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How product market reforms lubricate shock adjustment in the euro area

Jacques Pelkmans, Lourdes Acedo Montoya
and Alessandro Maravalle

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In May 2008, it was ten years since the final decision to move to the third and final stage of Economic and Monetary Union (EMU), and the decision on which countries would be the first to introduce the euro. To mark this anniversary, the Commission is undertaking a strategic review of EMU. This paper constitutes part of the research that was either conducted or financed by the Commission as source material for the review.

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Table of contents

| | |
|--|-----------|
| 1. Aim & Structure | 3 |
| 2. Product Market Reforms: Definition, Scope and Significance for Adjustment | 4 |
| 2.1. Product market reforms: concept and measurement | 5 |
| 2.2. Adjustment in EMU: the role of product market reforms | 8 |
| 2.2.1. Structural convergence effects of product market reforms | 9 |
| 2.2.2. Adjustment channels: competitiveness, real interest rate and fiscal policy | 10 |
| 2.2.3. Reforming product markets for adjustment: empirical evidence | 16 |
| 3. Adjustment Capabilities and Product Market Reforms, New Empirical Evidence | 17 |
| 3.1. Dataset | 18 |
| 3.2. Estimating the ability to adjust across sectors and countries in the euro area | 18 |
| 3.2.1. Results | 19 |
| 3.3. Where to reform? A country-by-country and sector-by-sector assessment | 23 |
| 3.4. Do asymmetric shocks matter at the sectoral level? | 25 |
| 4. The Eurozone Record in Product Market Reforms | 26 |
| 4.1. Why reforms in services lubricate adjustment | 26 |
| 4.2. Reforms and remaining restrictiveness in services markets | 28 |
| 5. Product Market Reforms in Wider Euro Area Reform Strategies | 31 |
| 6. Conclusions | 34 |
| Bibliography | 36 |

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Figures

| | |
|--|----|
| Figure 1. Product market reforms as subsets of micro-economic reforms..... | 6 |
| Figure 2. Product market reforms for adjustment | 11 |
| Figure 3. Graphical representation of the sectoral resilience to supply shocks | 22 |
| Figure 4. Graphical representation of the sectoral resilience to supply and demand shocks... | 22 |
| Figure 5. Designing market reforms in the euro area context..... | 31 |

Tables

| | |
|--|----|
| Table 1. Sector classification | 18 |
| Table 2. First measure of the sectoral resilience to supply shocks | 19 |
| Table 3. Second measure of the sectoral resilience to supply shocks | 20 |
| Table 4. Measure of the sectoral resilience to demand shocks | 21 |
| Table 5. Relatively rigid sectors in the euro area | 23 |
| Table 6. Sector-by-sector list of the most rigid countries in the euro area | 24 |
| Table 7. Sector-by-sector measure of the relative importance of common shocks..... | 25 |
| Table 8. Inflation in EU-25 network industries..... | 29 |

Boxes

| | |
|---|----|
| Box 1. Indicators measuring "product market reform" | 7 |
| Box 2. Spillovers and complementarities: an additional reason to reform | 14 |
| Box. 3 Comparing sectoral reform needs in different approaches | 24 |

1. Aim & Structure

After 10 years of experience with the euro, few would dispute that the euro and the euro area fared much better than many observers expected (see e.g. European Commission, 2008, for a very detailed account and analysis). However, this does not mean that some policy concerns have not lingered on. One prominent concern on which analysts, defenders, advocates and diehard opponents agree is the fear of a too weak adjustment capacity of the euro area. The present essay deals with one element of adjustment in the absence of national exchange rates and monetary policies, namely, the functioning of product markets as improved by reforms.

One amongst several questions which preoccupy policy-makers in the eurozone is the rather unequal and (overall) insufficient ability of eurozone countries to adjust to asymmetric shocks, or, to common shocks with asymmetric effects. As is well-known, in a monetary union, monetary policy and, by implication (national) exchange rate policy, are no longer available for individual countries, so that alternative channels of adjustment have to be relied upon. The better these work, the greater the ability to adjust i.e. the lower the costs of adjustment to such shocks. Such abilities to adjust are a complex function of a range of options, including fiscal responses, temporary financial capital flows and market flexibilities, distinct as to countries and varying over time or case by case. This essay will zoom in on the "lubrication" of adjustment brought about by well-functioning markets. In particular, it deals with the subset of what are called "product market reforms" (comprising goods and services markets) meant to improve market functioning and thereby helping to facilitate adjustment processes in EMU. Other markets matter, too, such as labour, financial, housing and land markets but these will not be dealt with, except in passing and with some attention for the link (both substitutability and complementarity) with labour markets.

The present essay aims to:

- make the case why product market reforms lubricate adjustment processes in EMU and underpin it with empirical evidence
- substantiate shortcomings in product market functioning in the eurozone, based on available empirical evidence e.g. about price stickiness in services markets and a lack of competition hindering resource allocation processes
- clarify the 'fit' of product market reforms in wider euro area reform strategies, in terms of sequencing, complementarities with other reforms and subsidiarity constraints

The essay can neither be a fully-fledged survey (given the space available) nor pretend to shift the frontiers of economic analysis in this domain, even if we hope to contribute with some new empirical work in Section 3.

The essay will first (in Section 2) set out what product market reforms are (and distinguish them from structural, microeconomic and regulatory reforms) as well as the main measurement issues, followed by an analysis of how such reforms lubricate adjustment processes in EMU, in particular via the "competitiveness channel". Attention is paid to the short-run and longer-run aspects of adjustments to shocks and the scant empirical evidence on the role of product markets in adjustment is discussed. In Section 3, we investigate empirically the need for product market reforms in the euro area, based on the KLEMS data set. Two questions are addressed: how likely is it for euro area countries to experience an asymmetric shock, and what empirical evidence can we deduce about eurozone countries'

capacities to adjust to asymmetric shocks? The approach is disaggregated and highlights (especially services) sectors with relatively greater adjustment problems. In Section 4, the record of product market reforms of the euro area countries is briefly summarized. We show that substantial reforms have been undertaken, yet, there is considerable evidence that the eurozone, and in particular with respect to services, could significantly intensify product market reforms and thereby augment the net benefits of having a single currency. Subsequently, product market reforms are placed in the context of wider reforms efforts (complementarities e.g. with labour and financial markets) as well as in the two-tier institutional structure of the euro area and the EU at large (given cross-border spillovers and the case for coordination) in Section 5. Designing reforms in this euro area context is briefly discussed. A final section with five “policy messages” concludes the essay.

2. Product Market Reforms: Definition, Scope and Significance for Adjustment

By definition, countries joining a monetary union lose their monetary and exchange rate policy. Therefore, those countries will need alternative adjustment channels when facing asymmetric shocks or common shocks with asymmetric effects. Such shocks can be cushioned via temporary financial capital flows, by means of national fiscal policy or via market-based channels in the short and longer run respectively. Disregarding fiscal policy and realising that capital flows may postpone real adjustment; a country’s ability to adjust or its “resilience” to shocks amounts to the capacity (a) to absorb the shock without increasing the volatility of economic aggregates (growth, unemployment and/or inflation), while (b) returning to trend performance with relatively high speed.

As the modern optimal currency area theory suggests (Mongelli, 2008), the costs of shocks are minimised if: i) prices and wages are sufficiently flexible, ii) factors are mobile, iii) financial markets are fully integrated, iv) member countries are open to global trade, v) consumption and production risks are amply diversified, vi) fiscal stabilization tools work smoothly, and vii) there are few asymmetries in shocks and their transmission process. The significance of product market reforms is directly related to items (i), (iii), and (iv) and possibly items (v) and (vii). With respect to item (iii), one might wonder why optimum currency area (=OCA) theory has not simply considered ‘product market integration’, rather than the integration of one sub-set: financial markets. Presumably, the reasonable assumption is that price and wage flexibility (item i.) is likely to be fostered by the deep market integration the eurozone has achieved. A direct route to market integration is found in item (iv), ‘openness to trade’. Mongelli, op.cit., distinguishes four elements making up this item. First, there is the overall openness to world trade. However, in the eurozone, this is predominantly the openness to EU, and especially eurozone, countries, which is actually the second element the author identifies. This is, of course, a direct function of (deepening and widening) product market integration. Third, there is the share of tradeables versus non-tradeables. What remains ‘non-tradeable’ is largely a matter of the nature of demand (e.g. local) and limits of technology; still, in the margin, ‘deep’ services integration tends to enlarge the share of tradeables services¹. All in all, product market integration can certainly be considered as a most useful ‘reform’, contributing to smoother shock adjustment.

This summing up underscores that product market reforms should not be considered in isolation. However, if cross-border and (even intra-country) labour mobility is limited (ii), automatic stabilisers turn out to be constrained by the Stability & Growth Pact (=SGP (vi) and

¹ The fourth element is the marginal propensity to import, likely to be dependent on the other three elements.

shocks are mostly asymmetric (vii), the relative importance of product market reforms in “lubricating” adjustment quickly increases. In EU’s EMU, therefore, reforming product markets matters.

The present section defines and explains the concepts of “product market reforms” as well as “adjustment capacity” and how the former can support the latter in a monetary union like the euro area. In other words, we clarify the nature and scope of the analysis. Section 2.1 sets out what are product market reforms in the EU context and briefly refers to some measurement issues. Section 2.2 defines the adjustment problem in a monetary union and explains the role of product market reforms in ‘lubricating’ adjustment. Section 2.3 then discusses the existing empirical evidence on the matter.

2.1. Product market reforms: concept and measurement

At a general level, product market reforms are changes in 'market institutions' with a view to have goods and services markets function better. However, once one becomes interested in measurement and/or the nuts and bolts of policies to accomplish such reforms, we need much greater detail and precision. The literature is not very disciplined in sticking to one clear and well-accepted definition.

Four terms are often used almost interchangeably or with fuzzy boundaries: product market reforms, regulatory reforms, structural reforms and micro-economic reforms. The latter two amount to concepts with a very wide scope, including regulatory reforms for all markets (not just goods and services), the degree and nature of state ownership as well as competition policy, but it may also include bottleneck infrastructures, education and 'upskilling' of workers, innovation systems, taxation and (e.g. market-friendly) public administration including e-government, pension reform and many other aspects possibly. The present essay cannot go into the considerable problems of taxonomy and methodology for conceptualizing reforms and their measurement (but see Pelkmans, 2008, forthcoming). As Figure 1 makes clear, product market reforms are only a limited subset of structural reforms or, for that matter, of micro-economic reforms. It is also not correct to regard “regulatory reform” as fully equivalent to product market reforms: in Figure 1, under a strict definition of regulatory reforms, only the six aspects in 'grey' would qualify.

Figure 1 is designed to clarify for the reader what is meant by product market reforms in an EU (and eurozone) context. The center column in the top part of the figure and the left column in the bottom part together can be seen as 'product market reforms'. Distinguishing the two is merely a function of how broad or narrow one defines the concept. In designing Figure 1, we have based ourselves largely on the MICREF and LABREF data sets of micro-economic reforms in the EU². Figure 1 shows clearly that product market reforms should not be seen in isolation from other [micro-economic or 'structural'] reforms, be they in labour markets (again, in a narrow and wider perspective), or, in capital markets (including foreign direct investment and the right of establishment) or with respect to e.g. patents (which are still national in the EU, leading to costly inefficiencies).

² See the MICREF User Guide and the reference guide of the Economic Policy Committee 'Coverage and structure of the LABREF database', Dec. 2005 on:

http://europa.eu.int:8082/comm/economy_finance/indicators/labourmarketreforms/documents/guide_en.pdf ; note that we have added the item of 'state ownership' and adapted the inventory for the present purpose or for clarity.

