

Document de travail

RE-INDUSTRIALISING THE EUROZONE

Jean-Luc Gaffard
OFCE and SKEMA Business School



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Abstract

Real divergences in economic performances that emerge between countries belonging to the eurozone make it necessary to define an economic policy oriented toward a re-industrialization of some regions in Europe. In a world characterised by irreversibility of investment and imperfection of market information, supply reforms should consist in establishing a framework aimed at supporting both competition and cooperation between the various players of innovation, and thus allowing firms' strategies to be successful. This requires reconsidering both national and European policies that are growth-enhancing, that is, competition policy, labour policy, regional policy, but also industrial policy that takes the form of large public programmes. However, any change in the industrial landscape in Europe will only be possible if a new macroeconomic policy prevents inappropriate destruction of productive capacities.

Re-industrialising the Eurozone¹

Jean-Luc Gaffard
OFCE
SKEMA Business School

1. Why and how should the eurozone be re-industrialised?

Advanced economies are confronted with a huge structural change due to the globalisation of the market economy. This change has been accompanied by delocalisation, deindustrialisation, and jobs destruction which, in some countries, has revived calls for industrial policy intervention. Fundamentally, the reason for such a revival is that globalisation, increased international competition, and a strong euro, all reduce the time or the margin firms have to gather the information and mobilise the resources necessary to successfully stay in the market, leading firms to favour public intervention. Industrial policy becomes a fashionable topic whenever market conditions tighten and firms find themselves under stress.

Moreover, the eurozone is confronted with an unexpected difficulty: the increasing divergence in real terms within the European Union between surplus and deficit countries, while industry represents more than 75% of R&D and more than 75% of exports. This situation feeds the obsession with competitiveness justifying calls for supply-side reforms, while the real sources of competitiveness are not really identified.

Before considering what kind of policy firms need, it is necessary to identify the nature of the difficulties that emerge between countries belonging to the eurozone, why industry is at the heart of these difficulties, and which are the strategic and policy differences between countries that explain them. A new analytical framework will then be contemplated, aimed at showing that, in a world characterised by irreversibility of investment and imperfection of market information, only restrictive practices – that is to say cooperative agreements – will allow firms' growth strategies to be successful. This makes it possible to revisit both the objectives and the channels of industrial policies. This paper will conclude by considering the European challenge that implies the need to reconcile the goals and instruments of macroeconomic policy with the re-industrialisation of the eurozone.

2. Real divergences

The main point that should be stressed at the European level is the real divergence in terms of economic performance (growth rate, unemployment, trade balance) between the two major players,

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France and Germany. This divergence is taking place in a context characterised by a sluggish final demand, involving a more intense struggle for market shares among firms, particularly in the manufacturing sector. It reveals the existence of strategic and policy differences that may provide information about the good and bad practices.

Cost issues

Germany is characterised by a dense and stable group of medium-sized firms (16,000 firms with between 500 and 5,000 employees). Production segments are outsourced to low-cost countries with highly qualified employees, so that real wage costs (taking into account the labour costs of countries in Eastern Europe) are about 20% lower than those of other countries in the euro area. Furthermore, as many industrial jobs are created as outsourced jobs.

In France, large firms that specialise in a specific area – aeronautics, energy, environment, luxury goods, etc. – perform exceptionally well on global markets. When they relocate some part of their business, it is to less-developed countries most often characterised by low wages and low skills. On the other hand, there are too few medium-sized firms (4,000 firms between 500 and 5,000 employees), and successful SMEs are rapidly sold and acquired by large firms when they should instead be allowed to grow without losing their identity. The consequence is that firms belonging to large segments of industry are more sensitive to price competition.

Over the past decade unit labour costs rose much faster than average in credit boom countries like Greece and Spain. In France and Italy, unit labour costs rose when wages grew faster than productivity. In Germany, outsourcing to foreign countries, weak domestic demand, and wage restraint meant that costs remained more or less flat. The resulting loss of competitiveness of peripheral countries is among the causes of the crisis.

