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**THE SINGLE MARKET AS A TOOL
TO IMPROVE GROWTH AND ADJUSTMENT IN THE EUROPEAN ECONOMY**

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ABSTRACT

The paper presents the initiative taken within the context of the Single Market Review to step up the monitoring of EU product markets and sectors. It provides the economic and political rationale for the initiative and describes the newly developed approach for the organisation of market monitoring within the EU. The paper presents the outcome of the first stage of the analysis, which includes a screening of sectors to be investigated for market malfunctioning as well as an analysis of the reasons explaining why the market identified function poorly. This analysis is structured along four "policy areas", namely regulation, integration, competition and innovation. It aims at developing a consistent and comprehensive policy strategy attuned to the particular needs of a given sector. 23 sectors have been identified as sectors which are important for growth, jobs and consumers and which present indications of market malfunctioning. While the lack of innovation and inadequate market regulation appear as a cause of market malfunctioning in almost all of the selected sectors, services are more affected by lack of integration and insufficient competition. In particular, there are indications of weak integration and competition in electricity and gas, retail trade, tourism, transport, posts and telecommunications, financial services and business services. In light of these problems it is somewhat disappointing that EU Member States have been less active in implementing reforms in these areas.

JEL classification: F15, L16, L50

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1. INTRODUCTION

Economic integration within the EU has come a long way. The vision of people, goods, services and capital moving around freely within the Single Market has been made a reality in many domains. This has had many positive effects for citizens, consumers and businesses. The estimated gains for the EU economy include an extra 2.2% on GDP and 2.75 million more jobs between 1992 and 2006. However, the initial high hopes – that the Single Market would serve as a catalyst for creating a more dynamic and innovative economy - have not been met.

The Single Market still has significant untapped potential and needs to adapt to a new environment. Over recent years, the pace of European market integration appears to have slowed down. Despite the improvement in the competitive environment, various barriers continue to limit the movement of economic resources to more productive activities. Moreover, the Single Market instruments are not fully effective due to problems of design and implementation. Tackling these shortcomings is increasingly important given that the EU needs to respond adequately to the opportunities and challenges posed by the continuously evolving economic environment driven by the creation of EMU, the progressive EU enlargements, demographic developments and globalisation.

A key change in the Single Market environment since its inception was the introduction of the euro in 1999. The euro reinforces the integration and competition effects of the Single Market by reducing transaction costs and increasing price transparency. Conversely, the Single Market improves the capacity of the euro zone to adjust smoothly to shocks. The ability of prices and wages to respond quickly to shocks, and that of people and capital to move easily within the Single Market, is essential because this allows rapid and market-based adjustments to economic shocks – thus avoiding boom-to-bust cycles in the economy. Moreover, a well functioning Single Market helps the European Central Bank to maintain price stability.

A further development in the Single Market is the increasing importance of service sectors. Services now account for around 70% of employment and value added in the EU, but for only 20% of trade between EU Member States. While the rapid diffusion of Information and Communication Technology (ICT) is opening up new potential for further economic integration in these sectors, it can be lost if significant regulatory barriers to cross-border trade in services remain in place. The removal of such barriers often requires overcoming opposition from special interest groups or even a general public that is unconvinced about the benefits of reform. This underlines the importance of a more evidence-based policy agenda.

European companies are also facing the challenge of globalisation. They are squeezed between the continued dominance of US enterprises in knowledge-intensive industries and the move up in the value chain of their Asian competitors. Evidence suggests that the Single Market has been insufficient as a driver of innovation. Moreover, initial expectations that the Single Market would serve as a catalyst for the development of new areas of specialisation or for an increased presence of European companies in fast growing markets have not been fully met.

Such weaknesses in the functioning of the Single Market cannot simply be resolved by changes in the legal framework. A better knowledge of how markets operate and where the bottlenecks are is essential. This will allow better defining policies to make markets more efficient and European industry more competitive.

The structure of the paper is the following. Section 2 provides some empirical evidence showing that the potential of the Single Market has not been fully exploited and explores why this is the case. Section 3 describes the new approach developed for the organisation of market monitoring within the EU. In section 4 the main results of the horizontal screening are presented. Section 5 investigates the causes of market malfunctioning in sectors identified by the screening. The final section 6 discusses the potential benefits of applying market monitoring as a tool to improve the governance of the Single Market.

2. THE POTENTIAL OF THE SINGLE MARKET NOT FULLY EXPLOITED

Recent empirical evidence shows that the potential of the Internal Market has not been fully exploited.¹

First, the Single Market but also EMU and enlargement have contributed to boost trade, FDI and to increase price convergence in the EU. But the EU remains a less integrated market than the US: trade integration is still 70% lower in the EU than in the US and the price dispersion for tradeables between EU capitals remains higher in the EU than in the US.

Second, the Single Market has contributed to enhance the efficiency of companies and to reduce their market-power. For example, EU companies have tried to benefit from the opportunities offered by the enlarged market by expanding their size and by increasing their presence in other EU Member States. Considerable turbulence in market leadership in EU manufacturing was also observed between 1987 and 2000 and this has led to a reduction in price-cost margins, especially in the sectors most concerned by the removal of the non-tariff barriers targeted by the Single Market Programme. Nevertheless, the business dynamism in the EU remains insufficient. Market entry rates are higher in the US than in most euro area countries and the UK. It is still more difficult to start a new business in most euro-area countries than in the US. Moreover, the growth performance of new entrants is better in the US than in the EU, which is an indication of the remaining barriers affecting firm growth.

Third, while the increase in competition due to the Single Market has helped to foster investment in R&D manufacturing across the EU, this effect has not been sufficient to significantly improve the innovation and productivity performance of the EU. The free flow of knowledge and technologies is also far from being a reality. For example, innovative companies fail to take full advantage of the opportunities given by the Single Market – while around 60% of innovative companies launch new products on national markets, only 25% do so across national borders.

Finally, the consolidation of the Single Market has not allowed to develop new areas of specialisation in high tech sectors as the EU world export market shares in high tech and

¹ Ilzkovitz, F., A. Dierx, V. Kovacs and N. Sousa (2007), Steps towards a deeper economic integration: The Internal Market in the 21st century", *European Economy Economic Papers* No. 271, European Commission, Brussels.

ICT industries continue to be below that of the US. Similarly, the Single Market did not sufficiently stimulate European companies to expand their presence in the fast growing Asian markets.

There are different factors explaining why the potential of the Single Market has not been fully exploited. A first reason is that some of the Single Market rules have not been fully implemented. The incomplete and incorrect application of rules can be illustrated by the high number of infringements cases that the European Commission has had to launch. A second problem is that some instruments are not fully operational. For example, problems with the practical implementation of the mutual recognition principle remain: it is estimated that around 25% of enterprises that rely on this principle when selling goods in other Member States have problems. Similarly, while progress has been made in the opening up of public procurement, only 17% of public procurement is currently open to competition and some activities, notably in the defence sector, are subject to special rules.