Figure 1. Product market reforms as subsets of micro-economic reforms

| <u>Capital Markets / FDI</u> | <u>Product Market Reforms</u> | <u>Labor Market Reforms</u> |
|---|---|---|
| <ul style="list-style-type: none"> ○ golden shares [some link with state ownership more generally]* ○ effective <p><u>IPRs</u></p> <ul style="list-style-type: none"> ○ national (patent) regulation <p>[tension with IM & EU competition policy] [link with knowledge-based economy]**</p> | <p>(narrow)</p> <ul style="list-style-type: none"> ○ market integration <ul style="list-style-type: none"> ▪ EU regulation <ul style="list-style-type: none"> • filling IM gaps • Better (EU) Regulation ▪ public procurement ▪ effect. free movement + MR free establishment ○ competition policy <ul style="list-style-type: none"> ▪ anti-trust + mergers ▪ state-aids ○ national regulation <ul style="list-style-type: none"> ▪ network industries ▪ professional services ▪ wholesale/retail ○ openness to world economy | <p>(narrow)</p> <ul style="list-style-type: none"> ○ national labour market regulation <ul style="list-style-type: none"> ▪ job protection (EPL, etc.) ▪ working hours ○ wage bargaining ○ internal market <ul style="list-style-type: none"> ▪ free movement of workers ▪ posted workers ▪ EU minimum regulatory requirements (health / safety) ▪ Extra-EU immigration ○ labour taxation |
| <p><u>PMRs (wider)</u></p> <ul style="list-style-type: none"> ○ business environment & entrepreneurship <ul style="list-style-type: none"> ▪ start-up conditions ▪ improving SME context <ul style="list-style-type: none"> • efficiency legal system • cut red tape (regulation) • better Regulatory Quality • G2B and G2G e-government ○ state ownership³ [links with knowledge-based economy, esp. R & D and innovation] | | <p><u>LMRs (wider)</u></p> <ul style="list-style-type: none"> ○ unemployment & welfare-related benefits ○ incentives-based employment policy <ul style="list-style-type: none"> ▪ active labour market policies ▪ intra-EU, interregional, inter-sectoral mobility incentives ○ education <ul style="list-style-type: none"> ▪ systemic responses to future (skill) needs ▪ vocational; up-skilling (on the job) |

The narrow view of product market reforms is concerned with (internal) market integration [both effective free movement of goods and services, including mutual recognition, as well as regulatory aspects of the internal market and open and competitive public procurement], EU and national competition policy, national regulation in such markets [such as network industries, professional services and wholesale and retail] and the openness to the world economy (which tends to improve the contestability of markets beyond what the internal market already accomplishes). The wider concept of product market reforms, designed with a view to promote (more) dynamic market conduct and rivalry, is concerned with what is usually called the business environment and (fewer barriers to) entrepreneurship as well as the longer-run impact of the knowledge-based economy, especially R & D and innovation. One may also include 'state ownership' as indeed the reform literature typically does⁴. Altogether,

³ Not in MICREF (EU law pre-empts any special privilege) but in 'markets for corporate control' (see capital markets, left-upper column), state ownership can render take-overs impossible.

⁴ Whereas the EC treaty says that matters of 'ownership' are a competence of the Member States, for the proper functioning of the internal market the existence of state ownership or private ownership should not make any difference under EU law. State ownership cannot imply any privilege or advantage over privately owned companies in goods and services markets. However, one property of state owned firms remains: a Member State's government can always prevent (hostile) takeovers – see the column on capital markets in Figure 1. For product markets in the EU, it is the competitive environment which should equally discipline privately owned and state-owned companies. One should therefore be cautious to apply the premisses about state ownership (and the implications for performance) of the reform literature to the EU of today.

product market reforms in the EU context can be 'deep' and intrusive so as to engender permanent pro-competitive effects in all relevant goods and services markets in the Union.

Product market reforms in Figure 1 are complex and multi-faceted. Tracking such reforms for all Member States and/or for the euro area countries every year as well as over time requires considerable investment in a common methodology, taxonomy and proper reporting. In the absence of systematic reporting, it would be next to impossible to appreciate their meaning and progress in achieving better functioning markets. Following the experience in the Lisbon process and stimulated by earlier work in the OECD (see Box 1), the EU has developed the common LABREF and MICREF taxonomies which will enable objective and transparent comparisons between Member States, also over time. Dependent on an agreed methodology (again, see Box 1 for examples), it will become feasible as well to develop quantitative indicators of progress. Given the importance of smooth adjustment in the euro area, policy-makers in the eurozone (if not at the EU level more generally, in the framework of e.g. the Lisbon process, but then the purpose is growth and jobs) need a more strategic (rather than lengthy descriptive) overview. This explains the search for quantitative indicators as proxies for these reforms and their progress over time. By definition, the policy activities referred to in Figure 1 are hard to measure exactly. Nevertheless, by ranking measures or interventions in terms of degrees of restrictiveness of competition in markets, considerable progress has been made during the last decade or so in developing indicators in the literature. Box 1 provides a summary of the more important indicators with very brief comments.

Box 1. Indicators measuring "product market reform"

In the literature, indicators have been developed in order to dispose of empirical proxies for restrictiveness of regulation and other public and private interventions hindering or distorting competitive processes in goods and services markets. These data sets allow, in principle, comparisons between countries and between different points in time. Changes of indicators over time into the direction of less restrictiveness are usually regarded as empirical evidence of 'product market reforms' (note that this assumes that none of the indicators relate to market failures, so that less restrictiveness would not lead to "underregulation"). Interested readers are referred to Dierx, Ilzkovitz & Schmidt, 2007 and European Commission, 2006-a (chapter 4) for recent surveys and to the indicated literature below.

The most important indicators are:

- a. The *OECD "PMR indicators"*: they combine restrictiveness measures in 16 domains of regulation and other interventions (scaling from 0 – 6, from least to most restrictive), aggregated to three categories: state control, barriers to entrepreneurship and barriers to trade and investment; single country PMR indicators are found by aggregation via weights. Although the OECD indicators have advantages such as objectivity, transparency and quantifiability, probably they are no longer "deep" and targeted enough to identify the relevant "pockets of restrictiveness" in product markets of eurozone countries having already reformed at EU and national level over a period of two decades or more. (Conway, Janod & Nicoletti, 2005)
- b. *New, targeted OECD indicators*: OECD economists have published several new, more targeted indicators since 2006. One set refers solely to specific subsets of services such as 6 network industries (and road transport), plus retail distribution and 4 professional services (together called the NMR indicators). The idea is that the more important "pockets of restrictiveness" are nowadays to be found in specific services markets. The data underlying NMRs are far more refined than the (services elements of) PMRs.

Another indicator attempts to measure the “strength of competition policies” of OECD countries, including most eurozone countries. Of course, well designed and properly enforced competition policies greatly help markets to function better. A significant drawback of this CLP indicator is the failure to account for *EU-level* competition policy. A third indicator is the foreign direct investment restrictiveness index, measuring the deviations from “national treatment”. Euro area countries score well, for the simple reason that “national treatment” is a treaty obligation (art.48, EC). (Conway & Nicoletti, 2006; Hoj et al., 2007; Koyama & Golub, 2006)

- c. The World Bank's annual “*Doing Business*” survey focusses on the “business environment”, with 10 indicators relating mainly to entry, transaction costs and market access. Horizontal aspects such as “starting a business”, “enforcing contracts” and “getting credit” are combined with specific issues such as “licensing”, “trading across borders” and “employing workers”. The indicators do not target specific markets other than the labour market. (World Bank, 2007)
- d. The Fraser Institute's (2007) “*index of economic freedom*” is built up – inter alia – from indices on “business regulation”, on state involvement and on freedom of trade. The data are derived from opinion surveys of business leaders in the World Competitiveness Report (of the WEF) and are therefore largely subjective; the comparability between countries and over time is to some extent intuitive and hard to verify. Conway & Nicoletti, 2006, p. 48 show that practically all OECD countries in 2003 cluster in the 5 - 7 ½ range of Fraser (leaving out state involvement); this means that more targeted indicators are needed for identifying relevant pockets of restrictiveness hindering proper market functioning.
- e. The Copenhagen Economics *Market Opening Index*, for 7 network industries and based on 12 market opening “milestones”, ranging from ownership, third party access, the pricing of third party access, unbundling, regulation of user prices, etc. Not unlike the OECD (see b., above), a system of weights makes it possible to obtain aggregate indices per country, and for 1993 and 2003. (Copenhagen Economics, 2005)

* Further discussion about the merits and shortcomings of product market reform indicators can be found in Pelkmans, 2008, forthcoming. Note that MICREF data might enable the Commission to develop a quantitative approach in the near future.

2.2. Adjustment in EMU: the role of product market reforms

EMU is a unique economic structure in which monetary policy has been delegated to a single common authority, and members’ fiscal policy discretion is constrained in the margin by the Stability and Growth Pact rules. Given this macroeconomic context, “There Is No Alternative” but to foster structural reforms (i.a. product and labour market reforms), in order to facilitate market-based adjustment to asymmetric shocks⁵.

When regulations and other private and/or public interventions are restrictive, without a proper justification of market failures, such policies, regulations and other market institutions are likely to engender adverse effects on goods and services markets functioning. This is most clear in the case of protection against external competitors or indeed shelter against domestic ones. Indicators on product market reform mostly refer to what is often denoted as “economic regulation” – i.e. a direct intervention in markets rarely sustained by an economic rationale for such an intrusive action (the motives could be redistributive or related to vested interests).

⁵ In the literature “There Is No Alternative” argument usually appears by its acronym TINA.

In such cases, product market regulations can impede effective competition, hence increasing firms' market power and their ability to raise consumer prices via higher mark-ups.

Easing product market regulations therefore leads to an increase in competition via sharper pricing by less throttled rivals, be it in the domestic market or via intra-EU or world trade, via higher firm entry (domestic or via FDI) and/or wider consumer choice (which increases demand elasticities and/or product substitutability)⁶. One must also differentiate between the short and the long run effects of reforms since they are important for policy design (Schiantarelli, 2005)⁷. Thus, price flexibility typically appears as a short run effect, strengthened by a high degree of market integration and the price transparency effect from using a common currency. The time perspective lengthens when considering productive efficiency effects of product market reforms. Intra-firm reallocation and market "selection processes" between firms with different productivity profiles may take some time to modify firms' entry and exit patterns. A still longer time perspective arises from the dynamics of firm innovation⁸.

In a monetary union, whose main functional risks are found in asymmetric shocks, the efficiency effects of product market reforms will reinforce members' adjustment capacity in two ways. First, pro-growth reforms will foster real as well as structural convergence by speeding up the catching up process over the longer run. In other words, product market reforms by promoting convergence in the long run reduce the probability of suffering asymmetric shocks and subsequently the need for adjustment. Second, reforms grease short-run adjustment mechanisms when asymmetric shocks occur.

2.2.1. Structural convergence effects of product market reforms

Panel (a) of Figure 2, explains the "structural convergence effect of product market reforms", which is essentially a long term effect. There is evidence that product market reforms (though not in isolation) may reduce structural differences across EMU in the long run through sustained productivity growth rates and gradually converging industrial specialization patterns. Indeed, several empirical studies demonstrate that reforming product markets generates efficiency gains (both static and dynamic) which translate into higher productivity and changes in industrial concentration and specialization (Lane, 2006). By fostering competition, product reforms favour resource reallocation, lower price mark-ups and facilitate innovation⁹ (allocative, productive and dynamic efficiency gains), increasing in turn growth and employment.

⁶ The efficiency effects of PMRs have been widely studied in the literature. See, inter alia, Nicodème and Sauner-Leroy (2007) and Dierx et al. (2004). Overall, product market reforms increase competition and this in turn leads to higher productivity via three efficiency channels: allocative efficiency (lower mark-ups, within and across firm factor reallocation), productive efficiency (incentives for workers and managers to work more efficiently and capture some of the new rents and internal restructuring) and dynamic efficiency (incentives to innovate and ease of technology absorption).

⁷ For instance, an increase in the degree of substitutability between goods only has a short run effect via lower mark-ups; in the long run, firms will exit the market without any significant output effect. On the other hand, policies aimed at suppressing entry barriers will also have a long run (output and employment) effect. (Blanchard and Giavazzi, 2003)

⁸ The new endogenous growth models rely on two mechanisms by which product market reforms promote innovation. First, innovation allows firms to stay in the market when confronted with strong competition. Second, oligopolistic firms with similar cost structures can diminish costs (and consequently increase their market share and profits) only by taking a technological lead over its rivals. Thus, dynamic efficiency could shift forward the technological frontier and increase total factor productivity (Griffith et al., 2006).

⁹ There is some controversy on the innovation effect of reforms. While lower mark-ups tend to discourage innovation, competition will stimulate it. Overall, the competition effect tends to prevail (Schiantarelli, 2005).

Hence, the market restructuring effects of product market reforms may lead in the long run to changes in industrial concentration and specialization which in turn influence business cycles' synchronization. Following Krugman (1993), Dierx, Ilzkovitz and Sekkat (2004) point to a modest decline in industrial concentration for individual Member States while the opposite occurs at EU level. Still, they also consider that, as negative agglomeration economies appear due to increasing concentration in some areas of the EU, one may observe a re-dispersion of economic activities looking for cheaper production factors. Yet, these modest effects for industry might be swamped by the more or less constant structures of the much larger services' activities. On specialization, two diverging economic theories coexist since the early nineties: Krugman (1993) on the one hand, who considers that deeper economic integration, leads to further (spatial) specialization, and European Commission (1990) on the other hand, foreseeing increasing intra-industry trade and a decline in specialization.