The internal devaluation triggered by the crisis has stopped the divergence process, and in some cases reversed it. For example, in Spain, unemployment and fiscal consolidation led to a drop in real wages. This drop and the substantial increase in productivity have made Spain more competitive in comparison to its European partners, particularly France. The country's trade deficit has been substantially reduced due to the decreased imports as a result of the drop in economic activity but also due to rising exports.

Strategic oppositions

Differences between France and Germany in terms of firms' turnover and performance on the export market can be explained by the differences between firms' strategies and the divergent industrial policies characterising both countries.

During the 1990s, in manufacturing sector, the total firm turnover (entry plus exit rates) was about 3% in Germany, while it was around 11% in France. Moreover, firm exit (6.5%) outpaced firm entry

(4.5%) in France, while Germany experienced a more balanced pattern (Bartelsman et al. 2004). Entry and exit rates are positively correlated in Germany, while they are negatively correlated in France. This can be interpreted as meaning that the creative destruction process is predominant in Germany, while sector profit shock is predominant in France. However, another interpretation is possible: that in Germany market structures are more or less stabilised and investment behaviours are more or less co-ordinated, while more turbulences persist in France, revealing a weaker degree of co-ordination within industries which affect firms' performance. In the German case, as a result of better coordination between the various players of innovation processes (firms, banks, and workers), the restructuring process boosts productivity and employment. An analysis that puts investment behaviour and coordination at the centre of the industrial dynamic process will be further developed, this being consistent with the patterns observed in France and in Germany.

The export participation rate (44% against 72%) and mean export intensity (40% against 21%) are further differences between Germany and France. It indicates that in France there are lower barriers to entry, but stronger barriers to growth in export markets.

When it comes to the orientation of industrial policies in each country, strong differences can be observed. State aid as a percentage of GDP is much higher in Germany than in France (horizontal objectives: 54.4% against 33.5%; total: 90.5% against 56.4%); it is more oriented towards the environment (31.7% against 0.6%), and regional aid (11.8% against 6.3%), and less towards employment (0.6% against 6.7%), R&D (6.7% against 8.0%), and SMEs (2.0% against 7.9%). In fact, both environmental and regional aids are aimed at creating market information and market conditions that help firms to invest by reducing uncertainty. Whereas France spends four times as much as Germany on policies supporting SMEs and ten times as much on supporting employment, net job creation has remained significantly lower in France. However, it should also be noted that Germany's performance in terms of job creation has not yet reached that of the US and the UK.

It is worth mentioning the real impact of labour market reform in Germany. A recent study (Carlin and Soskice 2007) argues that the long period of high unemployment in Germany could be largely an aggregate demand phenomenon. It also shows that the German model of employee representation and protection, the apprenticeship system and the collective bargaining continue to operate most strongly in the export sectors. These reforms have not been oriented in the direction of a more flexible labour market as is usually understood in the contemporary debate. The most notable change has been the extent to which chairs of works councils (elected by employees) have been brought into the *de facto* co-management of large companies. It has largely been obtained by direct negotiation between business associations and labour unions.

In contrast to Germany, France has not elaborated a fully coherent industrial policy framework. Only a recent policy aimed at sustaining the development of local clusters may appear as a step in the right

direction insofar as it promotes cooperation between small and large firms, and between firms and research groups. What differentiates the two countries are both the channels and the level of public intervention. The divergence between France and Germany developed against the background of a wider process of divergence between the centre and the periphery of the eurozone.

Barriers to entry and barriers to growth

Recent literature focuses on the incentives to innovate, which would be determined by the nature and the strength of the barriers to entry. Contrary to common wisdom, available data do not reveal any problems with entrepreneurship in countries like France. The turnover rate in France is relatively high, mainly in manufacturing (Bartelsman et al. 2005).

Rather, it is likely that the main problem faced by French firms lies not in the existence of barriers to entry, but in the existence of barriers to growth.