Another problem is that some markets remain fragmented. This is particularly the case for services. Trade and cross-border activities in services are clearly less developed than in goods and the price dispersion for consumer services is significantly higher than for goods. Similarly, fiscal barriers continue to create additional compliance costs for European companies having cross-border activities. Results of simulations show that the macro-economic gains of the Single Market could be doubled if most of these remaining barriers were removed. However, as the remaining barriers are more difficult to remove because they touch sensitive issues, as shown by the discussions about the Services Directive, it is all the more important to develop a new approach to the governance of the Single Market.

3. A NEW MARKET-MONITORING TOOL

The European Commission proposed in early 2007 to change the governance of the Single Market, making policies more result-oriented. One of the main elements of these proposals is the introduction of a systematic and integrated approach to market monitoring. By investigating the nature of market malfunctioning in the sectors that are the most important for growth, jobs and adjustment in the EU, it would contribute to putting in place more effective policy instruments. The idea behind this proposal is to promote a new approach towards policymaking which is more based on sound economic evidence.

Ultimately the methodology proposed should become a tool to improve the quality and consistency of product market and sector monitoring both at the EU and the national level, allowing in particular examining in detail the adequacy of horizontal policies for specific sectors/markets and ensuring the consistency of policies for a given market/sector. An effective and systematic product market and sector monitoring should help improve:

- *Policy design:* A methodology allowing a better monitoring of markets would contribute to equip policymakers with a tool to assist (ex-ante and ex-post) the design of policy initiatives aimed at maximising the benefits of the Single Market, both to citizens and companies. The application of this new tool should lead to a more proactive and result oriented approach to policy making by Commission, national governments and other authorities with responsibilities for the well functioning of the Single Market.
- *Policy advocacy:* A better monitoring of markets can help to convince market participants to desist from anti-competitive behaviour and market regulators to carry out the necessary reforms.
- *Policy communication:* A better understanding of what is being done to improve the functioning of goods and services market for the benefit of consumers would help facilitate the communication of the gains from the Single Market for citizens and companies.
- *Policy implementation:* A better policy design, advocacy and communication can help improve the implementation record of Single Market policies.
- *Policy evaluation:* Regular feedback on how markets are working can also inform the Commission and Member States of what impact their actions have.

3.1 A two-stage approach

Building on existing expertise within the Commission and the EU Member States, a two-stage approach to market and sector monitoring has been developed:

1. The *application of a screening device* to select the sectors which deserve special attention for further analysis given their economic and policy importance. This stage would also provide some preliminary indications regarding the causes of market malfunctioning in these sectors, covering issue related to regulation, integration, competition, innovation and consumer welfare. The screening and the first analysis of the causes of market malfunctioning will serve as a basis for a multi-annual programme of in-depth market monitoring exercises.
2. A *more in-depth investigation of particular markets* within the sectors that have been selected in the screening. In order to ensure a minimum of coherence and help improve the quality of the investigations common *guiding principles* for evaluating the functioning of these markets and sectors and for detecting barriers to market functioning were agreed.

Box 1: A two-stage approach to market monitoring

1. Screening at the sectoral level and investigation of causes of market malfunctioning in the sectors identified
2. In-depth investigation of key sectors and markets including an economic and a policy dimension

3.2 Stage one: The sector screening

The first, screening stage is necessary because it helps focus on sectors and markets that are important for growth and adjustment and where there is scope for policy intervention. The aim of this first stage is to adopt a selective approach for the practical use of this policy tool, given the time and resource required by market monitoring exercises. This first layer of examination should be about sectors and not about individual markets. It is not efficient to carry out burdensome market definition exercises without first identifying the priority sectors that may warrant intervention. Time and effort devoted to defining good selection criteria will be rewarded by the greater efficiency of a well focused monitoring exercise, optimising the available resources. The results of the screening should not only make it possible to draw up a short-list of sectors that merit further investigation but should also help to focus the subsequent monitoring by providing a first indication of the nature of the sectors' problems.

For the identification of key sectors for which priority should be given for market monitoring exercises it is proposed to carry out the screening at the two-digit NACE level. This screening will be based on simple and objective criteria that will be examined across all sectors. The exercise should be based on publicly available data and should not involve a great deal of information gathering.

Three selection criteria are used. The first is the economic importance of the sector. The second, novel criterion is the sector's significance for the adjustment capacity of the EU economy. The objective is to identify the sectors that play a pivotal role in fostering smooth adjustment to changing economic conditions. This is done on the basis of three types of indicators measuring: (i) the interlinkages of the sector with the rest of the economy, since the stronger these interlinkages the more important are the repercussions of the performance of the sector on the rest of the economy; (ii) the contribution of the sector to the development, absorption and diffusion of innovative technologies as this helps to promote greater efficiency and competitiveness; and (iii) the contribution of the sector to price adjustment as price stickiness hampers the reallocation of resources across activities and reduces the pass-through of cost reductions to consumers. The third selection criterion is the presence of signs of market malfunctioning. Problems in the functioning of markets lead to inefficiencies in the use of resources which can be translated into low productivity growth and/or low quality of goods and services and/or higher prices. Therefore, the functioning on product market is assessed on the basis of (i) economic efficiency as measured by labour productivity growth and (ii) consumer and businesses satisfaction.

Box 2: Criteria used for sector screening

Three main criteria:

1. Economic importance of the sector
2. Importance of the sector for the adjustment capacity of the EU economy, measured on the basis of:
 - the interlinkages of the sector with the rest of the economy
 - the contribution of the sector to adoption and diffusion of new technologies
 - the contribution of the sector to the transmission of price shocks
3. Signs of market malfunctioning from the perspective of business and consumers:
 - Economic efficiency as measured by labour productivity growth
 - Consumer and business satisfaction

While the purpose of this screening is to select for in-depth monitoring a manageable number of key sectors, this does not mean that a sector should be automatically excluded from the selection on the basis of a single criterion. For example, a sector which is not

economically important but which plays a crucial role for the adjustment capacity of the EU economy and where there are indications of market malfunctioning could be considered for further monitoring.