The empirical studies testing for both hypotheses on business cycles' affiliation are numerous and to some extent inconclusive since there is empirical evidence supporting both lines of thought. Some, like Bergman (2004), consider that flexible exchange rate regimes are more favourable to business cycles' synchronization, so EMU could lead to further asymmetries. Others like Inklaar et al. (2008) consider that business cycles in the euro area have gone through both periods of convergence and divergence. Nonetheless, they find evidence of stronger cyclical affiliations during the run-up to EMU (which is also a period of strong reform intensity) compared with the evolution of cycles' in the previous two decades. Gayer (2007) finds some de-synchronization around 2003 as a result of different adjustment speeds (which could also be explained to some extent by divergent liberalization efforts). However, when comparing affiliations among EMU members with the rest of the EU, Gayer (2007) identifies a "eurozonization" of business cycles. This is interpreted as a relative increase in synchronization within the eurozone compared to non-EMU countries¹⁰.

All in all, it is probably fair to say that product market reform induced flexibility, boosting productivity catching-up (Conway et al. 2006) and increasing business cycles' synchronization, which can be considered as a catch-all property for Optimum Currency Areas¹¹. This, in turn, means fewer asymmetric shocks and a better functioning of the common monetary policy.

2.2.2. Adjustment channels: competitiveness, real interest rate and fiscal policy

As Panel (b) of Figure 2 shows, product market reforms carry more weight in the short/medium term when they play a non-negligible role in lubricating adjustment in EMU via three channels: competitiveness, real interest rate and fiscal policy.

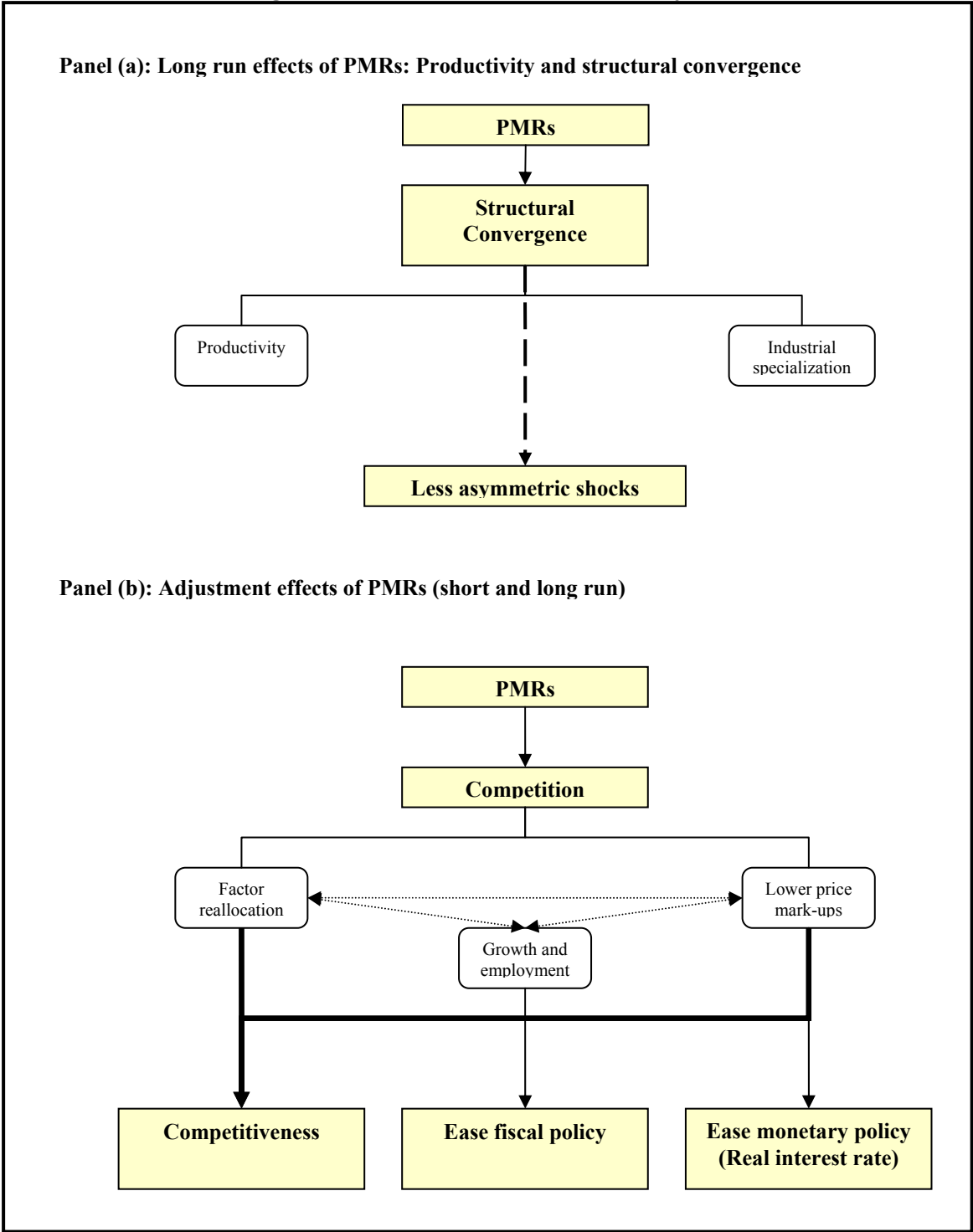
However, the *competitiveness channel* is the principal mechanism (thicker arrows in the picture) to counteract the destabilising effects of an idiosyncratic shock¹².

¹⁰ A study of the causes behind this phenomenon falls beyond the scope of this paper. Yet, it seems reasonable to point to product market reforms and extra policy coordination as plausible explanations. It is nonetheless difficult to disentangle the long run convergence effects of product market reforms from the effects of i.a. capital markets' deepening, labour market reforms, European policy coordination and common European policies, etc. In most cases, these effects are cumulative.

¹¹ See Mongelli (2008), op. cit., on the implications of business cycles affiliations for the conduct of monetary policy.

¹² See European Commission (2006; 2008) for further analysis..

Figure 2. Product market reforms for adjustment



A smooth functioning of the *competitiveness channel* implies realignments of the real effective exchange rate via changes in prices and costs reflecting the new cyclical conditions imposed by the asymmetric shock. For instance, if a negative demand shock occurs, prices will decrease more easily as a result of fiercer competition. Thus, a depreciation of the real exchange rate of the country experiencing the slowdown will make its products more attractive for its EMU trading partners, thereby increasing international demand, which may cancel out the initial negative shock and so restoring equilibrium. Conway et al. (2006) test empirically the case of a positive supply shock (technological shock). Their conclusions are

consistent with the theory, showing that restrictive product market regulation slows down the adjustment process, hindering cross-border technology diffusion and foreign direct investment.

As a result of product market reforms aimed at increasing the number of competitors and facilitating market entry, incumbents will experience a reduction of their monopolistic rents and be forced to set prices closer to marginal costs, thereby reducing mark-ups and relaxing downward price stickiness. Since the euro area is characterized by persistent nominal wage stickiness, which impedes labour adjustments either in terms of hours worked or employment, the burden of adjustment falls on prices changes (European Commission, 2006). It should be noted, however, that stronger product market competition may eventually prompt changes in labour market policies and institutions¹³. This means that, when assessing the total effects of product market reforms, one needs to consider both the direct effect and the effect through induced changes in labour market policies and institutions.

Moreover, the functioning of the price system can be improved by wage changes spurred by labour market reforms. The combined effect of reforming product and labour markets will exceed the sum of individual effects both in terms of growth and employment as well as adjustment capacity. Using consumption smoothing as a sign of adjustment capacity, Ernst et al. (2007) find out that improving the functioning of labour and product markets reduces consumption volatility. Thus, households' consumption is less correlated with employment and production shocks, which ensures better resilience to shocks and higher welfare¹⁴.

Policy complementarities are also found between product market and financial sector reforms. In the euro area, financial liberalization is essential because it helps to cushion shocks by allowing for risk diversification and by stimulating investment. It also has a significant impact on growth and employment (Tressel, 2008; European Commission, 2008).

In another attempt to highlight empirically the effects of competition on price flexibility, Álvarez and Hernando (2006), using a dataset on pricing behaviour for nine euro area countries, confirm that heavy product market regulation diminishes price flexibility and that more competitive markets are better suited to cope with economic shocks (either demand or supply shocks) via price adjustments¹⁵. Moreover, capital and labour will be allocated (within firms and between firms) to the production of the goods and services that consumers value more, so less efficient firms will exit the market, increasing market shares and profits of the remaining firms. Besides increasing allocative efficiency, productive efficiency gains are reaped through three conduits: i) increased competition facilitates the comparison of performance of different firms, in turn, improving investors' decisions, ii) bankruptcy is more likely in a competitive environment so managers need to enhance their efforts to avoid such failures and iii) workers and managers have an incentive to reduce costs to capture part of the profits derived from stronger competition (Schiantarelli, 2005 and European Commission, 2006). In the EMU context, the reallocation effect will be reinforced by the so-called price transparency effect from using a common currency. Greater price transparency also limits the possibility of increasing mark-ups, leading to greater competition and more efficient factor utilization (Gasiorek et al. 2004).

¹³ See for instance Fiori et al. (2008), Duval and Elmeskov (2006) and Boeri (2005).

¹⁴ See also Fiori et al. (2008), Amable and Gatti (2004), IMF (2004a) and Griffith et al. (2007) on policy complementarities. The reader is also referred to Corsetti (2008)

¹⁵ The Inflation Persistence Network of the ECB has conducted several detailed studies on price setting behaviour. For additional information go to: http://www.ecb.eu/home/html/researcher_ipn_purpose.en.html

Increasing potential growth via product market reforms will also help euro area members to overcome their current account imbalances via trade or by making the euro area more attractive to real and financial investments (IMF, 2004a).

As was previously mentioned, product market reforms also generate dynamic gains from additional innovation efforts. Though the effect of innovation is mainly observed in the long run¹⁶, there are some types of innovations either in products or processes that take a shorter time to materialise and hence may facilitate adjustment by increasing competitiveness.

Allocative and productive efficiency gains in terms of output can be reaped in the short to medium term since they are normally the consequence of a one-off measure. On the contrary, dynamic gains can be obtained “indefinitely” but they usually take a much longer time to materialise. In terms of adjustment to shocks and its rapidity, the effects on price mark-ups and reallocation will be accomplished more swiftly.

Though it is difficult to identify the effect of product market reforms on adjustment via the *real interest rate* and *fiscal policy channel*, we can derive some indirect positive effects of reforms.

Real interest rates shape investment and consumption decisions in an economy. In the EMU, nominal interest rates are fixed by the European Central Bank on the basis of a common strategy for the whole euro area. Yet, the “common interest rate” may have divergent effects according to a country's cyclical position in the euro area (“Walter’s critique”). Thus, if the country is in an expansionary cyclical position, inflation is expected to be higher than the average euro area inflation. In this case, national real interest rates will be lower than the average, hence “pro-cyclical”, overheating the already expansionary economy. The opposite will happen if the country experiences a downturn compared to the euro area as a whole: again, the real interest remaining too high is “pro-cyclical”, thereby hardening the recovery. However, differences in the cyclical position are just one of the explanatory variables of inflation differentials (European Commission, 2008). Indeed, one could also blame structural inefficiencies (heavily regulated product, labour and financial markets) and misaligned national policies as possible explanations for inflation differentials in EMU. Therefore, competition-enhancing product market reforms are expected to weaken price stickiness, and in turn inflation persistence.

Given the destabilising effects of the *real interest rate* channel, it is important to take the necessary actions to minimise its effects by enhancing the functioning of the *competitiveness* and/or the *fiscal policy* channel. According to recent estimates, the competitiveness channel seems to be powerful enough to compensate for the destabilising effects of the real interest rate channel (European Commission, 2008). However, as we shall show later, there is still ample scope for further product market reforms. In an EMU context, these continued reforms can be expected to enhance the competitiveness channel and to reduce inflation differentials, thereby facilitating the conduct of ECB's monetary policy at lower sacrifice ratios¹⁷.

Finally, there is a twofold interaction between product market reforms and fiscal policy. On the one hand, as product market reforms positively affect growth and employment, governments will enjoy healthier public finances, leaving more room of manoeuvre in the

¹⁶ See the description of Panel (a) on the convergence effects of product market reforms.