The observed patterns of firm demographics and survival may help in clarifying the debate. Firm size distribution has both a sector and a country component, with the latter playing a more prominent role in explaining cross-country differences in overall size. There are no large differences in firm turnover across countries, once differences in sector composition of the economy are taken into account, and there are no large differences in firm rate of survival 7 years after birth. But post-entry growth of survivors is much stronger in some countries, like the US, than in others (Bartelsman et al. 2005).

In the case of France, for example, the percentage deviation from average sized firms with more than 20 employees as a function of sector specialisation is -0.22%. France's specialisation should lead to larger firms (+0.06% in sectors with large volumes of production), however its firms remain small (-0.21%).

These findings suggest that barriers to growth are much more significant than barriers to entry in explaining differences in performance across countries. These barriers could be attributed to the existence of sunk costs, and to the difficulty of coping with them. Therefore, there are reasons to believe that enhancing the ability of new and old firms to invest and grow would be much more decisive than incentives for the creation of new firms and for these to enter the market.

According to recent studies, the size distribution for a given group of firms exhibits a significant skew to the right, suggesting the presence of a large mass of small firms. Thus, the combination of sunk costs in setting-up a new business and of high uncertainty leads firms to start small and to expand once they are established on the market. In other words, some firms are small because they are financially constrained, while in a later phase, financial constraints cease to be binding and these firms will grow to their optimal size (Cabral and Mata 2003). Differences between countries in terms of firms' size distribution would then be revealed in conditions of financial growth.

Thus, as is the case for French manufacturing firms, financial constraints significantly increase the probability of exiting the market; access to external financial resources has a positive effect on firms'

growth in terms of sales, capital stock, and employment; and financial constraints are positively correlated with productivity growth in the short run (Musso and Schiavo 2008).

Nevertheless, the productivity path is U shaped for French manufacturing firms entering export markets – in fact, total factor productivity decreases prior to entry. This suggests that time to build constraints that generate sunk costs is responsible for this decrease in the productivity of new exporters. The difficulty of coping with these constraints could explain the low export intensity in the case of French exporters (Bellone et al. 2007).

The role of financial constraints is puzzling. On the one hand, they must not be too tight and should allow firms to grow. On the other hand, they discipline competition between firms by preventing them from excessive investment with respect to the size of the market. In any case, the main challenge being faced by firms is the reduction of the barriers to growth, such as the barriers to converge towards a sort of natural market structure, which allows firms to capture productivity gains.

3. Innovation and competition

Re-industrialising the eurozone and re-establishing the trade equilibrium require the real sources of firms' competitiveness to be identified. While most of the discussion around industrial policy consists in determining the outcomes, which correspond to different information structures, and results in directing policy-makers to liberalise all markets, this paper intends to explore how firms may gain access to the relevant market information and will reveal what really are the market forces.

Information and co-ordination

Barriers to growth cannot be assimilated to barriers to entry. Firms are not only concerned with incentives issues in industries that are meant to be fully co-ordinated on a good or a bad equilibrium. They have to face co-ordination failures, as market imbalances and financial constraints hamper their ability to grow.

For a process of growth to take place, investments must be planned and carried to completion. After a phase of construction, this will result in a new productive capacity, to be matched by a corresponding demand for final output. As Richardson put it (1960), the profitability of firms' investment, and hence its growth rate, will depend on how it will obtain sufficient information on which to base its investment decision. A specific problem of co-ordination is then involved, due to the existence of two delays: the delay of gestation of investment and the delay of transmission of market information. On the one hand, investment represents a firm commitment, and this commitment will give rise to an additional output only after a certain interval of time has elapsed. On the other hand, entrepreneurs will learn about the commitments of others and also about the needs of customers only after a certain period of time. Concretely, the marketing of a new product will take time and, of course, money. As demand for it grows, productive capacity will have to be enlarged. In general, manufactured products

will gain in market share only gradually, as their merits become apparent and as the capacity to produce them is developed. During this period, rival offerings (and old products) will still be on the market and their lifespan may be prolonged somewhat by price reductions which help to offset their disadvantages. Meanwhile, a new product will be in development, ready to challenge the one that is gaining ground. Although a new product may be superior to an old one in all respects, the process of replacement is rarely immediate. Heterogeneity of products appears as a critical aspect of industrial dynamics.