3.3 Stage one: Investigation of the causes of market malfunctioning

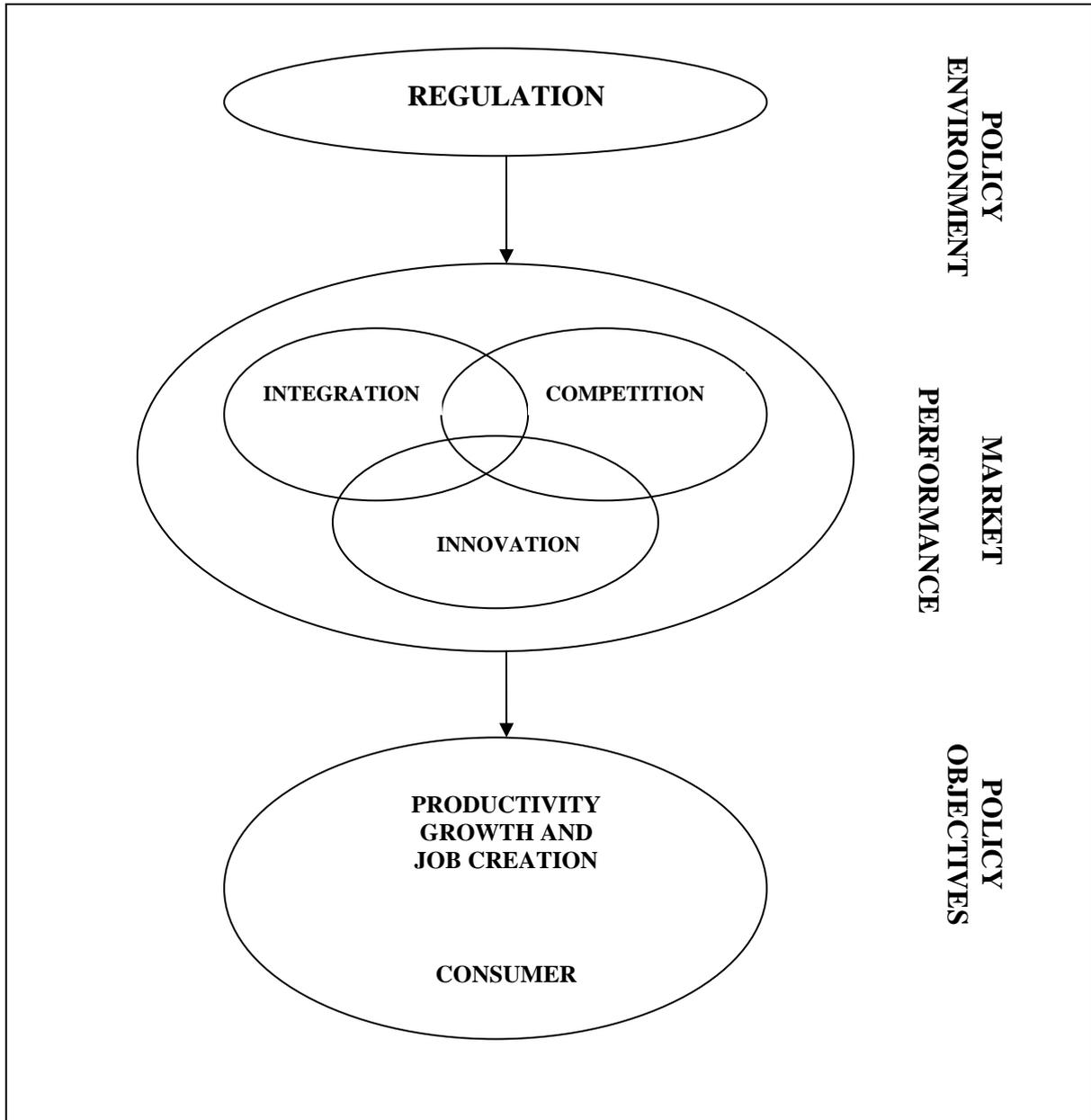
The sector screening is complemented by an investigation of the possible causes of the problems affecting market functioning in the sectors identified. The objectives of this investigation are multiple: first, to check the robustness of the screening results by analysing if all the selected sectors are indeed facing challenges from a policymaking point of view; second, to provide a starting point and guidance for the subsequent in-depth market monitoring analyses; finally, to shed light on the scope for policy intervention while giving first insights into the choice of policy instruments most suited to address the particular needs of a given sector.

The investigation of the possible causes of market malfunctioning is structured along four "policy areas", namely regulation, integration, competition, and innovation. For the sake of simplicity (and to keep the exercise as objective and manageable as possible), the analysis is developed separately for each of the four dimensions considered. However, clearly these are closely intertwined and therefore from a policymaking point of view an integrated approach is required (see figure 1).

Regulation is as an exogenous policy driven dimension that frames the environment in which markets function. It directly results from the use of most policy instruments that can be called for to influence the behaviour of market players, crucially affecting the competition, integration and innovation dimensions in the markets. First, the regulatory environment directly affects the level of competition pressure that firms face. The intensification of competition pressure gives firms the necessary incentives to productivity. Moreover, competition pressure is increasingly associated with international market integration as markets often span beyond national borders. The lifting of trade and investment restrictions and the resulting competition pressure from foreign firms contribute to further discipline the monopolistic or oligopolistic behaviour of domestic firms, forcing them to behave in a more competitive way. Finally, integration and competition are also closely related to innovation as the increased competition pressures encourage firms to seek new ways of doing business to remain competitive, which in turn spurs entrepreneurial drive and innovation efforts². Achieving a good performance overall in terms of competition, integration and innovation is a necessary condition for the better functioning markets that allow higher growth rates of productivity and employment as well as greater consumer satisfaction. As far as consumer welfare is concerned, this condition is not sufficient as both strategic behaviour of providers and behavioural biases of the consumers affect the markets' outcomes.

Figure 1: Analytical framework

² The relationship between market structure and innovation has been explored since Schumpeter (1942). Lately the literature has shifted from the view of market structure as an (exogenous) determinant of R&D activity to the recognition of a dynamic interaction between firm size, market structure and innovation (Scherer, 1992). Recently the existence of an inverted U-shape relationship between competition and innovation is acknowledged. While, at first, the intensification of competition gives firms added incentives to innovate to stay in the market and better resist pressures from competitors, further entry in the market entry when it is too strong may reduce mark ups to such an extent that the incentives to innovate are reduced because the costs cannot be recovered.



3.4 Stage two: In-depth investigation

The second stage of the analysis, the in-depth monitoring of markets, is based on a "priority" sector approach. In this stage (some of) the sectors that have been identified in the screening stage as priorities will undergo a more in-depth examination from both an economic and a policy perspective.

Following the screening and selection of sectors carried out in the first stage of the methodology, a more in-depth analysis of the economic functioning of particular markets within the sectors identified will be carried out in order to determine more precisely the nature of the problems detected. For this it is important to investigate in more depth the three elements that constitute the backbone of the organisation of sectors and markets: their industrial structure, the conduct of the firms and their performance. In practice this implies a further investigation of how the regulatory framework affects market performance in terms of integration, competition and innovation. The in-depth investigations will also consider how improvements in terms of market performance

might affect the achievement of economic policy objectives in terms of productivity growth and job creation. Such an analysis should preferably be carried out at the level of the market.

