the point of view of the deep recession it has generated, but also because of the problems in the governance of the economy it has revealed. It is an extraordinary opportunity to change the governance of the economy and the way economists represent it.

The aim of this book is to reflect on the lessons that can be drawn from the crisis for the analysis, definition and implementation of industrial policy. We do not propose new rules for the economy or new forms of capitalism, but we do suggest a research programme for a new approach to the analysis of industrial development. This approach centres around an analysis of the organisation of production and stresses the importance of industrial development for the wealth of nations, taken to mean not only rising income, but also civil development (the wider goals of economic development considered by classical authors). We thus suggest that returning to a political economy framework may be extremely useful for economic analysis.

This book is not a review of the work of classical economists, which we would only perform badly because we are not economic historians. However, we use classical works in order to define a framework for the analysis of industrial policy. In this book, we define industry as the capacity to organise production, to transform inputs into outputs. We do not reduce industry to manufacturing but consider industry as all productive sectors, including agriculture, manufacturing and services. This is important not only because many goods are now bundled with services in their production (firms in the manufacturing sector extensively using business services), but also because considering all value production is important.

Industrial policy has various definitions in the literature. Broadly, two types of definitions can be identified. One is restricted and considers industrial policy as selective interventions that favour specific firms or specific domestic industries. These intervention policies

generally distort competition by favouring some firms at the expense of others. Wider definitions also exist that consider industrial policy as a set of instruments promoting industrial restructuring and industrial development. Promoting industrial development supports the emergence of new industries, be they science-based or based on other types of innovations (such as new goods or new design), and helps older industries restructure.

We consider industrial policy in a broad sense, not only because it aims to correct market failures and promote industrial change, but also because it is envisaged as a strategic policy, which is essential to broader economic growth and also to social and civil development. Industrial policy is not about picking winners and protecting them so that they can be competitive. It is about defining a vision of industrial development and determining the rules and resources that can best channel this development. We thus adopt a holistic approach to industrial policy decision-making. Industrial development occurs in a complex web of interactions between different spheres of the economy. As a result of globalisation the economy has become even more complex, with firms organising worldwide production processes and interacting in a variety of ways in overlapping networks.

Industrial policy before the crisis consisted of a set of actions in various fields, including trade, competition, research and technological development, implemented at regional, national and supranational level, that provided conditions for business to prosper. The problem was that the different actions tended to lack coherence because of a lack of long-term vision. Industrial policy after the crisis primarily consists of defining this vision at the political level so that the set of actions that are pursued become complementary and integrated, putting the economy in a coherent and sustainable industrial development path. In order to define this long-term vision, a holistic approach is necessary that considers the whole system in which a particular industry or region is part. Such a comprehensive approach can identify a coherent industrial development path and the appropriate levers to promote such development.

Given this background, we argue in the book that the major implications of the 2008 financial crisis, in terms of industrial development, are for the dominant regulation model. The crisis revealed this model as inadequate to face the deep structural changes that have been occurring since the 1980s, often summarised in the term ‘globalisation’.

Globalisation is not only an economic phenomenon whereby financial flows, trade of goods and services and foreign direct investment rise on a worldwide basis. It is also, and primarily, a political phenomenon whereby the bipolar world of the post-World War II era, dominated by US hegemony, no longer exists. Globalisation is clearing the scene for a multipolar world where many powers of the past return: China, India, Brazil and Russia (although the latter was, as the Union of Soviet Socialist Republics, one of the two world powers of the post-war era). China particularly is growing in strength and influence and is expected to overtake the US and become the biggest economic power within ten to 20 years¹ (O'Neill and Stupnyski, 2009).

The emergence of new powerful economies will undermine the 'old' powers' economic dominance. More fundamentally, the rise of new powers may also lead to questions about the system of values on which the Western world is built and rooted. Democracy, respect for human rights, fair trade, health and fair standards of living for the whole population, are the pillars of the Western world.

China has a long history, a strong tradition and specific values, but the key question raised by its emergence as the biggest world power is what values it will directly or indirectly impose on the rest of the world. China has gained a strong competitive advantage essentially by maintaining very low production costs, supported by poor working conditions. As shown by Rodrik (2008), Western consumers, when informed about the labour and social conditions supporting particular goods' quality and prices, are not willing to sacrifice ethical values for lower prices. Can we sustain trade with Chinese products manufactured by workers in poor conditions with long hours and very low salaries? Taken in a broad sense, industrial policy is also concerned with these issues.

In this context, political and ethical values can no longer be ignored by economists advising policymakers. This is what Robbins was already emphasising at the beginning of the 1980s (Robbins, 1981). Industrial policy as a long-term vision of industrial development needs to ease these structural changes and make development sustainable – that is socially and environmentally coherent.

Seen as the rise of new powers, globalisation has had deep structural effects on industries. Competition has become more intense with new rivals challenging existing market incumbents. As explained in Chapter 2, this has induced production re-organisation

whereby production processes have become more intensive users of intangible assets, primarily knowledge, together with the spatial fragmentation of production phases – not only between different firms, in networks of suppliers, but also between different geographical spaces, with different suppliers located in different parts of the world. The creation of ‘global value chains’ or ‘global production networks’ is a structural change that has important implications for the competitiveness of industry in different countries, and has, especially since the beginning of the century, started new debates on industrial policy (Bianchi and Labory, 2006b).