¹⁷ That is, lower loss of output for one percent change in inflation.

event of a shock and improving the functioning of automatic stabilisers¹⁸. On the other hand, aggregate demand policies might stimulate product market reforms since they can be used to counteract the temporary negative supply effects of reforms and so reducing political resistance¹⁹. Moreover, the renewed Stability and Growth Pact gives euro area governments' sufficient leeway to confront a negative shock and it also contains special provisions to facilitate the reform of labour and product markets in the event of future disturbances.

The EU Economic and Monetary Union implies stronger economic and political links among its members (e.g. common currency, single monetary authority, fiscal commitments, etc). Given this strong interdependence between euro area members, there is a higher probability that the actions taken by a single country spill over to the others by means of, *inter alia*, trade, investment and/or innovation. Hence, beyond the need for smooth adjustment for individual eurozone countries, there is a case for a coordinated and comprehensive approach to reforms when there are significant synergies/complementarities across reform areas and/or countries; there may also be a more powerful incentive for policy learning by spreading good practices. These reasons justify common reform strategies in EMU as a whole (IMF, 2004a; European Commission, 2007d). The practical details of a common euro area reform strategy require a separate study, but a good deal of the strategy could and should piggy-back on the Lisbon reform process. What it means in any event is that eurozone countries, in being explicit about their profound joint interest in national reforms of euro area countries, should aim to be frontrunners. A common, deep reform commitment (in product markets and beyond) can become manifest and more credible by a publicly known common strategy, with specific commitments motivated by the joint benefits of smoother adjustment. It is also likely that the recently initiated product market monitoring in the framework of the Single Market Review²⁰ can help to identify ill-functioning product markets in the EU Single market on which eurozone countries could focus with some priority.

Box 2. Spillovers and complementarities: an additional reason to reform

Spillover effects are cross-border externalities derived from a country's (or group of countries) economic policy. The complex nature of the economic and institutional links between EMU members renders a purely theoretical analysis of spillovers next to impossible. Therefore, the economic literature has preferred to test empirically for the intensity and the nature of spillovers and the case for reform coordination²¹.

Ultimately, the size of the spillover effect depends on the strength of the transmission channels (trade, FDI or M&A, among others). According to Ilzkovitz et al. (2007) intra-EU25 trade of manufactured goods amounts to nearly 40% of the GDP, whereas intra-EU25 services trade barely reaches 10% of the GDP. The strength of trade among EU countries (at least for manufactured goods) is expected to facilitate spillovers across the union. Intra-eurozone exports in manufactures as a percentage of GDP is slightly higher than that of the EU-25.

¹⁸ On the growth and employment effects of product market reforms see for instance Fiori et al. (2008), Griffith et al. (2007), OECD (2007; 2008).

¹⁹ This suggestion, called the "two handed approach", was firstly explored by Blanchard et al. (1986).

²⁰ See SEC(2007) 1517 of 20 November 2007, Implementing the new methodology for product market and sector monitoring : results of a first sector screening, and European Commission, 2007e]

²¹ See Weyerstrass, Schoors and van Aarle (2007) for a theoretical classification of spillovers and Bongardt and Torres (2007), European Commission (2007d) and Lejour and Rojas-Romagosa (2008), among others, for empirical analysis

For the next decade, it is interesting to know whether trade would further intensify in the gradually enlarging euro area. From the first ten years one can observe that trade integration has barely intensified since the introduction of the euro. From detailed empirical analysis, it follows that the trade effects of the euro would only amount to some 5% according to Baldwin et al. (2008). Thus, as the euro area expands to the new Member States, some – though modest - additional trade effects of enlargement will be captured by the euro area. Therefore, in a eurozone of (say) 20-plus members the effects of structural policies (e.g. product and labour market reforms) will spread somewhat more easily through the area²².

With respect to cross-border spillovers and policy complementarities (e.g. between product and labour reforms, as explained in Section 2.2.2), it is worth considering whether the effectiveness of product market reforms cannot be enhanced by a credible form of cooperation or coordination²³. While most researchers agree on the benefits in general terms, whilst disagreeing on the costs of such coordination, controversy arises when defining the areas that need to be coordinated at euro area level as well as the degrees of binding.

Tabellini and Wyplosz (2004) suggest that product and financial markets reforms should be coordinated at EMU level, but labour markets should remain in the realm of Member States. In areas of strong spillovers and complementarities, the influence of national governments should be minimised, since they may opt for protectionist measures. A similar conclusion is reached by Pisani-Ferry et al. (2008) who consider that cross-border spillovers are not only relatively small but complementarities exist most prominently at the national level. The case for reform is nonetheless more compelling in the euro area. The reasoning goes as follows, in particular for larger euro countries. A country which implements an inflation reducing reform is a potential handmaiden for easing the common monetary policy. However, when acting in isolation, the effect may well be too small (or, coming about too slowly over time) for monetary policy to respond. Short-sighted governments or those with tiny majorities in parliament might therefore feel discouraged to go it alone. A coordinated reform effort in the eurozone would not only create clear political support from other eurozone countries acting similarly but also facilitate the ECB's decision to accommodate the expected increase in the overall output of the eurozone.²⁴

Hughes Hallet et al. (2005) call for coordinated and simultaneous reforms in order to make EMU attractive to more flexible economies and avoid “free riding” by the rigid ones. By increasing the average level of flexibility through the admission of more reformed economies, the incumbent countries in the euro area could transfer some of the cost of their own macroeconomic adjustment problems to those economies. A common reform strategy would avoid this problem, since the adjustment costs would be shared and flexible economies would not “fear” to join the euro area.

Even if structural reforms are primarily beneficial to the country undertaking them, and common strategies can only be based on the two arguments set out above, there are softer routes to persuasion amongst euro area countries as well.

²² FDI and M&A can also act as transmission channels. Recent estimates by Baldwin et al. (2008) signal an increase of FDI and M&A within the eurozone though smaller than for the Union as a whole. But FDI may play a stronger role as the euro area enlarges.

²³ Cross-border spillovers only arise at EU level, while policy complementarities can be observed at national and European level.

²⁴ Debrun & Pisani-Ferry (2006) add another argument for coordinated reforms based on political risks for the proper functioning of the monetary union. When there is a domestic crisis of competitiveness in a eurozone country (say, due to a lack of downward wage flexibility) or a sharp rise in local inflation prompted primarily by a lack of competition in the non-tradeables sector (e.g. services) and calling for painful disinflation measures, countries might resort to behaviour that could be harmful to eurozone partners (e.g. resist further opening of trade, undue economic nationalism until the ECJ stops them several years later, etc.). Coordinated reforms for all euro area countries and explicitly in the joint eurozone interest will render it much more difficult to resort to misconduct, while also helping to remove the cause of the problem.

²⁵ There have been a series of internal market strategies in the post-1992 period, including e.g. two three-years strategies under Commissioner Bolkestein and the recent Single Market Review (European Commission, 2007f).

Whereas a coordinated reform approach increases trade in the euro area as a whole (facilitating the absorption of asymmetric shocks), individual reforms will pay , in the long run, in terms of higher competitiveness (lower prices and wages) partly at the expense of other Member States whose structural disadvantages will increase. Similarly, reforming countries will attract financial and direct investment, dampening even more the adjacent economies. (European Commission, 2007d). Without necessarily 'centralizing' reforms, this prospect may persuade countries to follow suit with their own reforms. This is typically encouraged in initiatives for policy coordination at EU and EMU level, such as the rolling Single Market strategies²⁵ and the Lisbon Agenda, even though they differ in their policy coverage, governance structure and degree of binding. Broadly speaking, one may say that market liberalization measures (goods, services and capital) are covered by the Single Market strategies while reforms dealing with the countries' economic structure (innovation, education, pension, labour, etc) fall under the Lisbon Strategy. A specific reference to eurozone needs is nonetheless made under the new Lisbon approach since 2005, so as to stimulate a coherent and targeted reform for those areas relevant for the functioning of the monetary union.

Thus, a sensible eurozone reform strategy should combine the national dimension (taking into account structural policies and their specific supply and demand needs) and the common dimension (internalising cross-border spillovers and policy complementarities).

2.2.3. Reforming product markets for adjustment: empirical evidence

Based on the above theoretical explanations, we conclude that product market reforms (presumably combined with labour and capital market reforms) are most desirable in EMU for the sake of adjustment, spillovers and/or complementarities. Reforming product markets does indeed improve the euro area "resilience" to economic shocks, that is to say, the ability to contain the initial effect of the shock and to minimise the time needed to get back to the trend after the shock (European Commission, 2008)²⁶. This question has recently been assessed in two empirical papers: Duval et al. (2007) and Grenouilleau et al. (2007). Though their methodologies differ, their conclusions are essentially the same: product market reforms do improve adjustment capacity.

Duval et al. (2007) study the impact of policy and institutional settings on resilience to common shocks²⁷. Using a dataset for 20 OECD countries (of which 10 euro area members), the econometric analysis takes two steps. First, the authors estimate a dynamic panel using output gap as the dependent variable which provides estimations for a country specific output gap variable and a country specific reaction to common shocks (amplification mechanism of the shock). Second, these two parameters are regressed against labour and product market regulation (unemployment benefits replacement rates, employment protection legislation, collective bargaining coverage, centralization/coordination of wage bargaining) and an indicator for regulation stringency for seven non manufacturing industries (mainly network industries, see Box 1, item b.).

²⁶ The effects on resilience may vary among policies affecting different types of markets and among institutions.

²⁷ The idea is that a common shock may have an asymmetric effect because of divergent structural policies and institutions affecting the transmission channels.

Their results suggest that strict labour and product market regulation may mitigate the initial impact of a common shock while making it more persistent²⁸. By including some indicators of financial flexibility in the model, the authors find that these are also relevant to reduce both the time of recovery and the impact of the shock (though with a smaller degree of confidence). A country disaggregated analysis shows that continental Europe (most of euro area countries) is the worst performer because of its relatively more stringent product, labour and financial markets. The only euro area country that seems to perform moderately well is The Netherlands²⁹.

Grenouilleau et al. (2007) estimate a DSGE model to compare responsiveness to shocks in the Euro area and the US. The model first identifies the structural differences between the euro area and the US that may explain divergent responsiveness to shocks. They found three main sources of rigidities: i) differences in price adjustment costs (which is also found to be the most relevant), ii) differences in labour adjustment costs and iii) differences in labour supply elasticity.

The impact of these rigidities is assessed against two types of shocks: demand and supply (Total Factor Productivity) shock. Price rigidities are found especially relevant for impeding adjustment to a productivity shock. In fact, fast price reactions could cushion the employment effects and facilitate the technology transmission. A quick price decrease means higher real wages, ergo stronger demand. Price rigidities also delay employment adjustment leading to higher cumulated output losses. These results seem to confirm those of Conway et al. (2006) These empirical studies support the reform motive that more flexible product markets (especially when combined with labour and capital reforms) improve “resilience” to economic shocks, mainly via their price effect. Our empirical analysis (see Section 3) complements these findings and provides additional insights into the specific country and sectoral capacity to adjust, an issue that has hardly or not been treated by the literature.

3. Adjustment Capabilities and Product Market Reforms, New Empirical Evidence

Euro area countries cannot count anymore on the nominal exchange rate or the national monetary policy to adjust to country-specific shocks. The burden of the adjustment for them relies principally on changes in the intra-area Real Effective Exchange Rate (REER), that is the so-called *competitiveness channel*. However, euro countries also have to face a 'real interest rate channel' that moves against the adjustment. Indeed, if asymmetric shocks are thought to drive the country-specific business cycle away from the euro-area business cycle, then the real interest rate will move pro-cyclically and against the adjustment.

In this section we focus on empirical evidence about the need for product market reforms in the euro area. First, we investigate whether EMU countries are "flexible" enough by providing evidence on their capacity to adjust to asymmetric shocks (or to common shocks with asymmetric effects). Second, we investigate the likelihood that a euro area country experiences an asymmetric shock since the ability to adjust only matters if asymmetric shocks are probable. In order to provide guidance on which sectors are most in need of reforms, we adopt a sectoral approach (at a fairly high level of aggregation) in which several goods and services sectors are considered. Our analysis tries to highlight empirically which sectors

²⁸ The effects are stronger when considering both (employment protection and product market regulation) as a multiplicative term.

²⁹ Germany is found to be between both groups.

should be reformed first, without however pretending to evaluate the ability of product market reforms to improve the resilience to shocks of a country.