The problems affecting market functioning across the Single Market often have multiple origins that can only be tackled using more than one policy instrument requiring the intervention of more than one level of government. Therefore it is essential to analyse the potential interactions between different policy instruments. These interactions have two dimensions: between different policy domains and between different level of governance (Community, national, as well as regional and local).

Regarding the former, it is important to take into account not only the interactions between the different product market policies (for example the links between competition, consumer protection and Single Market policies) but also the interactions between product market and labour and financial market policies. The synergies between reforms in these three domains can be exploited to promote further their economic impact. For example, instruments aimed at developing financial markets and increasing the flexibility of employment regulations reduce the constraints faced by firms as they reallocate capital and labour in response to deregulation of product markets.

Finally it would also be crucial to investigate whether there is scope for policy intervention to improve the situation, namely by making a connection between the problems with market functioning observed in a certain number of sectors and policy tools at our disposal. This is particularly important since Single Market policy tools such as public procurement or rules guiding intellectual property rights are important for some sectors, but less important for others. Other horizontal policies (such as taxation, competition, R&D and innovation policies) as well have a differentiated impact by sector. Finally, the potential role of sector specific policies and regulations needs to be considered.

Equally important is to take into account the interactions between the several levels of policymaking, i.e. the extent to which measures taken at the Community/national level are counteracted or complemented by measures taken at the regional/local levels.

4. RESULTS OF THE SECTOR SCREENING

The sector screening exercise is based on a limited number of indicators at the two-digit level of the NACE classification. The main database used is EUKLEMS.³ The focus is put exclusively on market-based sectors excluding the following services sectors: health, education, government and real estate.⁴ The primary sectors are also excluded for the analysis. In total, 47 sectors are covered. The methodology permits the identification of sectors (i) which are economically important from a static and dynamic perspective; (ii) which significantly affect the adjustment capacity of the EU economy; and (iii) where there are signs of malfunctioning from the perspective of businesses or consumers. Sectors are selected if they show signs of market malfunctioning and are either

³ The EUKLEMS data set is a main source of information as it provides a comprehensive set of comparable sector-level data for the EU, individual Member States, as well as the US and Japan. Other data sources include COMTRADE (trade data) and Eurostat.

⁴ The list of market-based sectors is the one used by the EUKLEMS consortium.

economically important or important for the adjustment capacity of the European economy.

4.1 *Economically important sectors*

The economic importance of a sector is considered both from a static and a dynamic perspective. From a static perspective, we identify sectors that make a significant contribution to EU value added, employment, and consumption expenditure. From a dynamic perspective, we select the sectors where world demand (measured by world exports) is growing fast. The 22 sectors that have been identified as economically important account for 52% of EU value added and almost 55% of total EU employment.

Regarding manufacturing, it is striking that many of the identified sectors belong to what is usually considered to be low and medium technology intensive activities, such as food and beverages, chemicals, basic metals, fabricated metals and motor vehicles. However, some high technology intensive sectors have also been picked up namely communication equipment and precision instruments. Regarding services the identified sectors are distribution, telecommunication and postal activities, financial services, other business services and construction.

4.2 *Sectors which are important for adjustment*

A second group of criteria aims at identifying the sectors which can play an important role in promoting the adjustment capacity of the EU economy. This is done on the basis of two elements.

First, the interlinkages of the sector with the rest of the EU economy as measured by backward and forward multipliers calculated on the basis of an input-output table for the EU27.⁵ A distinction is made between sectors that have strong backward linkages, strong forwards linkages, or both. The chemicals, construction, recreation and retail and wholesale distribution sectors are examples of sectors that are linked both with other upstream sectors (as captured by backward multipliers) and with other downstream sectors (as captured by forward multipliers). Network industries such as energy, inland transport, post and telecommunications tend to be more forward oriented, while the backward oriented sectors include food and beverages, machinery, motor vehicles, sale and repair of motor vehicles, hotels and restaurants, and insurance.

The importance role played by sectors that produce investment goods, however, is not captured by the above analysis of backward and forward linkages. Nevertheless, investment is an important component of final demand, which cannot be ignored. In the construction sector, for example, the share of investment in total output reaches 66%. Other sectors with a relatively high investment share are producers of Information and Communication Technology (ICT) such as such as office machinery and computers, electrical machinery, precision instruments, and communication equipment.

Second, the contribution of the sector to the development, absorption and diffusion of new technologies is an important element of adjustment in a world of fast technological change. The sector screening aims to identify ICT related sectors, given that ICT has

⁵ For further details on the methodology used, on the results obtained and on the sensitivity analysis see "Joint Research Centre's Institute for Prospective Technological Studies Contribution to the Report on "Guiding Principles for Product Market and Sectoral Monitoring".

become a "general purpose technology", i.e. a technology that is increasingly used in all activities and all sectors of the economy. Because ICT has important spillover effects on other sectors, the focus is not only on the ICT-producing sectors mentioned above, but also on intensive users of ICT, such as wholesale and retail trade, financial intermediation, insurance, clothing, printing and publishing, and machinery. The classification of sectors according to ICT producers, intensive users of ICT and non-ICT sectors is the one made by the Groningen Growth and Development Centre.⁶

4.3 Signs of product market malfunctioning

i. Market inefficiencies

In order to screen the various sectors of the economy we adopt an economic definition of market efficiency based on sectoral productivity performance. This analysis draws on the idea that efficient markets are competitive markets where resources are well allocated within and between firms and where companies have the necessary incentives to innovate. Improvements in the allocation of resources and investments in innovation are key drivers of the productivity performance of a sector.

The screening is based on a comparison of the labour productivity (gross value added per hour worked) growth in each EU sector with that in its US counterpart. The sectors where productivity growth is trailing that of the US between 1995 and 2004 are identified as sectors where there are indications of problems in market functioning. In this way 29 sectors have been identified as showing signs of market inefficiency from a productivity growth perspective. Together they account for 45% of EU value added and 48% of employment.

The productivity gap vis-à-vis the US is particularly important in the services sectors. Some services sectors (such as insurance, other business activities, sewage disposal, and other services activities) even show a decline in labour productivity over the 1995-2004 period. However, while this evidence can be interpreted as a sign of market malfunctioning, the difficulties in measuring productivity in many services sectors require caution in drawing definite conclusions. With respect to manufacturing, the largest gaps in productivity growth vis-à-vis the US can be found in the technology-intensive sectors like electrical machinery. However, productivity growth also lags behind the US in more traditional sectors such as textiles, clothing and footwear as well as in medium-technology sectors like motor vehicles, where the EU traditionally has a strong competitive position.⁷

ii. Consumer dissatisfaction

The 2006 Consumer Satisfaction Survey provides statistically representative information on the degree of EU consumers' satisfaction in eleven sectors of services of general economic interest, namely: gas, water, electricity, postal services, mobile telephone, fixed telephone, urban transport, extra urban transport, air transport, retail banking and insurance. The sectors with the lowest satisfaction score were: extra urban and urban

⁶ Source: Inklaar et al. (2003), "ICT and Europe's productivity performance industry-level growth account comparison with the United States, Research Memorandum GD-68, Groningen Growth and Development Centre.