Therefore, beyond the macroeconomic mechanisms at play in the 2008 financial crisis, deeper roots can be found in the structural changes in industry over the last 20 years; changes that have not been properly addressed by the dominant regulatory model of neo-liberalism. As we show in Chapter 1, the crisis revealed that the capacity of markets to self-regulate is limited, with excessive short-termism leading to increasing stress in the world economic system, and ultimately to the crisis.

In economics, the long-term is seen as a logical time period where all adjustments are automatic, so the questions of how and when adjustment processes take place can be ignored. In fact, adjustment processes take time and involve different costs that must be examined to formulate appropriate industrial policies. Short-term macroeconomic stabilisation is not sufficient to make structural changes sustainable.

Industrial development has profound implications not only on economic growth, measured by real gross domestic product (GDP) increases and improvements in income levels, but also on the living conditions of citizens. Individuals’ nature of work determines their income, their capacity to learn, their open-mindedness, and brings about social improvements; their capacity to learn determines cultural development. The fact that people learn new skills, new ways of working, get higher income, and access different types of products and services, all have social, economic and political consequences. In turn, industrial development is determined by the characteristics of societies. To give a straightforward example, in societies with strong class or ethnic divisions, where certain classes or ethnicities may be precluded from access to education or other public goods, industrial development may arise but be confined to certain parts of society and not use all resources in the country fully.

So industrial and economic development should be seen as instruments for cultural and social development, which is what classical authors such as Adam Smith had in mind. In this perspective, the current debate on justice and happiness – on what should be the appropriate measures of the development level of countries – is highly relevant. This wider view implies that the sustainability of industrial development, in the sense of social cohesion and environmental preservation for future generations, is important to take into account.

The work of classical economists is also useful to analyse the structural changes induced by globalisation, as we show in Chapter 3. The organisation of production is labour division. The division of labour depends on the extent of the market and thus upon capital accumulation. The division of labour increases labour productivity because the dexterity of workers improves, there are time savings from specialisation, and specific machinery is invented. Smith, in *The Wealth of Nations*, gives examples of the division of labour within firms but ‘some of the activities which were originally a part of the division of labour within the firm may eventually become a different “trade” or “business”, so that the division of labour within the firm is but a step towards the division of labour amongst firms’ (Heinz and Salvadori, 2003, p. 111). The division of labour proceeds within and between firms, and in the process new ‘trades’ are created. New technical knowledge is constantly created and scientific knowledge is increasingly used in the production process, opening new markets and enlarging existing ones, thereby acting as the driving force of economic and social development.

The changing division of labour has deep social and political implications. The nature of work changes so that workers may have to develop new skills, particularly their capacity to communicate to others and work with others. Their status in society may also change as a result. For instance, if a large parts of workers are employed on short-term contracts rather than permanent contracts not only does their well-being change (as they face more uncertainty about their future income and cannot realise long-term plans, such as building a family) but also their social status changes. The decision of a firm to delocalise part of the production process has implications on the local community, which may find itself facing a high unemployment rate.

Thus the decisions made by firms have important social and

political implications. This fact raises two issues. First, governments should care about what firms decide and what the implications are for local and national communities. Second, firms should be viewed as political entities and not merely private players. When a firm decides to drop waste into a river near its factory it may not take the external cost of its activity into account, but it is making a political decision to ruin the local environment and adversely affect future generations.

A holistic approach to industrial policy therefore primarily addresses systemic failures in economic development, that is failures of the economic system that lead to inappropriate development paths.² Market and government failures are also taken into account, in that specific measures may be adopted to address specific failures of the market and to provide appropriate incentives for all actors to support the industrial strategy. However, an additional aim of a holistic approach to industrial policy is to provide coherence to the different actions implemented in different areas and at different levels, thanks to the political definition of a long-term vision, which is translated into a long-term strategy for industrial development.

The book is structured as follows. The first chapter analyses the crisis and its implications for industrial development and industrial policy. The chapter argues that what the crisis reveals most vividly is the need for long-term visions to govern the economy; that markets do not self-regulate; and that the crisis has deep structural roots and is not just an accident causing superficial injuries that will heal to leave the world as it was before.

The second chapter examines these structural changes in more detail, looking deep into the system and the organisation of production. An analysis of what 'globalisation' is and implies for industrial systems is undertaken, showing the transformation of productive organisations. The phenomenon of global value chains or 'second unbundling' in the words of Baldwin (2006) is shown to constitute one of the most important such structural changes. We relate this change to the consolidation of the knowledge-based economy and the growing importance of intangible assets. We conclude from this chapter that the economy forms a complex system where all sectors are interrelated to different degrees. The organisation of production is a fundamental aspect that needs to be analysed in order to understand this complexity and to point out where markets may not always automatically generate equilibrium.