3.1. Dataset

Both analyses are based on the KLEMS dataset which provides sectoral data at annual frequency over the period 1970-2005 for 11 euro countries (Luxemburg excluded). Twelve sectors are taken into account to obtain a finer representation of the good and services producing sectors of the economy.³⁰ In particular, Table 1 shows that the first three sectors belong to the goods-producing activities while the remaining nine to the services-producing activities.³¹

Table 1. Sector classification

| N. | Desc | Abbreviation |
|---------------------------|--|--------------------|
| GOOD-PRODUCING SECTORS | | |
| 1 | AGRICULTURE, HUNTING, FORESTRY AND FISHING | AGRICULTURE |
| 2 | MINING AND QUARRYING | MINING |
| 3 | TOTAL MANUFACTURING | MANUFACTURING |
| SERVICE-PRODUCING SECTORS | | |
| 4 | ELECTRICITY, GAS AND WATER SUPPLY | ELECTRICITY & GAS |
| 5 | CONSTRUCTION | CONSTRUCTION |
| 6 | WHOLESALE AND RETAIL TRADE | TRADE |
| 7 | HOTELS AND RESTAURANTS | HOTELS |
| 8 | TRANSPORT AND STORAGE | TRANSPORT |
| 9 | POST AND TELECOMMUNICATIONS | POST |
| 10 | FINANCIAL INTERMEDIATION | FINANCE |
| 11 | REAL ESTATE, RENTING AND BUSINESS ACTIVITIES | BUSINESS |
| 12 | COMMUNITY SOCIAL AND PERSONAL SERVICES ³² | COMMUNITY SERVICES |

Source: KLEMS dataset

3.2. Estimating the ability to adjust across sectors and countries in the euro area

The ability to adjust of a country has been evaluated in the literature in two ways. The first approach estimates or calibrates a DSGE model that is used to simulate the economic reaction to the shock of interest (i.e. European Commission 2006; Grenouilleau et al. 2007); the second approach, instead, relies only on the econometric analysis of the data (i.e. Duval et al.

³⁰ A general limitation of the analysis comes from the use of yearly data. Indeed, over 35 years many sectors have undergone changes in their economic structure, and also the extent of change might vary across countries.

³¹ We consider a 1digit level of the NACE industrial classification. This allows us to focus on the entire economy while distinguishing between goods and services. It is worth noting that for two 'sectors', that is Manufacturing and Community Social and Personal Services, the level of aggregation is comparatively much higher than in the other sectors. However, a further disaggregation of Manufacturing, while delivering a more in-depth analysis, has lower priority since most goods industries are exposed to competition in the internal market as well as worldwide. For services, disaggregation is expected to pay off since exposure to competition differs greatly. On the other hand, Community Social and Personal Services is also a special 'sector' as it comprises non-market based activities. Please, note that, despite the title (cf. KLEMS), it also includes defence and public administration. Finally, network industries are represented by sectors 4 and 9.

³² It comprises public administration, defence, education, health, social work and other community, social and personal services

2007). While a model-based analysis is more sophisticated, as it allows to take into account a specific economic structure and to analyse really detailed research questions, since our goal is to find some general evidence about sectoral divergences in the ability to adjust across euro area countries, a simple econometric approach is sufficient.

We measure the ability to adjust across countries and sectors by mean of a simple bivariate VAR that allows us to measure the impact on inflation and output growth rate of demand and supply shocks. The variables that are considered are the real output growth rate and the inflation rate, both taken at the sectoral level. Following Blanchard and Quah (1989), we identify supply and demand shocks through the long-run restriction that demand shocks have no long-run real effects. The basics of the technical methodology is explained in Annex 1.

The ability to adjust to both kind of shocks, or “resilience” to shocks, is measured through the “cumulative output growth loss” (only for supply shocks as demand shocks by construction have no long-run effects) and the “cumulative inflation change” over a period of 8 years. The use of cumulative change contains information on both persistence and size of the shocks. The use of a yearly frequency makes it less significant to use measures like the impact effect or the persistence that are usually adopted with quarterly frequency.³³

3.2.1. Results

In Table 2 we report for each sector the average and the standard deviation of the output growth loss after a supply shock³⁴.

Table 2. First measure of the sectoral resilience to supply shocks

| Sector | Average | Sector | Standard Dev. |
|--------------------|---------|--------------------|---------------|
| AGRICULTURE | 1,05 | ELECTRICITY & GAS | 0,24 |
| MINING | 1,25 | AGRICULTURE | 0,31 |
| TRANSPORT | 1,29 | MINING | 0,45 |
| ELECTRICITY & GAS | 1,36 | CONSTRUCTION | 0,58 |
| FINANCE | 1,48 | FINANCE | 0,65 |
| MANUFACTURING | 1,58 | POST | 0,81 |
| HOTEL | 1,85 | MANUFACTURING | 0,82 |
| CONSTRUCTION | 1,92 | TRANSPORT | 0,87 |
| POST | 2,19 | HOTEL | 0,91 |
| BUSINESS | 2,24 | BUSINESS | 1,30 |
| TRADE | 2,31 | TRADE | 1,72 |
| COMMUNITY SERVICES | 3,95 | COMMUNITY SERVICES | 1,73 |

The average cumulative output growth loss is interpreted as a measure of the sectoral resilience to shock, so that sectors with a lower cumulative supply loss are regarded as those

³³ By using yearly data rather than higher frequency data it becomes more difficult to highlight differences across sectors in the reaction to shocks when using either the impact effect or the persistence. For example, consider the case in which a persistence measure, such as the number of periods for the shock to half its impact value, is used. In the realistic case in which the persistence measure ranges between 1 to 8 quarters across sectors, then the use of yearly data would fail to detect sector differentiation as the value for persistence would be the same for any sector.

³⁴ One-standard deviation shock is used in the impulse response to make the size of the supply shock homogeneous across countries and equal to an initial adverse shock of minus 1% output growth.

that are more able to absorb the shock. The standard deviation of the cumulative output growth instead signals how the reaction to the shock varies across euro area countries. Accordingly, higher values of standard deviation are interpreted as a signal of a lower degree of market integration in that sector, which in turn might stand for the need for implementation of product market reforms.³⁵

For both criteria the sectors are ranked increasingly, from the sector showing the lowest average (standard deviation) to the one showing the highest value.³⁶

Both criteria deliver a similar ranking. On the one hand, goods-producing sectors and three services-producing sectors (“Electricity, Gas and Water Supply”, “Financial Intermediation” and “Transportation”) are both better equipped to face supply shocks and more integrated in the euro area. On the other hand, the remaining services-producing sectors appear to be both less resilient to shocks and less integrated. In particular, four sectors have an average output growth loss that is at least 40% larger than Manufacturing: “Wholesale and Retail Trade”, “Community Social and Personal Services”, “Real Estate, Renting and Business activities” and “Post and Telecommunications”. If Manufacturing is considered as a benchmark (it is the most important sector but less flexible than mining and agriculture; so, by adopting it as a benchmark for comparison with services sector we assume a conservative approach), there is clear evidence that many services-producing sectors lag behind in terms of both resilience and the degree of market integration, signalling a need for product market reforms.

The result that the goods-producing industry tends to be more flexible than most of the services-producing industry also holds when the cumulative inflation change after a supply shock (Table 3) is taken into account and a demand shock (Table 4).

Table 3. Second measure of the sectoral resilience to supply shocks

| Cumulative Inflation Change - Supply Shock | | | |
|--|---------|--------------------|---------------|
| Sector | Average | Sector | Standard Dev. |
| MINING | 0,73 | FINANCE | 0,57 |
| FINANCE | 1,38 | MINING | 0,95 |
| AGRICULTURE | 1,46 | TRANSPORT | 1,25 |
| TRANSPORT | 1,52 | ELECTRICITY & GAS | 1,68 |
| ELECTRICITY & GAS | 1,62 | CONSTRUCTION | 1,85 |
| CONSTRUCTION | 1,65 | MANUFACTURING | 2,02 |
| MANUFACTURING | 2,13 | AGRICULTURE | 2,45 |
| POST | 2,29 | POST | 2,48 |
| HOTEL | 2,61 | BUSINESS | 2,78 |
| BUSINESS | 3,55 | HOTEL | 2,98 |
| TRADE | 4,78 | TRADE | 7,53 |
| COMMUNITY SERVICES | 13,10 | COMMUNITY SERVICES | 10,77 |

³⁵ The presence of a deep market integration would cause cross-country homogeneity in price and resource allocation in any sector. Thus, an increase in the standard deviation of the measure of the resilience to shocks would reveal a lower degree of market integration. Finally, a potential explanation for the lack of market integration is the need for PMR.

³⁶ For each sector and each of the three measures of flexibility, the standard deviation and the average reported are computed by taking out outliers values. Outliers’ values are those that exceed the interval constituted by the average plus 4 times the standard deviation.

Table 4. Measure of the sectoral resilience to demand shocks

| Cumulative Inflation Change - Demand Shock | | | |
|--|---------|--------------------|---------------|
| Sector | Average | Sector | Standard Dev. |
| MINING | 1,81 | MINING | 0,44 |
| AGRICULTURE | 2,40 | ELECTRICITY & GAS | 0,98 |
| ELECTRICITY & GAS | 2,43 | FINANCE | 1,22 |
| FINANCE | 2,47 | COMMUNITY SERVICES | 1,26 |
| MANUFACTURING | 3,12 | MANUFACTURING | 1,45 |
| COMMUNITY SERVICES | 3,70 | AGRICULTURE | 1,73 |
| CONSTRUCTION | 4,05 | CONSTRUCTION | 1,81 |
| TRANSPORT | 4,05 | TRANSPORT | 1,89 |
| POST | 4,22 | POST | 2,01 |
| TRADE | 4,55 | BUSINESS | 2,27 |
| BUSINESS | 4,91 | TRADE | 3,20 |
| HOTEL | 5,85 | HOTEL | 3,20 |

The three goods-producing industry, together with the “Electricity, Gas and Water Supply” and the “Financial Intermediation” sector, tend to be more flexible than the other services-producing industry for any kind of shock.

Moreover, sectors with a low ability to adjust also show a large standard deviation. This highlights the fact that some countries perform either much better or far worse than the others.

A graphical representation allows us to easily compare the different capacities to adjust across sectors along the three dimensions we use to measure flexibility.

More specifically, Figure 3 reports on the y-axis the cumulative output growth rate loss, and on the x-axis the cumulative inflation change both induced by a the supply shock. The closer a point is to the origin, the better is the ability to adjust to a supply shock of the corresponding sector as measured along the two dimensions.

According to Figure 3, we can clearly distinguish two groups. The first group made up from the three good-producing sectors plus three services-producing sectors (“Financial Intermediation”, “Electricity, Gas and Water Supply” and “Transport”), comprises the sectors that are more flexible with respect to a supply shock. The second group, made up only of services sectors (“Hotel”, “Trade”, “Business activities”, “Post and Telecommunications” and “Construction”), instead contains the sectors that are less flexible to supply shocks with respect to both dimensions. Finally, the sector “Community, Social and Personal Services” appears as an outlier as it is isolated and far away from the origin, appearing as the less flexible sector with respect to supply shocks.³⁷

³⁷ Any attempt to divide data into homogenous groups is subject to a certain degree of discretionality, also when adopting cluster analysis (what measure of distance should be adopted, how many groups should be formed...). In this case, we opt for simplicity, and decide to have only two groups of similar size, the first grouping the more resilient to shock sectors and the second the less resilient to shock sectors. These two groups then come out from the exercise of adding up the cumulative output growth loss and the cumulative inflation change (euclidian measure of distance), ranking the sectors and put the first 5/6 sectors in one group and the other in the second group. The crucial point is whether to consider Manufacturing in the first or second group; however, as it can be deduced even graphically, Manufacturing appears to be closer to the first group, for the distance from Finance (the closest sector in the most resilient to shock group) is much lower than the one from Hotel (the closest sector in the less resilient to shock group).