⁷ See "Rising International Economic Integration: Opportunities and Challenges", *The EU Economy 2005 Review*, Part I, Chapter 2.

transport, postal services and fixed telephony. In contrast, EU consumers were most satisfied with air transport, mobile telephony, insurances and retail banking.

A complementary source of information regarding consumer and business satisfaction in specific sectors is provided by the Public Consultation on the future of Single Market policy carried out by DG MARKT in the second half of 2006. While this survey is not statistically representative, the collected information reveals that stakeholders feel that there is room for improvement in terms of market functioning in retail financial services, insurance, transport and energy.

Overall, on the basis of the available evidence we can identify the sectors of post and telecommunications, transport, financial services and energy as sectors where markets do not seem to be delivering sufficiently in terms of adequately responding to users' needs.

4.4 Sectors selected on the basis of the three criteria

Table 1 lists the sectors that are selected on the basis of the screening criteria that have been proposed. The selection strategy adopted rests on the identification of all the sectors that show problems in terms of market functioning from an economic and consumer point of view, which are also either economically important or are important for improving the adjustment capacity of the EU economy.

The 23 selected sectors contribute to almost 47% of EU employment and 44% of EU value added and are almost evenly distributed between manufacturing and services. Regarding manufacturing there are mostly sectors producing intermediary and investment (equipment) goods while the selected services sectors belong mainly to distribution (retail, wholesale, hotels and restaurants) activities, financial intermediation as well as network industries like electricity, gas and water supply, inland transportation and post and telecommunications. In addition the heterogeneous sector of other business services was also selected, which notably includes most of the professional services such as engineering consultancy, legal and architectural services, etc.

While price stickiness was not used as criterion due to lack of comparable data across all sectors, many (8 out of total of 13) of the sectors for which there is evidence of producer price stickiness according to data provided by the Inflation Persistence Network of the ECB are included in the final selection of sectors, namely printing and publishing, rubber and plastics, fabricated metal, machinery, electrical machinery, communication equipment, motor vehicles and other transport equipment. Regarding services, the hotels and restaurants sector, for which the available evidence points to important stickiness in consumer prices, is also selected. Furthermore the final selection of sectors also includes retail trade, a sector for which there is evidence of higher price stickiness in the euro area than in the US and which is particularly important for the transmission of price changes reflecting changing demand and supply both in the EU and abroad⁸.

Table 1: Selection of sectors with malfunctioning markets, which are important economically or contribute significantly to adjustment capacity

⁸ See F. Altissimo et al. (2006), "Inflation persistence and price-setting behaviour in the Euro area: A summary of the IPN evidence".

SECTORS	Contribution to total employment	Contribution to total value added	Productivity growth 1995-2004	Interlinkages (*)	ICT (**)	Economically important	Important for adjustment
22 - Printing, publishing and reproduction	1.0	1.0	14.3	F	U		X
25 - Rubber and plastics	0.8	1.0	32.3	F		X	
27 - Basic metals	0.5	0.7	28.9	F		X	
28 - Fabricated metal	1.9	1.8	19.3	F/I		X	
29 - Machinery	1.7	2.1	25.1	B/I	U	X	X
30 - Office, accounting and computing machinery	0.1	0.1	64.2	I	P		X
31 - Electrical machinery and apparatus	0.8	0.9	24.7	I	P	X	X
32 - Radio, TV and communication equipment	0.4	0.5	154.2	I	P	X	X
34 - Motor vehicles, trailers and semi- trailers	1.1	1.4	26.7	B/I		X	
35 - Other transport equipment	0.4	0.4	35.8	I	U		X
36 - Furniture, other manufactured goods n.e.c.	1.1	0.8	10.1	I	U		X
37 - Recycling				F	U		X
E - Electricity, gas and water supply	0.7	2.2	52.9	F		X	
50 - Sale, maint. and repair of motor vehicles	2.2	1.7	7.2	B		X	
51 - Wholesale trade***	4.4	3.6	27.2	F/B	U	X	X
52 - Retail trade	8.5	4.3	14.6	F/B	U	X	X
H - Hotels and restaurants	4.5	2.2	-1.3	B		X	

60 - Inland transport -	2.7	2.6	27.6	F		X	
63 - Supporting and auxiliary transport activities	1.3	1.8	-2.0	F		X	
64 - Post and telecommunications	1.4	2.4	121.1	F	P	X	X
65 - Financial intermediation	1.7	4.1	46.7	F	U	X	X
66 - Insurance and pension funding	0.5	1.0	-13.4	B	U	X	X
74 - Other business activities	8.8	7.0	-7.7	F	U	X	X
Total contribution	46.0	44.0					

(*) "B" stands for backward interlinkages, "F" for forward interlinkages and "I" for investment.

(**) "P" stands for ICT - producing sector and "U" for ICT - using sectors.

(***) Sectors in bold are the sectors meeting all three criteria: they are economically important, important for the economy's adjustment capacity and present signs of market malfunctioning.

5. CAUSES OF MARKET MALFUNCTIONING IN SELECTED SECTORS

In the previous section, 23 sectors have been identified as important for growth and adjustment and presenting indications of market malfunctioning. This section follows up on this screening with an investigation of the nature of the problems affecting market functioning in the selected sectors. Given the complexity of the analysis and the fact that at this stage the analysis is still made on sector level data and publicly available indicators, the conclusions to be drawn will necessarily be tentative. Nonetheless, this is an important step in the market monitoring exercise because it provides a robustness check of the screening device by analysing whether all the selected sectors are indeed facing challenges from a policymaking point of view.

5.1 Approach an indicators used

As indicated in section 3 (see figure 1), the different sectors are analysed on the basis of a set of pre-defined indicators covering four main dimensions: regulation, integration, competition and innovation (see box 3). While these dimensions are intrinsically intertwined, for the sake of simplicity each one will be dealt with separately. Complementary information of a more qualitative nature will be used as far as possible to substantiate the conclusions of the analysis.