Then, being confronted with the irreversibility of investment decisions and the lack of market information, firms will engage in new activities only if they are confident about the degree of coordination between competitors.

Imperfect information and imperfect mobility of resources are at the heart of competition, which is the better device for dealing with these natural imperfections. But, co-ordination through market transactions is only possible by virtue of the existence of circumstances which establish the boundaries, particularly for investment decisions. As Richardson (1960) describes, these enabling circumstances exist naturally (such as differential capabilities or asymmetries of information) or may be contrived through collective action (such as market sharing arrangements). The basic idea is that *“entrepreneurs would have access to the market information they require only if there exist a variety of restraints, of different strength and durability, to which their freedom of action would frequently be subject”* (G.B. Richardson 1960 p. 56). In order to take informed investment decisions, firms require some stability in their environment, and this is provided by these restraints or agreements, of different nature, which permit the industry to converge towards a state of dynamic equilibrium.

All these restraints can be qualified as market failures and may appear to be incompatible with market discipline, which prevents entrepreneurs from reducing both production and investment and from maintaining a rate of profit in excess of the normal level. This is true only from a static viewpoint. From a dynamic viewpoint, it is worth distinguishing between those restraints that help firms to invest and innovate and those that are really harmful and penalise customers, such as attempts to destroy competitors by deliberately operating at a loss or to exclude new entrants by monopolising the supply of an essential factor.

Therefore, the simultaneous co-existence of a number of competing firms, each innovating and producing with increasing returns, depends not on the intensity of competition as measured by the number of firms or by the level of the mark-up, but on the existence of so-called market connections, that is, to some extent, on imperfections that are in the nature of the competition process.

Contrived restraints mainly correspond to agreements that exist in a great variety of forms. Agreements made between firms and their customers. Those that firms make with each other – among them, R&D agreements play an essential role. Of course, they allow firms to share heavy costs of

development but, more fundamentally, they allow firms to share market information, which is made available only step-by-step, with the effect of avoiding an excess of competitive investment.

Firms' competitiveness and market equilibrium

Firms' growth depend on the behaviour of their competitors as well as their suppliers and customers. Thus, firms' growth (and innovation) strategies are successful when investments are well co-ordinated, that is, when a sort of natural market structure is stabilised.

Successful innovation requires a breaking up of the market structure in an early phase, followed in the later phase by a stabilisation of this structure (Amendola, Gaffard 2006, Amendola, Gaffard, Musso 2006). The problem then is not so much to define a given market structure that is assumed optimal and considered as a benchmark, but to put in place a stabilisation process that can lead to different market structures, depending on the evolution of the process itself. Stabilisation means that several firms coexist on the market, market imbalances are progressively dampened, and both competitive and complementary investments are made compatible with each other. This latter situation can be defined as a dynamic equilibrium (Richardson 1998). This is a situation in which competition causes the rate of investment in product development to rise or fall towards the level at which this investment yields only a normal return. It is also a situation in which the prices charged by the firms reflect decreasing average costs so that the benefits from innovation can also be distributed to customers. Finally, this is a situation in which the stability of market shares obtains an average: entries and exits do not change the market structure and appear as a purely random phenomenon. In short, this situation corresponds to dynamic efficiency, and a well-managed process of creative destruction.

Dynamic equilibrium is consistent with the co-existence of a number of competing firms, all of them supplying products for the same general market in conditions of increasing returns. This market supports several firms that remain differentiated not so much because they supply differentiated goods, but because they are each one at a different stage of the life cycle of the innovation process. Several firms live on the market, not only because they cater to different needs, but also because it takes time for new products to gain ground and for old ones to be driven from the field. The so-called natural structure, which is the more efficient one, will depend on the properties of technologies and preferences. What is important is that a dynamic equilibrium may be consistent with the rise and decline of firms within the industry. Furthermore, the rates of entry and exit are positively correlated, which means that there is no significant excess of demand or supply on the market.