Given these structural elements, the third chapter starts formulating a political economy framework for the analysis of industrial policy, or at least a research programme aiming at this formulation. For this purpose, we go back to an analysis of Adam Smith centred on the role of labour division in industrial and economic development, where *The wealth of nations* is primarily determined by the division of labour, in the sense of the organisation of production and the distribution of working activities between all members in a society. We argue that the second unbundling can be analysed in terms of changing labour division, extending the study made by Smith of production processes in his pin factory metaphor. We also argue that these changing production processes result from globalisation and the consequent intensification of worldwide competition, implying the necessity for a higher knowledge content of products and production processes that more intensively use intangible assets. We suggest that more research is needed on production processes in order both to define which tasks are more and less likely to be offshored, and to check whether non-‘offshorable’ tasks are those more intensive in intangible assets and producing more value added.

The fourth chapter consequently develops a framework for industrial policy as a long-term vision of industrial development. We show the limits of the view of industrial policy as correcting specific failures (although this is useful), essentially because this approach leads to a fragmentation of industrial policy actions without comprehensive and integrated objectives for industrial development. The approach based on systemic failures is less limited, given that development is considered as occurring in systemic and dynamic processes.

We identify four major levers that industrial policy after the crisis should take into account. These are resources (especially human capital), entitlements (rights or capabilities in Sen’s wording), innovation (as a dynamic element of development) and territory (embeddedness of development processes within communities, in the sense of regional and social cohesion).³ All these levers should be included in the long-term strategy of industrial development, at the different levels of implementation. Coherence is therefore key to defining a successful vision; coherence not only between the different areas of action, but also between the different levels of implementation (local, regional, national and supranational).

Industrial policy is then a dynamic process whereby policymakers

identify possible industrial development paths and define gears and levers to orientate development in appropriate ways. The dynamics of the framework we propose in Chapter 4 is determined essentially by the learning capacity of the system, in turn determined by social mechanisms underlying work organisation and labour. Policy has an important role to play in favouring the dynamics of the system, by providing entitlements and provisions, implementing actions towards the territory (determining its capacity to valorise competencies and skills) and innovation (actions favouring knowledge creation) which all affect the individual and collective learning capacity of the system. These actions in turn influence the “skill, dexterity and judgment” of labour and the evolution of production organisation.

The fifth chapter illustrates the framework in a number of country cases, namely China (and the Shenzhen region in particular), Brazil (very briefly), South Africa and two European countries, Ireland and Finland, interesting for the very rapid economic growth they experienced in the 1990s, although with very different approaches to industrial policy. In each case the long-term vision of industrial development (or lack of) is shown, together with the main elements of the strategy, concluding with an assessment of its completeness and coherence, as well as its sustainability.

The sixth and last chapter analyses the European experience of industrial policy. It shows that the European integration process has, from its beginning, been guided by a long-term vision of industrial development where the economic integration process itself has been proposed as the main industrial policy for members of the European Community, now European Union (EU). The chapter also analyses the programme of industrial development that was proposed at the beginning of the twenty-first century in the Lisbon Strategy, and shows how it constituted an industrial policy in the sense we intend. However, the lack of political commitment that has characterised the attitude of member states since the end of the 1990s has led to the failure of the Lisbon Strategy. We conclude that the new strategy defined for the period 2010 to 2020 could, if member states truly adhered to it, constitute a new industrial policy project that, mobilises national industrial development and the pursuit of the economic integration process. However, recent post-crisis events, and in particular the attitude of eurozone countries facing the Greek crisis, raises doubts about the EU’s ability to end the crisis and mobilise itself to remain a world economic power.

We therefore suggest that going back to a political economy framework which, in the words of Dahrendorf (2008), takes into account entitlements and not only provisions (see Chapter 4), would be useful to improve the capacity of economies to avoid crises. We therefore add a (modest) contribution to calls that have been made by some of the most prominent economists since the beginning of the crisis for a return to a political economy framework for economic analysis. Thus Stiglitz (2010) argues that we have to change capitalism, returning to moral responsibility, trust and collective action. Fitoussi and Laurent (2008) call for a return to a political economy framework to design sustainable economic policies. Rodrik (2008) also calls for a consideration of the political space in order to design appropriate development policies.

Our aim in this book is to relate the analysis of the actual crisis, the consideration of production organisation as central to the understanding of economic phenomena, and the role of the state in globalisation. In our view the fundamental link lies in people. In fact, in the 1990s much stress was put on the importance of knowledge in economic phenomena. What we wish to underline is that knowledge means people: people living in institutional and social contexts, that can be modified by public action either to restrict the rights and freedom or to valorise their capacities and competencies and their rights.

NOTES

1. See for example, Global Economics Paper no. 192 by Goldman Sachs (J. O'Neill and A. Stupaytska) (2009).
2. The concept of systemic failures has been defined in evolutionary theory to denote the failures of innovation systems (Von Tunzelmann, 2010). We consider here systemic failures in the whole economic system.
3. See proposed the concept of capabilities, focusing on positive freedom, in the book *Poverty and Famines: an Essay on Entitlement and Deprivation* (1981).