Box 3: Indicators used to identify the causes of market malfunctioning⁹

i. Regulation

The identification of the sectors where regulation negatively affects market functioning is very difficult, given the complexity and diversity of regulation designs and of the mechanisms by which they have an impact on the activities of the different sectors/markets. The indicator used is the OECD regulation impact indicator (REGREF). This indicator aims at providing a measure of the overall impact of the regulation imposed in non-manufacturing sectors (energy, transport, communication, retail trade and some business services) on all the sectors of the economy. This overall impact includes the indirect effects of regulation on the sectors which buy intermediate inputs from the regulated non-manufacturing sectors. However this measure is still incomplete as it does not include any regulations that are directly imposed on manufacturing sectors. The indicator therefore does not inform whether there is a specific regulatory problem in an individual manufacturing sector itself. For more detailed information on the methodology used in the construction of these indicators see Conway and Nicoletti (2006). The REGREF indicators are calculated for 39 (ISIC rev3) sectors in 21 OECD countries over the period 1975 to 2003.

ii. Integration

The analysis of the degree of integration is based on a limited number of sector-level indicators, namely: market thickness¹⁰, the level of intra-EU and total import penetration, the share of intra-EU cross-border mergers and acquisitions (M&A) over the total (domestic and cross-border) number of M&A deals and the coefficient of variation of prices across countries (to examine the degree of price dispersion between Member States of the EU). The latter indicator is especially important for the services sectors for which no trade data are available. The data used cover the period 1995-2004 for trade data, 1997-2001 and 2002-2006 for M&A and 1996-2006 for price data.

iii. Competition

Measuring competition on the basis of relatively aggregated sector-level data is particularly difficult, since a single sector may include several subsectors and markets with different characteristics. Nonetheless, such an analysis yields useful first indications of whether competition should be an issue for further investigation¹¹. The adopted approach, rather than aiming at measuring competition directly, focuses on its effects and/or the extent to which the conditions conducive to competitive rivalry are present in the sector. Hence, the choice has been made to use four types of indicators that aim at capturing different dimensions of competition and to consider them in combination. These different dimensions reflect elements of performance (price-cost margin), market structure (measured by market concentration: eight-firm concentration ratio and HHI), conduct (turbulence among the top leaders¹² and entry and exit rates) as well as a competition policy dimension (number of competition law infringements). The data used cover the period 1981-2004 for mark-ups, 2005 for market concentration, 2002-2005 for market turbulence and 1999-2006 for infringements to competition law.

⁹ A more complete definition of all the indicators used can be found in Ilzkovitz F., Dierx A. and Sousa N. (2008), "An analysis of the possible causes of product market malfunctioning in the EU. First results for manufacturing and services", *European Economy Economic Papers*, forthcoming.

¹⁰ Market thickness is captured by the share of total possible bilateral trade flows (in terms of exports) for which trade actually happens within a given sector. The indicator, as developed by Knetter and Slaughter (1999) captures how "thick" product markets are in terms of breadth of trade flows. It is defined as a count of the number of goods in which trade is observed between two countries divided by the total number of possible goods which could be traded between these two countries. The indicator is equal to 1 if every country pair has two way industry trade in industry *i* at time *t* and 0 if there is no bilateral trade between country pairs. The higher the degree of market integration (the fewer barriers to transactions between Member States remain), the higher the number of firms entering new export markets and the higher the market thickness indicator.

¹¹ The suggested framework of analysis and indicators are similar to those adopted in the recent study done by London Economics (in association with ZEW and RPA) for the Commission "Identification of industrial sectors with weak competition: Analysis of causes and impacts".

¹² The indicator used is the "total number of different firms index" (TFN), which is defined as the ratio of the number of firms that have belonged to the group of the 8 largest firms in the years between 2002 and 2005 over the maximum number of different firms (32) that could have potentially been included in this group in this period.

The measurement of innovation performance at the sectoral level is a genuinely difficult exercise due to severe data constraints and the difficulties in unambiguously defining the different types of innovative activities in the various sectors (notably in services). Therefore, the analysis focuses on a limited number of innovation input, output and outcome measures for which sectoral data can be collected. Three input measures have been used in the analysis, reflecting R&D intensity in value added as well as investment in new technologies and human capital (approximated by the contributions of ICT and labour quality, respectively, to the growth of value added in the sector). Two output/outcome measures were identified: patent applications and the contribution of total factor productivity (TFP) to the growth of value added in the sector. TFP growth is often considered a good indicator of technological progress, which is a key driver of economic growth. Not all these indicators are available for services: information on R&D intensity and on patents can be found for the both EU and US manufacturing sectors but not for services. The main source for these data is the new EUKLEMS database which covers the period 1996-2004. The data on R&D intensity and on patents are for 2003.

The assessment whether there are indications of problems in a given sector is made using a pre-defined benchmark. If possible, the performance of the same sector in the US is used as the benchmark because it allows tackling the issue of the sectoral heterogeneity. *A priori*, the US is an appropriate benchmark for this exercise given that it is a well integrated market of a size comparable to the EU. Given the other structural similarities, namely in terms of factor endowments, the US is a direct competitor to the EU for many products in the world market. Moreover the US is also a suitable benchmark for analysis of innovation issues given that it is generally regarded as a technological leader. Whenever a direct comparison with the US is not possible due to unavailability of data the performance of a given sector is benchmarked against the performance of other sectors at the EU level. In this case, when justified by the intrinsic characteristics of the sectors, we make the distinction between manufacturing and services sectors adopting the manufacturing average and the services average as two different benchmarks.¹³

Table 2 below summarises the findings of the analysis across the four dimensions. Sectors are classified into three groups: those - marked with ** - presenting indications of serious problems because several indicators point to this conclusion, those - marked with * - where the presumption of problems cannot be rejected because of at least one of the indicators considered and those where there is no evidence of problems on the basis of indicators used.

5.2 Robustness of the screening

The analysis of the causes of market malfunctioning can be regarded as a robustness check of the screening results on two grounds. First, it allows the identification of sectors that have been selected in the screening stage but which do not show signs of problems regarding regulation, integration, competition and innovation. In this case, the inclusion of these sectors in the selection could be questioned. However, this does not seem to be the case. Overall, the analysis of the causes of market malfunctioning confirms the selection made at the screening stage. All the sectors selected by the screening show signs of problems in at least one of the domains analysed. Moreover in nine of these sectors there are indications of problems in all four domains (2/3 of these being services sectors). Finally, three of the selected sectors show strong indications of problems in three of the dimensions analysed: energy, retail trade and business services. In these

¹³ The EU averages are constructed taking into account all sectors of the economy and not just the sectors that have been selected in the screening stage.

three sectors, several indicators point to problems of regulation and integration. There are also strong indications of innovation problems in retail trade and business services and of competition problems in the energy sector. Therefore, these three sectors are good candidates for a more in-depth market monitoring.