These considerations not only qualify a dynamic equilibrium, but also what should be the competitive conditions consistent with the effective gains from innovation and hence with increasing returns. As we have seen, these conditions often come down to market connections (monopolist practices) and new forms of regulation commanding the new inter-industry relationships, that is, imperfect competition. This, however, must be carefully distinguished from market failures. Market failures are

generally defined with respect to the conditions of perfect competition. This implies that they must be corrected by means of specific incentive rules, without any consideration for the fact that the economic process is a time-dependent process. On the contrary, this paper maintains that imperfect competition is a characteristic of any market process and cannot be removed nor systematically corrected. It is a normal state quite often associated with the persistence of rivalry.

Two points must be stressed here. First, the maintenance of a plurality of firms that compete with each other is, in this framework, the best situation both for firms and customers. But, it might be argued that the dynamic equilibrium has nothing to do with perfect or full competition (Richardson 1998). In fact, it corresponds to a natural market structure in the sense that it allows firms to capture all potential gains of productivity. Moreover, innovative firms' competitiveness can go hand-in-hand with stability of market shares. Second, the characteristics of the dynamic equilibrium are unknown before the evolution has taken place. They will be the result of the rivalry between firms under specific restraints. Consequently, policy cannot be devoted to reducing the gap between the existing market structure and this entirely unknown structure. It must be aimed at establishing those conditions that favour the convergence towards the so-called dynamic equilibrium, which are not, in any way, the conditions for full competition.

4. Industrial policy revisited

It is common to oppose sector-based and horizontal policies. Sector-based policies are above all protective policies: these aim at protecting firms in specific sectors exposed to foreign competition from market forces, and therefore to grant them more time to look for and acquire competitive advantages. These are 'traditional' industrial policies that are not very successful in the medium to long run since they do not address the root of the problem. This family might include all kinds of protectionist policies which are increasingly advocated nowadays: entry barriers, trade barriers, currency devaluations, government subsidies, and even import-substitution policies implemented in many countries in the past. Horizontal policies correspond to a broader interpretation of industrial policy. They are aimed at supporting firms engaged in free markets and at favouring market selection. They include antitrust, regulation, and export policies, but also supply-side policies that are concerned with the working of labour and financial markets.

Usual deficiencies

The main issue with industrial policy is regarding the information that is available to policy-makers. According to the standard economic theory, increasing returns to scale, asymmetries of information, and externalities lead to these so-called market failures that pave the way for public intervention. However, how government ought to intervene depends on the characteristics of the industry. These characteristics – technology, preferences, and information asymmetries – are not really known by policy-makers. As a result, many subsidies can be inefficient and may introduce distortions in

competition, harming customers' welfare. This is the main argument against sector-based policies. The problem is that horizontal policies face the same limitations. They are not targeted towards specific sectors, and are aimed at changing the environment for a large group of firms in many sectors. Nevertheless, their efficiency also depends on the ability of policy-makers to know the nature of market failures to be dealt with. In order to fix R&D subsidies, policy-makers have to know the real content of knowledge spillovers, and the potential imperfections in the capital markets' funding of R&D. In order to sustain the accumulation of human capital, they have to know what sorts of market failures are affecting the training of human capital. In order to reduce the gap between the existing market structure and the optimal one, they have to identify the characteristics of the former. Indeed, they do not have access to this kind of information. Finally, from this perspective, the only eligible policy would be the policy that would focus on the working of the different markets, enhancing their liberalisation. In other words, there is no place for an active industrial policy. Competition and regulation policies, supply-side reforms, which are defined with respect to full competition as a benchmark, are instead applied to industrial policy in the narrow sense.

A new view

This paper's perspective is a little bit different, and would like to suggest that industrial policy makes sense not only because there are market failures or market imperfections, but also because believing in full competition as a benchmark is a dangerous obsession, which may turn into waste. As will be explored, industrial policy can (and should) facilitate the working of market forces, but market forces have nothing to do with full competition assimilated to an optimal state of affairs.