Figure 3. Graphical representation of the sectoral resilience to supply shocks

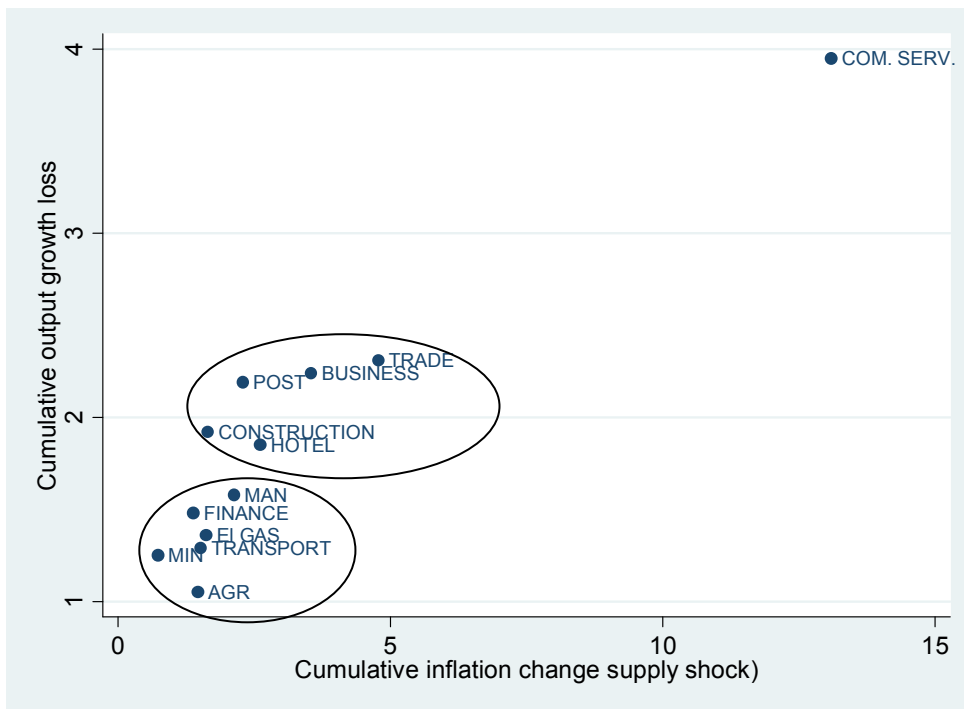
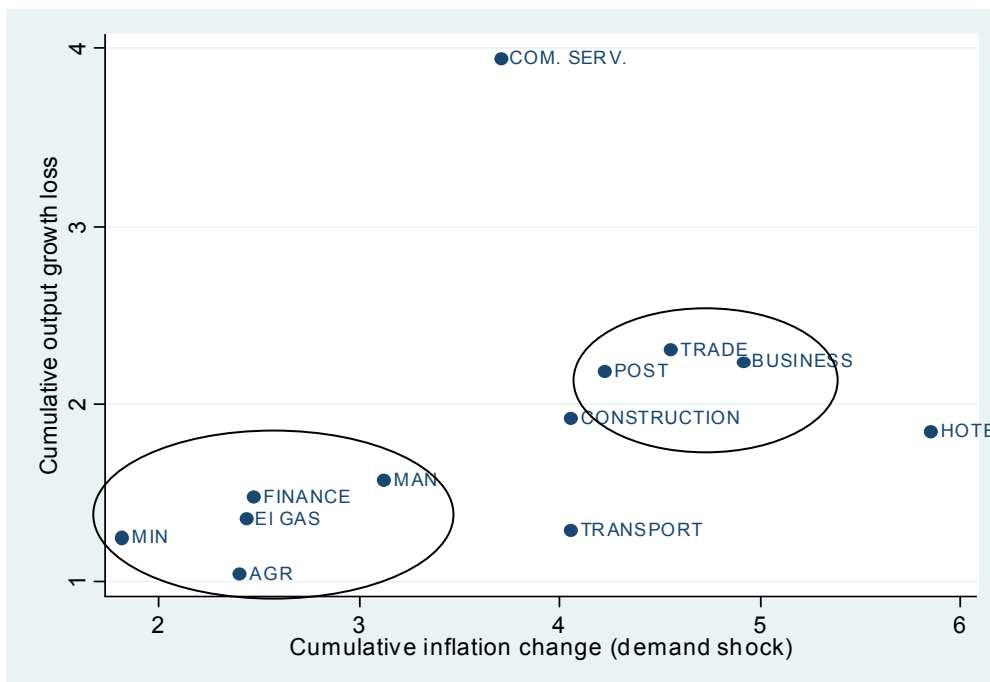


Figure 4 replicates the same analysis but considers on the y-axis the cumulative output growth rate loss resulting from a supply shock, and on the x-axis the cumulative inflation change induced by a demand shock. Again, with the exception of “Transportation”, those sectors that appear as the most flexible with respect to a supply shock also perform better than the other sectors with respect to demand shocks.

Figure 4. Graphical representation of the sectoral resilience to supply and demand shocks



Similarly, “Construction”, “Post and Telecommunications”, “Trade” and “Business Services” appear quite homogenous and form a second group that is, however, less flexible to demand shocks than the first one. Finally, two sectors appear as outliers, as they show a degree of rigidity much stronger than all the other sectors, though along a different dimension: “Hotel” shows the greatest rigidity with respect to demand shock, while “Community Services” shows the greatest rigidity with respect to a supply shock.

3.3. *Where to reform? A country-by-country and sector-by-sector assessment*

In the following tables we analyse, country-by-country, what sectors appear to be exceptionally rigid (Table 5) and, sector-by-sector, what countries appear to be less resilient to shocks (Table 6)

In Table 5 we report, for each country and along any of the three dimensions with which we measure a country's ability to adjust, the sectors that appear to be relatively rigid.³⁸ A sector has been considered relatively rigid with respect to any of the three measures of flexibility, if the corresponding cumulative response is larger than the average cumulative response plus one standard deviation.

Table 5. Relatively rigid sectors in the euro area

| Country | Sectors | | |
|-------------|----------------------------------|-------------------------------|--|
| | Supply - Cum output growth Loss | Supply - Cum inflation change | Demand - Cum Inflation change |
| Austria | Manufacturing, Community Service | Community Service | Community Service, Manufacturing, Business |
| Belgium | Community Service | Community Service, Business | Business, Hotel |
| Germany | Community Service | Community Service | Hotel, Post |
| Finland | Finance, Community Service | Community Service | Transport, Hotel |
| France | Community Service | Community Service | Transport, Trade |
| Greece | Finance, Community Services | Finance | Trade, Finance |
| Ireland | Construction, Hotel | Hotel | Business, Hotel |
| Italy | Community Service | Community Service | Construction, Agriculture, Post |
| Netherlands | Hotel, Post, Trade | Transport, Trade | Construction |
| Portugal | Business | Trade, Post | Business |
| Spain | Business, Construction | Business, Construction | Trade, Business |

Again, it clearly emerges that for each country the main source of rigidity comes from services-producing sectors, with only two exceptions, Austria (Manufacturing) and Italy (Agriculture), and in both cases with respect to only one measure of flexibility. Obviously it is not surprising that the sector “Community Services” often represents the main source of rigidity of a country, as it is a sector highly domestically oriented, that is, essentially a non-tradable sector.

In Table 6, we consider for each sector what countries are relatively rigid. A country has been considered as relatively rigid if, for at least two out of the three measures with which

³⁸ This analysis has the purpose to determine what sectors are the relatively rigid within a country, but does not allow us to compare across countries.

flexibility is measured, the cumulative response is larger than the average cumulative response plus one standard deviation. From the table clearly emerges that Mediterranean countries are the most problematic, for almost any sector. In particular Spain and Portugal with 6 sectors, and Italy with 5 sectors, signal the high degree of rigidity of their economy, relatively to the other euro area countries.

Table 6. Sector-by-sector list of the most rigid countries in the euro area

| Sector | COUNTRY |
|-----------------------------------|------------------------------|
| AGRICULTURE | PORTUGAL, ITALY |
| MININIG | ITALY |
| MANUFACTURING | AUSTRIA, SPAIN |
| ELECTRICITY, GAS AND WATER SUPPLY | PORTUGAL, FRANCE |
| CONSTRUCTION | PORTUGAL, SPAIN, NETHERLANDS |
| TRADE | SPAIN, NETHERLANDS |
| HOTEL | SPAIN, NETHERLANDS |
| TRANSPORT | NETHERLANDS |
| POST AND TELECOMMUNICATIONS | ITALY, PORTUGAL |
| FINANCIAL SERVICES | GREECE |
| REAL BUSINESS ACTIVITY | SPAIN, PORTUGAL, ITALY |
| COMMUNITY SERVICE | SPAIN, PORTUGAL, ITALY |

Box. 3 Comparing sectoral reform needs in different approaches

Do other approaches trying to identify sectors in need of reform yield results similar to ours? In this box we consider two such approaches: the “Product Market and Sector Monitoring” analysis in European Commission (2007e) and in SEC (2007) 1517 of 20 November 2007; as well as the recommendations and ‘points to watch’ in the Commission's annual progress report on the Lisbon strategy.

In the former approach, the Commission investigates market-based sectors at the 2 digit level of the NACE industrial classification and consider a sector as problematic if it fulfills three criteria:

1. Economic importance (static and dynamic),
2. Contribution to economic adjustment (economic interlinkages, presence of general purpose technology, contribution to the price adjustment)
3. Presence of market malfunctioning (consumer Survey, TFP and employment growth rate)

By applying these criteria the following sectors are found to be problematic:

1. Three Manufacturing sectors
2. Wholesale and Retail Trade
3. Post and Telecommunications
4. Financial Intermediation and Insurance and Pensions Funding
5. Other business activities (heterogeneous service sector including mainly professional services)

While results for Manufacturing are not comparable with ours, given the fact that we kept the manufacturing sector aggregated, the similarity of results with respect to services sectors is striking. In particular, the two approaches, though very different in their methodology, both highlight that “Trade”, “Other business activities” and “Post and Telecommunications” are among the more problematic sectors.

Also the country specific recommendations and 'points to watch' found in the Commission's Annual progress report on the Lisbon strategy repeatedly stress that the policy area where reforms need to be tackled with high priority are principally trade and professional services (Germany, Greece, France, Austria, Italy, Spain), and to a lesser extent energy markets (Belgium, Spain, France, Germany) and financial services (Italy, Portugal).

3.4. Do asymmetric shocks matter at the sectoral level?

In this section we report some results from the investigation about the importance of idiosyncratic shocks across sectors. We estimate for 11 euro area countries (Luxemburg omitted) 12 bivariate VARs, one for each of the twelve sectors defined above. For each pair of sector and country, the bivariate VAR consists of a euro area and a country-specific variable: the real output per hour worked at the euro area and the real output per hour worked at the country level. Common and country-specific (idiosyncratic) shocks at the sectoral level are identified following Giannone and Reichlin³⁹(2006). To compare the importance of common to country specific shocks the Forecast Error Variance Decomposition (FEVD) of the real output per hour worked at the country level is computed. Indeed, the contribution of a given shock to the Forecast Error Variance of the variable of interest shows the relative importance of the shock in driving the variable.

Table 7 reports the percentage of the FEV of the country-specific real output per hour work that is explained by common shocks, and is computed at three different time horizons: 1, 3 and 5 years. The higher the average percentage, the less important are idiosyncratic shocks in that sector over the euro area.

Table 7 shows that in the euro area two sectors clearly stand out as less affected by idiosyncratic shocks: “Post and telecommunications”, and “Manufacturing”. On the other end, asymmetric shocks are still important for most sectors and at any time horizon, as common shocks often explain less than 30% of the Forecast Error Variance.⁴⁰

Table 7. Sector-by-sector measure of the relative importance of common shocks

| Average % of the FEVD of country-specific output explained by common shock | | | |
|--|-----|-----|-----|
| Sector / Horizon | 1 | 3 | 5 |
| POST AND TELECOMMUNICATIONS | 39% | 61% | 67% |
| TOTAL MANUFACTURING | 37% | 41% | 47% |
| TRANSPORT AND STORAGE | 27% | 32% | 35% |
| MINING AND QUARRYING | 19% | 22% | 27% |
| AGRICULTURE, HUNTING, FORESTRY AND FISHING | 19% | 20% | 25% |
| ELECTRICITY, GAS AND WATER SUPPLY | 18% | 26% | 30% |
| WHOLESALE AND RETAIL TRADE | 16% | 24% | 29% |
| FINANCIAL INTERMEDIATION | 15% | 21% | 27% |
| HOTELS AND RESTAURANTS | 13% | 16% | 19% |
| REAL ESTATE, RENTING AND BUSINESS ACTIVITIES | 13% | 25% | 30% |
| CONSTRUCTION | 11% | 18% | 22% |
| COMMUNITY SOCIAL AND PERSONAL SERVICES | 10% | 13% | 16% |

³⁹ The identification relies on the assumption that country-specific sectoral shocks affect euro area variables proportionally to the relative importance of the country in the sector of interest.