Table 2: Summary overview of the causes for market malfunctioning

SECTORS	POLICY ENVIRONMENT	MARKET PERFORMANCE		
	REGULATION	INTEGRATION	COMPETITION	INNOVATION
22 - Printing, publishing and reproduction	*	**	*	**
25 - Rubber and plastics	*	*	-	*
27 - Basic metals	*	-	**	**
28 - Fabricated metal	*	**	-	**
29 - Machinery	-	-	*	**
30 - Office, account. and computing machinery	-	*	*	**
31 - Electrical machinery and apparatus	*	*	-	**
32 - Radio, TV and comm. equipment	*	*	*	**
34 - Motor vehicles, trailers and semi- trailers	-	*	**	*
35 - Other transport equipment	*	*	*	*
36 - Furniture, other manufactured goods	*	**	*	-
37 - Recycling	*	n.a.	-	n.a.
E - Electricity, gas and water supply	**	**	**	*
50 - Sale, maint. And repair of motor vehicles	**	-	*	**
51 - Wholesale trade	**	-	*	**
52 - Retail trade	**	**	*	**
H - Hotels and restaurants	*	**	**	**
60 - Inland transport	**	-	*	*
63 - Supporting and aux. transport activities	**	-	**	*
64 - Post and telecommunications	*	-	**	*
65 - Financial intermediation	*	**	**	*
66 - Insurance and pension funding	*	**	*	*
74 - Other business activities	**	**	*	**

Second, as the indicators used for this analysis have been computed for all the manufacturing and services sectors of the economy, it is also possible to check whether

there are sectors which have not been selected in the screening stage but for which there are strong indications of problems in terms of regulation, integration, competition and innovation. This seems to be the case for only two sectors, namely coke, refined petroleum and nuclear fuel and air transport. The sector of coke, refined petroleum and nuclear fuel presents indications of serious problems of integration (low degree of market thickness and import penetration), competition (higher mark ups than US, high levels of concentration and low turbulence in the market) and innovation (lower R&D intensity, ICT investment, quality of labour and TFP growth than in the US). Regarding air transport there are some indications of problems with competition (higher mark-ups than the US and high levels of concentration relative to that of other services sectors) and innovation (lower TFP growth and ICT investment than in the US). In both sectors there are some indications of over-regulation of firms' activities in 2003 (the most recent year for which data are available). These findings should be further scrutinised on the basis of more recent, qualitative information. If the indications of problems are validated these two sectors could also benefit from closer market monitoring.¹⁴

5.3 Overall assessment of the potential causes of market malfunctioning

Another important objective of this analysis is the construction of general and comprehensive hypotheses concerning the nature of market (mal)functioning from the supply-side point of view in specific sectors and to draw some tentative conclusions regarding the scope for policy intervention. Such hypotheses, which should be completed with additional information regarding demand-side issues to fully take consumer welfare considerations into account, would then serve as starting points for the analyses to be done in subsequent more in-depth market monitoring exercises.

So far, the results of the analysis made show that despite the several programmes of reforms put in place over the past decade and a half, markets in the EU remain relatively heavily regulated and on average more regulated than in the US. However, the only information collected on regulation at the sectoral level is somewhat outdated and is available for only a limited number of non-manufacturing sectors, namely energy, transport and communication, retail distribution and some business services. While this limited coverage is an important drawback of these data, it can be argued that most regulations restricting market entry are concentrated in these sectors. Looking at the knock-on effects of regulations in these non-manufacturing sectors on other sectors of the economy to which they sell intermediate inputs, it appears that in 2003 the distribution, energy, transport and business services stood out as the sectors where the European Union disadvantage vis-à-vis the United States in terms of higher levels of regulation was the largest. By contrast, the impact of regulation in financial services (as measured by the OECD based on indicators focussing on competition restrictions) was lower in the European Union than in the United States even if this sector remained one of the most affected to regulations in both regions.

The level of integration is another crucial element to take into account in analysing the functioning of markets. The analysis shows that, whatever the indicator used, the degree

¹⁴ These sectors have not been selected in the screening stage because their direct contribution to growth and employment is not substantial and they did not appear to contribute significantly to the adjustment capacity of the EU economy. Moreover no productivity growth gap with the US between 1995 and 2004 was observed for the sector of "cork, refined petroleum and nuclear fuel". By contrast, the "air transport" shows problems in terms of labour productivity, which is the economic indicator for market malfunctioning adopted for the first screening.

of integration has increased in both the manufacturing and services sectors, since the second half of the 1990s. However, almost all the services sectors selected in the screening still seem to be poorly integrated. This is particularly the case for the electricity and gas sector where integration is hampered by the lack of cross border physical infrastructure, for retail trade and business services where entry barriers remain important and for financial services.

Competition pressure is increasingly associated with integration as markets often span beyond national borders. Competition problems are detected in 19 out of the 23 screened sectors. Two manufacturing sectors can be classified as showing strong indications of competition problems: the sectors of basic metals and motor vehicles. These are the only two manufacturing sectors having higher mark-ups than in the US, a relatively high number of anti-trust cases for the former and a relatively high concentration for the latter. There are indications of competition problems in all the services sectors. All the services sectors, with the exception of electricity and gas and inland transport, have higher mark-ups than in the US and four of these sectors combine several indications of competition problems, namely hotels and restaurants, auxiliary transport activities, post and telecommunications and financial intermediation. This conclusion is particularly striking for these two latest sectors where several measures of liberalisation and deregulation have been taken to open these sectors to competition.

The lack of innovation appears also to be associated with market malfunctioning in almost all of the sectors identified. Furthermore it is the domain where more indications of serious problems have been found: more specifically in 12 out of the 23 sectors. Many of these sectors are producers of ICT goods like office and computing machinery, electrical machinery and communication equipment, as well as ICT-intensive services sectors like wholesale and retail trade and other business sectors. Thus, innovation is an area for which most evidence of serious problems has been found. This is consistent with the political attention given to the development of a Single Market for knowledge. This finding also shows that the emphasis put by Member States on reforms in the area of R&D and innovation is the right strategy. According to the newly available database MICREF (see box 4) on the implementation of structural reforms in product markets across the European Union, most of the reform measures enacted by Member States in the recent past (30% of all the implemented measures over the period 2004-2006) were in this area. (see figure 2).