Policies oriented to ameliorate industry performances should be aimed at improving market information to firms, creating a more stable environment, and should then help industries to converge towards a dynamic equilibrium. Of course, governments have no more information than the firms do about markets and technologies. But they have the devices that should allow firms to acquire more information about market conditions, helping them to innovate and grow. In other words, even if the government and firms share the same issues with information, the government has different constraints and objectives.

From this perspective, industrial policy, rather than being targeted at sectors or technology, must be an array of horizontal interventions that concern the relations between firms, between firms and their employees, between firms and financial intermediaries, or between firms and public research institutions. This final option is preferable to any other since such intervention does not shield any particular firm or sector, but rather increases the quality of incentives, which are strongly dependent on conditions of co-ordination. Subsidies must not be devoted at supporting national champions or high tech sectors *per se*, but at encouraging cooperation between firms, including, of course, the firms that compete with each other.

Industrial policies should be horizontal. But instead of replicating or re-establishing the conditions of full (perfect) competition as required by those calling for supply-side reforms, they should be aimed at validating restraints that allow firms acquiring market information.

Therefore, policies oriented at innovation, the building of human capital, and exporting, can be designed in terms of helping firms to make choices that might not be immediately profit-maximizing for the single entity, but have positive spillovers for the economic system as a whole since they create information.

Good market policies

Competition plays a central role in the co-ordination process, as it determines the way in which the market information relevant for co-ordination is being made available step-by-step, so that the required adjustments in productive capacity can actually take place. Thus it helps to make this process viable and to obtain the productivity gains deriving from it. In this light, competition is not only aimed at equalising supply and demand in a given market and technological environment, but also has to “*adapt both structure and technology to the fresh opportunities created by expanding markets*” (Richardson 1975, p. 353). Therefore, competition policy cannot be conducted in isolation without considering the distortions that are in the nature of the growth process and the necessity of having some market connections. Instead of targeting any optimal market structure, it must be aimed at enforcing viability (and growth) conditions.

However, policy-makers may be faced with a real dilemma. On the one hand, contrived arrangements help firms to invest and innovate. On the other hand, it is sometimes in the nature of these arrangements that they can be used to shelter inefficiency or extract undue profits. Metcalfe (1998) distinguishes good and bad market imperfections: “*The imperfections identified in the market failure approach, therefore, can be viewed in a different perspective, as integral and necessary aspects of the production and the dissemination of knowledge in a market economy. In this perspective it is surely perverse to call them imperfections. This is, of course, not a new point; for those who have studied Schumpeter they are the natural features of an economic process driven by creative destruction*” (Metcalfe 1998, p. 114). To rule that all imperfections are against the public interest *per se*, denies the existence of the dilemma faced by policy-makers. It is necessary and possible to offer them some practical guidance by seeking to specify the circumstances in which these practices may or may not be justified. The dilemma faced, for example, by anti-trust authorities is that market imperfections are, on the one hand, necessary in order to convince firms to launch innovative investment and, as such, they are not something to be systematically condemned; on the other hand, these imperfections reveal real market failures as they hamper the viability of the innovation process. Fundamentally, competition and regulation policies have to take into account the possible divorce between static and dynamic efficiency, and support restrictive practices that enhance the medium-term efficiency at the expense of

the short-term one. As industrial policies, they must be discretionary policies rather than be reduced to the enforcement of given rules.

Labour market policies

The prevailing view in the literature and in most political circles is that the possibility of hiring and firing freely, and of offering wages at a freely-chosen level, is an incentive to invest and hence favours innovation and growth. As such, labour market policies could figure in an industrial policy.

A theoretical basis to this view focuses on the effect of labour market rigidities, identified by high firing costs, and on long-run productivity and growth (through the effect on the 'structure of innovation'). The argument is that, given that higher levels of productivity are obtained by the firms operating in high tech sectors, and that these firms (and sectors) are characterised by strong turnover and a pronounced creation and destruction of employment, dismissal costs (employment protection) reduce the incentive for investment, technical change and productivity increases, and help to retain human resources in low productivity sectors. This tends to reduce the average rate of productivity in the economy as a whole.