⁴⁰ It is worth noticing that in this analysis the importance of *idiosyncratic* shocks appears larger than what is usually reported for similar analysis that are performed at the aggregate level. This is a consequence of taking an average across countries where each country has the same weight. Indeed, the importance of *common* shocks is greater for larger (Germany, France, Italy) rather than smaller countries. Thus, if for each sector the average took into account the relative importance of the country in the sector, then the importance of common shocks would increase and that of idiosyncratic shocks decrease.

As Manufacturing is by far the most important goods-producing sector, this result again highlights the need for product market reforms for services-producing sectors, though the final picture is somewhat blurred. Indeed, on the one hand, only two sectors (“Post and Telecommunication”, and to a lesser extent “Transportation”) stand out as less affected by idiosyncratic shocks (with common shocks explaining more than 30% of FEV at almost any horizon). On the other hand, all other sectors perform similarly, with two sectors (“Community social and personal services” and “Hotel and restaurants”) always at the lower end.

4. The Eurozone Record in Product Market Reforms

In this section we summarize the actual product market reform record of euro area countries. We are particularly interested in whether the euro area countries have reformed in services, with a view to achieving greater flexibility and in so doing enhancing their adjustment capacity. The findings of Section 3 clearly suggest that product market reforms in the eurozone ought to be concentrated in services, and indeed, within services, in the more sheltered sectors. After a reminder of overall product market reform trends in the euro area, we summarize evidence about the relative rigidity of services in the euro area, with immediate consequences for the euro area inflation rate (in 4.1). In Section 4.2, selective evidence is provided about the restrictiveness of specific domains in services and the product market reforms observed (here defined as reductions of these degrees of restrictiveness over time).⁴¹

There is little doubt that euro area countries have been reforming product markets over the last two decades⁴². The relevant questions are principally about the depth and (wide or narrow) scope of such reforms, the type of markets where reforms have been weak or absent and the speed of reform. Price controls are almost phased out today, state control over business has reduced significantly, ownership barriers have come down and many market access obstacles for third countries have been lowered or removed, to mention some important trends. Competition policy now exists in all euro countries and EU competition policy (including state aids) has been widened and tightened. The EU has gradually but steadily liberalized network markets and these endeavours have not petered out. Therefore, more targeted reform approaches are needed. Nowadays, it is more fruitful to zoom in on the remaining pockets of restrictiveness hindering market functioning, in particular, in services.

4.1. Why reforms in services lubricate adjustment

The conglomerate of services is large. The exposure to domestic or EU-wide, let alone, global, competition varies enormously between sectors within this conglomerate. The present subsection will merely provide indicative (but strong) evidence that services as a whole tend to be a principal source of price stickiness and inflation persistence in the eurozone. Insofar as product market reforms can help to increase price flexibility and enhance competitive pressures in these markets, product market reforms can effectively contribute to the

⁴¹ In presenting selective empirical evidence on the product market reform record of eurozone countries, it is important to realize that there is a lack of appropriate indicators (see Box 1 and Pelkmans, 2008, forthcoming) for authoritative analysis. Readers are cautioned that the empirical evidence, though rich, is subject to considerable improvement.

⁴² The relevant empirical literature will not be reiterated as it has been widely discussed over the last few years. The reader is referred to Box 1 and the references quoted there. Other helpful sources include OECD, 2007, Sections 6.4 and 6.5 in European Commission, 2008, and Section 2.5 in European Commission, 2007a.

lubrication of adjustment processes in EMU. To keep this essay readable and short, we shall focus on some telling results in the recent literature.

The Task Force of the European System of Central Banks has studied competition and pricing behaviour in services markets in the euro area. It finds for the period 1996 to 2005 inclusive that services contribute most to the aggregate eurozone (HCIP) inflation rate, except for energy during short spells. As the Task Force (2006, pp. 26/7) writes, "[W]hile euro area aggregate inflation amounted to 1.9 % on average during the period considered, average services inflation stood 0.4 p.p. higher at 2.3 %". Apart from "communication services" (with the sharp fall in telecoms tariffs), all services contribute to this positive inflation differential.

That (a lack of) exposure to competition and the property of non-tradability of (some) services might well play a role in this phenomenon is well-known. Consistent with this explanation, the Task Force shows that inflation differentials between euro countries over a 10 years period are positively correlated with each country's gap between services inflation rates and those of (non-energy) industrial goods. (Task Force ESCB, 2006, p. 28)

Behind the somewhat higher services inflation, one suspects a significant determinant to be the relevant trends in labour costs. This is confirmed when regressing unit labour cost growth over this period with inflation in the services sector⁴³. Another factor is likely to be the presence of "administered prices" in a range of services, such as refuse & sewerage collection, medical, dental and hospital services, passenger transport by railway and road, postal services, cultural services, education and social protection⁴⁴. Furthermore, work emerging from the ECB "Inflation Persistence Network" (see e.g. Angeloni et al., 2005) points to a slower price responsiveness (such as the frequency of price changes) in the services component compared with other inflation components. When prices are changed in services, only two out of ten price changes are price decreases (Dhyne et al., 2005).

The importance of services markets reform should not, however, be regarded as a matter for services only. Numerous services are consumed by manufacturing, mining and agricultural activities as well as other services sectors. For that reason alone, the price rigidities of services inputs will have a knock-on effect. The OECD has recently moved beyond the PMR indicators to so-called non-manufacturing indicators (NMRs, see Box 1, item b.) and developed estimates of 'knock-on' effects of restrictive services regulation for manufacturing, using input-output tables⁴⁵. These knock-on effects are solely measured on a scale of restrictiveness (from 0 – 1) but the advantage is that, in so doing, they become comparable between countries.

First presented in Conway & Nicoletti (2006, p. 60), for eurozone countries, the knock-on effects range from a low of 0.1 (the Netherlands and Ireland) up to a high of 0.35 for Austria and still a little higher than 0.25 for Germany, Italy and Belgium. Even when accepting that these calculations are probably no more than rough proxies, such evidence is a forceful reminder of the inter-sectoral spill-over of these rigidities throughout the economy. It may therefore also negatively affect the working of the competitiveness channel.

⁴³ Source: Task Force ECSB, 2006, p. 29 Chart 15 ; $R^2 = 0.8677$

⁴⁴ See Luenneman and Mathae (2005). The authors suggest that these services add up to about 7 % of the EU-15 aggregate HCIP in 2002. Luenneman and Mathae findings include: regulated prices generate a higher inflation rate than sectors outside services and e.g. higher inflation persistence than overall inflation

⁴⁵ Note that the European Commission, 2007e, pp. 16/17, is also incorporating this element in the product market monitoring methodology.

4.2. Reforms and remaining restrictiveness in services markets

The present section zooms in on specific services sectors for which product market reforms have been undertaken in the eurozone. It will not include fully sheltered domestic sectors such as the ones where administered prices may play a role (see 4.1 and footnote 45), even though these sectors exhibit above-average price stickiness. In these markets, the introduction of competition *in* the market or, at times, *for* the market (via e.g. concessions, etc.) is difficult and generalizations are imprudent. A lot of these activities are intrinsically local as well and the internal market may not play a role or only remotely so. They require separate analysis and reform, with a view to minimise the inflation persistence and price stickiness.

The first set of specific services which have been and still are subject to product market reforms are network industries. The OECD has developed indicators in this field (see Box 1, item b.). This has made it possible to obtain a long-term reform perspective for the EU-15 for six network industries in energy, transport and communication (Conway & Nicoletti, 2006, p. 43). The movement over two and a half decades is quite compelling: eurozone countries have reformed considerably and mostly just before or since the euro introduction⁴⁶. It takes a detailed analysis to draw any further conclusion. Thus, the annual report by the European Commission on the performance of network industries (European Commission, 2007b) provides a careful and detailed analytical survey for the EU-27 but, once this degree of detail is pursued, “simple” indicators have to give way to lengthy descriptions which are not easily comparable between sectors, between countries (even if the EU element is strong) and over time. However, there is no doubt that the EU has steadily pursued further liberalization in network industries, since 2003, with a mix of liberalization, competition policy and regulatory interventions at the two levels of governments. A new wave of policy initiatives provides yet another boost to this process. The recent “third generation” (2007) liberalization of postal services, the gas & electricity package proposed in 2007, the electronic communication proposals of 2007, the detailed rail freight package of October 2007, the sharpening of the justification of state aids in broadcasting following the “Altmark” case and the newest (2008) proposals to allow secondary trading in slots in congested airports demonstrate that the Union is determined to pursue further network industry liberalization in the internal market, accompanied by the appropriate regulation, competition policy and adaptations of two-tier institutional setting.

The question is whether, in the context of shock adjustment in the euro area, further reform would contribute to its lubrication. It is interesting to study Table 8, comparing the price developments of network industries in the EU -25 and also comparing them with various inflation rates for the period 1996-2006.

Of the six network industries, four have sectoral price developments outpacing the (HICP) inflation rate of the Union, although electricity and postal only by a small margin. The problem is that, in sectors such as gas, the price is not but very partially dependent on the emerging competition in the EU gas sector (that is, on product market reform), and to a significant extent on world oil & gas prices. If one compares the network industries other than gas with the inflation rate of all services in the EU-25, however, they all remain below the latter (but all of them remain above the inflation rates of the goods sector, which is typically more exposed).

⁴⁶ This rise in reform intensity in network industries since the early 1990s is very similar to the overall perspective which emerges when employing the Copenhagen Economics Market Opening Index (see Box 1, item e.). See their Figure 2.6, p. 30 in Copenhagen Economics, 2005 (Part I).

Table 8. Inflation in EU-25 network industries

| | HICP-weight (2006) | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | January 2006 | November 2006 |
|----------------------------|-----------------------|------|------|------|------|-------|------|------|------|------|------|-----------------|------------------|
| Telecommunications (EU-15) | 2.3 | -3.9 | -1.6 | -5.1 | -2.1 | -10.4 | -2.0 | -0.5 | 0.0 | -0.8 | -2.0 | 74.5 | 73.8 |
| Electricity | 2.1 | 0.1 | 0.0 | -0.9 | 1.0 | 3.3 | 3.1 | 3.4 | 3.3 | 3.3 | 4.5 | 122.9 | 129.9 |
| Gas | 1.5 | 4.6 | 2.6 | -2.5 | 4.7 | 17.3 | 2.8 | 1.1 | 3.0 | 8.0 | 14.4 | 169.8 | 188.7 |
| Railways | 0.5 | 1.4 | 3.1 | 3.0 | 2.4 | 2.4 | 2.3 | 3.3 | 2.2 | 4.5 | 2.9 | 131.2 | 132.9 |
| Air | 0.7 | 1.4 | 3.9 | 0.9 | -0.1 | 5.0 | -0.3 | 3.1 | -2.3 | 6.7 | 2.1 | 122.0 | 124.7 |
| Postal services | 0.2 | 2.4 | 6.7 | 0.3 | 0.9 | 1.6 | 1.9 | 0.9 | 4.6 | 1.4 | 2.9 | 126.1 | 128.9 |
| All-items HICP | 100 | 3.1 | 2.2 | 1.4 | 2.2 | 2.3 | 2.6 | 1.9 | 1.9 | 2.0 | 2.3 | 124.1 | 126.8 |
| Goods | 59.6 | 2.6 | 1.3 | 0.6 | 2.0 | 2.0 | 2.2 | 1.1 | 1.2 | 1.4 | 2.2 | 118.1 | 120.8 |
| Services | 40.4 | 3.2 | 2.9 | 2.4 | 2.3 | 2.5 | 3.3 | 3.2 | 2.7 | 2.8 | 2.4 | 131.2 | 133.7 |

NB: The last two columns display the price level index (1996=100). Price changes are calculated for January of each year. The telephone and telefax services price index refers to the EU-15 only.

Source: Eurostat.

Even if it is improper from an analytical point of view to draw immediate conclusions from Table 8 - for example, that product market reforms in network industries would tend to suppress inflation somewhat, other than in gas, because this would only be correct if controlled for other influences on prices – the impression one gets from Table 8 is consistent with the inference from the careful analysis of Martin, Roma and Vansteenkiste (2005), finding that EU network liberalization has tended to reduce prices in the EU in the margin.

A second service sector standing out in terms of public and self regulation, often held to be (overly) restrictive, is the cluster of professional services. Since professional services are credence goods, several market failures have to be overcome and the nature of the regulation to do so, the balance between (justified) public and self-regulation and the specifics of e.g. fee setting, entry and advertising regulation are extremely difficult and subtle⁴⁷.

For the EU this is of special importance since the internal market for professional services has never worked well (if it ever worked at all!), despite at least four decades of distinct attempts to remove the barriers, where possible in principle. Also, the competition issues are far from simple⁴⁸. This introduction is indispensable before one begins to read, let alone, appreciate, product market reform indicators in this field.