Box 4: Summary description of MICREF database

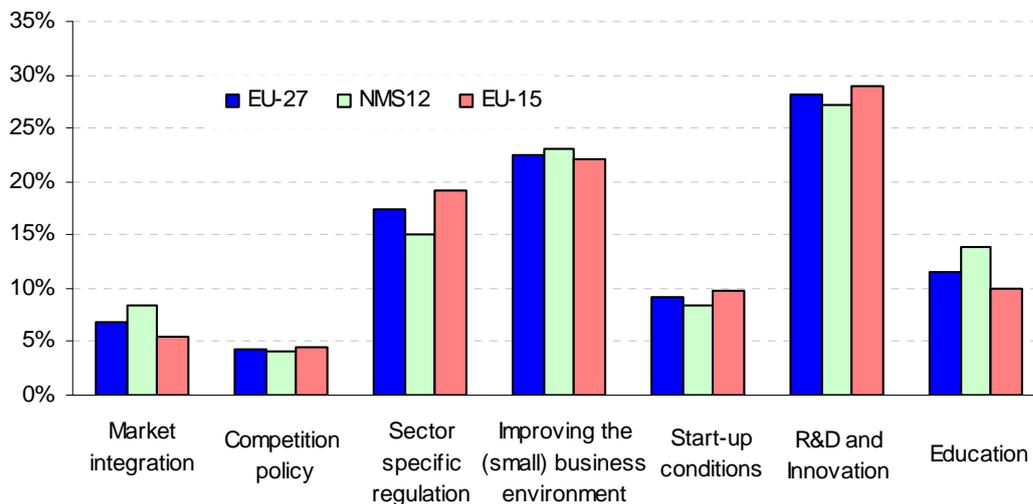
The objective of the database on microeconomic reforms (MICREF), which has been developed by the Commission (DG ECFIN and JRC) in collaboration with Member States, is to help monitor and analyse the process of the implementation of structural reforms in product markets and thereby to improve the quality of policy design and the surveillance of its impact across EU Member States. MICREF organises and presents product market reform measures undertaken by the EU Member States in a systematic way with a set of descriptive features of the actions undertaken, while placing the initiatives described in the Lisbon National Reform Programmes into the appropriate historical context. The main value added of MICREF in relation to other databases currently used to analyse microeconomic reforms is that it explores the qualitative dimension of the data as well as their dynamic nature.

The database is organised around three major economic dimensions: i) open and competitive markets; ii) business environment and entrepreneurship, and iii) knowledge-based economy. These dimensions correspond to seven policy fields: market integration; competition policy; sector-specific regulation; start-up conditions; improving the (small) business environment; R&D and innovation; and education. The different policy actions are then classified according to each of the seven policy fields.

The principal data source for MICREF are the reports on the implementation of the National Reform Programmes; additional information is drawn from international data sources and Commission reports in order to achieve a complete overview of the measures taken within each specific policy area. This database will be made public in July 2008. At that time, it will include data for 2004-2006. Further work is currently being carried out to expand the data coverage to the reforms undertaken by the Member States since the launch of the Lisbon Strategy in 2000.

In contrast with innovation where indications of serious problems seem to be evenly distributed across manufacturing and services, the indications of serious problems related to lack of integration and insufficient competition seem to be relatively more concentrated in the services sectors. In particular, there are indications of weak integration and competition in electricity and gas, retail trade, hotels and restaurants, financial services and business services¹⁵. Given the remaining problems regarding integration and competition in services, it is somewhat disappointing that Member States have been much less active in the implementation of the reform measures in these areas (just 6% and 3% of the total number of measures respectively).

Figure 2: Classification of the reforms implemented over the period 2004-2006 in the EU27



5.4 Basis for policy intervention?

While the MICREF database focuses on the measures taken at the national level it is not clear cut that this is the appropriate level of governance for policy intervention in all the sectors scrutinised. This depends on the characteristics of the sectors and on the nature of the problems that affecting the functioning of markets. Retail trade and electricity and gas provide clear examples of two sectors that are affected by problems of similar nature (both are over regulated and show low levels of market integration) but for which the scope for policy intervention at the level of Member States and at the Community level varies significantly.

In retail trade the low level of integration and innovation is probably associated with the regulatory framework, which often creates barriers to the entry of new firms in the

¹⁵ Notice, that before drawing any policy conclusions relating to "other business services" it is necessary to carry out more analyses at a more disaggregated level given the heterogeneity of the different activities that it includes.

market and slows down the expansion of existing ones. Such regulations vary widely across Member States and are very often introduced by regional and even local authorities. The scope for policy intervention at the Community level is therefore limited and such regulatory barriers can best be tackled by each Member State. By contrast, the electricity and gas sector is currently ongoing a transition phase from state-run national monopolistic markets to an EU-wide competitive market. The introduction of effective competition can be pursued by measures taken at the Member State level (e.g. market opening) but it is also closely related to promoting access of energy suppliers to markets in neighbouring countries. This requires not only a sufficient level of cross-border interconnection, but also a set of common rules: measures that clearly require intervention at the EU level, such as the measures included in the 2007 "Energy package" adopted by the Commission. in September 2007¹⁶ .

Finally, there is not necessarily scope for policy intervention in all sectors. In sectors like printing and publishing and fabricated metal, there is limited scope for policy intervention to promote further integration as it is naturally determined to a large extent by the cultural and linguistic affinities/differences and high transport costs respectively. By contrast, in other transport equipment, the home bias in public procurement may still play an important role, while in financial services, insurance and other business services the legal barriers to entry that were in place until recently may explain to a large extent the current situation. Regarding network industries we find indications that the remaining problems sectors are of diverse nature requiring different kinds of policy interventions. In the case of post and telecommunications, the problems seem to be closely related to insufficient competition pressure and therefore policy intervention should aim at reducing barriers to entry and at improving the consumers' access to information. In the energy sectors the problems seem to be more closely associated with insufficient integration and therefore policy intervention may be more necessary to tackle inadequate investment in cross-border network infrastructure.

6. A NEW APPROACH TO THE SINGLE MARKET

To advance the Single Market, the European Commission has recently tabled proposals aimed at tackling the deficiencies identified. It focuses on improving the governance of the Single Market by basing proposals for policy intervention on economic analysis of market functioning.

One innovation is that the choice of policy measures is not made ex-ante, but rather ex-post and not top down but rather bottom up following a period of market monitoring and analysis. The underperforming sectors identified in the screening stage are under consideration for such market monitoring. By better understanding how these markets function, we can define more effective policies, combining horizontal and targeted measures.

Another innovation is that we aim at analysing the potential interactions between different instruments to arrive at a consistent and comprehensive strategy. As problems

¹⁶ This package includes a number of measures to enhance competition in the electricity and gas sectors, notably by strengthening the position of the regulatory authorities, improving cross-border coordination in order to create more integrated markets (for example through the creation of an agency for the cooperation of energy regulators) and providing for a sharper vertical separation between infrastructure management and supply activities.

affecting market functioning often have multiple origins, they can only be tackled by using more than one policy instrument. In the same vein, the interactions between policies being implemented at the local, regional, national and Community level need to be taken into account. Under a well developed policy strategy, action taken at different levels is targeted at achieving common objectives. This would require cooperation already at an early stage. The involvement of the national authorities in the market monitoring exercise now underway is therefore essential.

The analysis made at the EU level may be complemented by similar exercises at the level of each Member State, involving a national screening and an analysis of the causes of market malfunctioning at the national level. A national screening would help Member States in identifying areas that create bottlenecks for national growth and adjustment. Moreover, from a Community perspective, it would be useful to investigate whether the problems affecting EU market functioning have a national dimension. This should not come unexpected since the industrial structure and the characteristics of sectors differ from one Member State to another. Such an investigation would allow defining policy actions at the national level which can complement the actions eventually proposed by the Commission services on the basis of its own market monitoring exercise.

References

To be added