However, the fundamental aspect of a thorough process of innovation is the creation of skills. And, because it increases job tenure and, through this channel, favours on-the-job training, employment protection affects not only employment but also human capital accumulation, and hence productivity and welfare. Then, labour market policies, far from being oriented to the dismantlement of the welfare state, should promote labour market organisation and forms of bargaining between employers and employees that help with adjustment to technological and market changes. It would be more appropriate to reinforce bargaining procedures between employers and employees, and to revise the working of internal labour markets rather than suppress them.

Therefore, the effect of employment security regulation and of the partial reforms recently carried out, which extend to the use of temporary contracts for newly-hired workers leaving employment protection unchanged for permanent workers, and hence make the labour market more flexible, have only favoured a segmentation of this market and the appearance of a new category of workers, namely the 'short-term' workers. This segmentation might even be an obstacle to workers' mobility and growth by preventing voluntary quits from 'solid' jobs. Labour market policies should be designed in order to avoid such segmentation.

Regional policy

Industrial policies have a territorial dimension insofar as there are local learning processes. But, there is no evidence that local or regional governments are better informed than the national government, have a higher degree of competence, or are less easily captured by lobbyists. Moreover, due to information imperfections and political interests, there is no evidence that competition between

countries induces firms to be located wherever they add more value since a government will offer more than another only if the external benefits are larger in the first region than in the second. Competition between regional governments could even be globally inefficient if its main consequence is to ameliorate the performance of a small number of regions at the detriment of all others. Such inequalities would negatively affect global efficiency. The conjecture can be made that the smaller the regions, the more wasteful competition between them will be. This might be so because small regions are more inclined to compete with each other by promoting generic advantages such as tax reductions or set-up subsidies, which reduce the sunk costs that firms have to bear and make setting-up more instable. Larger regions, on the other hand, would be more inclined to promote cooperation between firms within and outside its territory, and to pay subsidies aimed at sustaining large public programmes such as environmental programmes. This might be the reason why there is a tendency towards cooperation between larger regions. The issues to deal with are to build on critical mass, to allow diversification or differentiation, and most of all, to facilitate adjustments to changes affecting technologies and preferences.

Clusters as well as technologies are the result of the innovation process rather than a precondition of it. So policy-makers are faced a dilemma, which concerns both the appropriate level of decision-making and the relevant geographical area of public intervention. There are local externalities, mainly in the form of learning processes, which require defining a relevant geographical perimeter of public intervention. This inevitably interferes with local political interests. So the real issue to be dealt with is about the nature of relations that prevail between regions, and the size of each of them.

5. The European challenge

The main objective of any policy in Europe should be re-establishing the conditions of a convergence in real terms, which means re-establishing a balanced trade between the large European countries, and, thus, re-industrialising some parts of the eurozone. This requires reconsidering both national and European policies that are growth-enhancing, that is, competition policy, labour policy, regional policy, but also industrial policy *stricto sensu*.

First of all, it would be worthwhile to abandon the idea that supply-side reforms making the labour market more flexible in each country would reinforce the competitiveness of each one without damaging global demand and growth at the European level. Instead, supply-side reforms should consist in establishing a policy framework aimed at supporting both competition and cooperation between the various players of innovation processes. This is largely the case in Germany, but not in France and not at the European level. Therefore, other countries in Europe should take advantage of the German experience and revisit their national policies. At the same time, a new European initiative should take the form of large public programmes defined at appropriate geographic levels, that is, levels that permit avoiding the destructive competition between regions or countries, typically

technological programmes in the field of the environment, energy and applied research. The main reason for developing such programmes is that they are transversal both in terms of activities, firms and countries, and they aim at improving market information for firms, creating a more stable environment, making it credible and relevant for these firms to invest. Moreover, each country should be able to benefit from such programmes in terms of development of some segment of industry.

However, any change in the industrial landscape in Europe will only be possible if a new macroeconomic policy is under way. In fact, generalised austerity is going to destroy large segments of industry in Europe. Therefore, even if fiscal consolidation is a necessary part of a rebalancing strategy, it is vital that countries with large surpluses take action to stimulate their domestic demand.

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