Conway & Nicoletti (2006, p. 56) compare the degree of restrictiveness of regulation of professional services, based on the 1998 and 2003 OECD questionnaires (which are very detailed in this respect). Euro area countries are spread horizontally all over the range of restrictiveness, from very modestly regulated in Finland to the most restrictive one, Italy.⁴⁹

Between 1998 and 2003, there is no clear pattern, even if reductions of restrictiveness are slightly more numerous (and Austrian, Spanish and German liberalization is quite forceful, from high initial levels). The problem is that the market failures in professional services are profound and that the idea of merely comparing restrictiveness, without assessing the quality

⁴⁷ See e.g. Andrews, (2002); Faure et al., (1993); Ogus (1995); and Paterson et al., (2003).

⁴⁸ See COM(2004)83 of 9 Febr. 2004, "Report on competition in professional services"; see also OECD, 2000, Competition in professional services, DAF/CLP, 23 February..

⁴⁹ The OECD has studied accounting, legal, architecture and engineering.

of (self) regulation and competition (policy), is almost certainly inappropriate. In Garoupa (2004), an attempt is made, based on a very detailed questionnaire, to assess national (self) regulation in terms of “quality” (including aspects such as entry, fees, organizational forms, advertising and conduct restrictions), whereas the quality criteria are derived from a careful literature survey, in 'law & economics', of professional services. The analysis is limited to medical doctors and lawyers (the former not in Conway & Nicoletti, op. cit. and to a snapshot, largely but not entirely based on Paterson, Fink & Ogus, op. cit.). The US comes out best (in terms of quality) by far, followed by (euro) countries such as Belgium, France and Spain. Since the professions in Conway & Nicoletti, op. cit. and in Garoupa, op. cit., are mostly different, one cannot jump to conclusions but it is striking that all four of these (in Garoupa, best performing) countries find themselves only in the middle range in Conway & Nicoletti, op. cit. Therefore, it appears imprudent to generalize⁵⁰. Reform efforts should at least aim at the internal market for professionals to work (much) better by ensuring easier entry as well as other manifestations of competition, whilst market failures should continue to be avoided and quality of these services remaining at a high minimum on which the EU legislature ought to agree. Indicators to monitor such reform efforts require deep investment in a sophisticated approach to reforms in this field. If policy-makers and the citizens can be provided with objective indicators, so much the better, but one should be under no illusion: a profound and careful approach is indispensable⁵¹. At the level of the eurozone (or EU) Member States, reforms are undertaken, as shown in Conway & Nicoletti, 2006 but the great diversity in restrictiveness suggests considerable room for further reform.

A third area in services where (OECD) indicators exist and concerns about restrictiveness have long prevailed is retail. Whereas the retail indicator in the OECD PMR (see Box 1, item a.) is limited and blended with “sector-specific administrative burdens” (hence, of little use), the detail in the NMR indicators (see Box 1, item b.) is far greater and a series of relevant questions on retail competition have been posed. As shown in Conway & Nicoletti, 2006, p.53, euro area countries are again spread horizontally over the range of restrictiveness but most of them are on the more restrictive side, with 6 of the most restrictive 7 ones being euro countries. Interesting is that, in contrast to frequent assertions about the easy entry and other freedoms in the US when it comes to retail, the US finds itself slightly to the right of the middle group. There are however several problems with the indicators, such as the local level of regulation, including self-regulation (not reflected in the OECD data) and the *costs* of light regulation in terms of attractiveness for city centres which, in Europe, are typically historic centres and expected to maintain “ambiance”. At the same time, space for large scale shopping malls or hypermarkets is limited in many parts of the densely populated eurozone. Whether and when restrictiveness is anti-competitive or protectionist for incumbents or small shop-owners and/or expresses preferences for “ambiance” and pleasant shopping streets in centres is exceedingly hard to make out. Without denigrating the latter argument for Europe, it is nevertheless interesting that some eurozone countries with old, historic centres (such as Italy, Portugal and the Netherlands) find themselves on the less restrictive range compared to

⁵⁰ How difficult is it to liberalize this field, is illustrated by Garoupa's conclusion that the Netherlands is an example of a good-quality regulatory set-up for the legal profession and a poor one for physicians!

⁵¹ The EU legislature has adopted directive 2005/ 36 of 7 September 2005 (OJ EC L 255 of 30 September 2005) which consolidates the numerous mutual recognition procedures for professional qualifications. This, however, is more like a necessary, far from a sufficient, condition for a genuine internal market, with the appropriate measure of competition. Also, the ECJ has so far remained rather cautious in respecting national differences which can be characterized as restrictive; see e.g. the 2004 Wouters case. A sectoral approach is probably the only way forward.

the USA. All this suggests that, in retail, there is still room for enhancing competition by means of reforms.

5. Product Market Reforms in Wider Euro Area Reform Strategies

Product market reforms should not be considered in isolation, as Figure 1 and Section 2.2 and 2.3 have already emphasized. The present section briefly addresses the design issue of reforms, in other words, how product market reforms should be embedded in wide reforms at two levels of government within the eurozone. Figure 5 can serve as a help for rationally approaching reform design. It proposes a stepwise approach when product market reforms are integrated in a wider “structural reform” strategy. Figure 5 suggests four steps, starting with the components of micro-economic reforms in the left column – largely in a national framework but product markets reforms strongly conditioned by the internal market setting – and taking account of the socio-economic context and (national and eurozone) conditions (indicated at the bottom of Figure 5).

Figure 5. Designing market reforms in the euro area context

| Step 1 | Step 2 | Step 3 | Step 4 |
|---|--|---|--|
| <p>Policies and Sub-policies</p> <ul style="list-style-type: none"> - Product Markets <ul style="list-style-type: none"> o Services o Goods - Labour Markets <ul style="list-style-type: none"> o Unemployment benefits o Employment protection legislation o Minimum wages o ... - Financial Markets <ul style="list-style-type: none"> o Housing markets o Credit constraints o ... - Others | <p>Complementarities</p> <ul style="list-style-type: none"> - Across policies - Within policies | <p>Type of reform</p> <ul style="list-style-type: none"> - Comprehensive <ul style="list-style-type: none"> o Unconditional o Sequential o Simultaneous - Partial reform | <p>Coordination under Subsidiarity Constraints</p> <ul style="list-style-type: none"> - Cross border spill-overs - Policy complementarities at EU level |
| Socio-economic conditions/context | | | |

The first step consists in identifying those reform areas which yield maximum benefits for the eurozone either in terms of growth, employment and/or adjustment capacity. The issue has been widely discussed in the economic literature and most authors point to product, labour and capital markets as the most relevant for EMU (of course, one also needs to look at different policy options within each area, e.g. services and/or goods for product markets)⁵².

⁵² See Section 2 for the effects on adjustment. For additional information see i.a. Leiner-Killinger et al. (2007). IMF (2004b) also studies tax and trade reforms (for 20 OECD economies). The latter are usually considered in our analysis as part of product market reforms while the former are not considered since they belong to the realm of Member States’ fiscal policy discretion which limits the scope of EMU specific action.

Once the main reform areas are defined, policymakers should explore whether there are within- and/or cross- policy complementarities (Step 2). The case of within-policy complementarities in products markets (services vs. goods) has not been well exploited in the euro area despite the fact that services represent 70% of the EU economic activity. Section 4 provides evidence that the reform record of euro area countries in services has been relatively poor. This explains why services appear to be less resilient to economic shocks according to our empirical analysis (Section 3). Castanheira et al. (2006) show that vested interests are deeply anchored in the services sector. National policymakers, should in our view, profit from the EU framework in carrying out their reforms at national level. National policymakers could far more successfully piggy-back on the rolling internal market strategies. There are some success stories at EU level, which could open the way to further initiatives, e.g. air transport, telecommunications and broadcasting. It is not impossible that the Services Directive will boost EU-services trade and establishment (Pelkmans, 2007). National policy complementarities with the goods market have proven to be insufficient to boost services reforms. Therefore, the European framework may be a better anchor⁵³.

As far as cross-policy complementarities are concerned – still in step 2 - , they are important for two reasons: enhancing the efficiency and adjustment gains of product market reforms, besides reducing political opposition to reforms. There is considerable evidence in the literature that product market reforms foster labour market liberalization (e.g. Fiori et al., 2008; Duval and Elmeskov, 2006; Boeri, 2005). Hence, when assessing the total growth and employment effects of product market reforms, one need to consider both their direct effect and the effect through induced changes in labour market policies and institutions. In terms of the effect of labour and product market regulations on adjustment, Duval et al. (2007) show that stringent regulation lengthens the adjustment period. Moreover, the cumulative effects are higher than the sum of the individual effects of rigid labour and product market regulations⁵⁴. There is also some evidence that restrictive product market regulation (especially in services markets) may well be due, to some extent, to restrictive labour market regulation. Of course, services have a very large wage component⁵⁵ and thus the link might not come as a surprise. Altogether, what this means is that there is a two-way relationship between labour and product markets. Reforming labour markets is not only a reform route in and by itself, but also a way of reducing rigidities in the services market (and which is the less resilient sector to economic shocks).

Financial liberalization will also improve capital reallocation towards the most productive investment while improving risk diversification. Coupled with product market reforms, financial liberalization is expected to increase growth and employment in the euro area (Tressel, 2008; European Commission, 2008; Taylor, 2008).

Step 3 studies the costs and benefits of various policy options as suggested by Berger and Danninger (2005) for labour and product markets reforms⁵⁶.

⁵³ In contrast, within-policy complementarities in *labour* markets have been widely studied. For a comprehensive review, see Bassanini and Duval (2006).

⁵⁴ This relationship is further developed in Section 2.

⁵⁵ See Task Force ECSB, 2006, pp. 27 – 30, for telling data and regressions.

⁵⁶ Of course, a comprehensive reform strategy should also study complementarities and spillovers with other policy areas but we believe that their analysis is useful to establish general recommendations.

Their taxonomy of policy options include:

- i) No reform. But as shown, no reform is not an option in the euro area;
- ii) Partial reform occurs when the benefits in one market justify reform but reforming the other market leads to high net costs. Section 4 suggests that euro area countries have adopted this approach by reforming product markets while letting labour markets largely untouched. The lack of adjustment in some markets, which we report in Section 3, militates against such partiality: a partial reform is neither efficient nor advisable for EMU;
- iii) Comprehensive reform that exploits policy synergies and complementarities as the most welfare improving (unconditional, sequential, simultaneous)

If unilateral reform were optimal in both (labour and product) markets, Berger and Danninger *op.cit.* conclude that coordinated deregulation becomes self-supporting. Usually however, the upfront costs and political opposition associated with some reforms will make unconditional reform very difficult to implement. Simultaneous reforms are desirable when the benefits of reforming one market suffice to compensate the costs associated with reforming another market. Finally, sequential reform is possible when reforming one market is expected to pave the way for reforming the other⁵⁷. In general, the authors conclude that a comprehensive reform package will not only increase economic welfare but also reduce political resistance to reforms.

In a two tier government structure like EMU, designing a reform strategy is further complicated (step 4) by two aspects: the size and direction of cross-border spillovers as well as core principles in the EC-Treaty constraining EU action to some areas while limiting or blocking other ones. Leaving aside the discussion on cross-border spillovers measurement difficulties and the strength of transmission mechanisms (see Box 2), product and financial market reforms are usually regarded as engendering strong cross-border spillover effects regardless of the methodology used, while labour markets are typically found to induce small cross-border spillovers (IMF, 2004b; Taylor, 2008).

Step 4 requires respect for the subsidiarity principle, applied to powers shared between the EU level and the Member States level: the principle helps to define the attribution of competences between Member States and the EU. European action should only be pursued when there is sufficient evidence on sizeable cross-border spillover effects and reform action cannot be taken more efficiently at Member State level. A systematic analysis is offered by recent attempts to develop and apply a subsidiarity test, which can equally serve the design process of reform strategies⁵⁸.

Last but not least, an efficient reform strategy should also take account of the socio-economic context and conditions. For instance, economic conditions may determine the appropriate timing for the reform. Policymakers could profit from buoyant economic conditions to undertake far reaching reform programmes. Reform practice, however, tells otherwise since policymakers have often undertaken reforms when the economy is so deteriorated that

⁵⁷ The economic literature has traditionally considered that reforms in the product markets ease labour market reforms. Nonetheless, as noted above, this relationship is blurred, or, if one wishes, a two-way one, in some euro area countries.

⁵⁸ See e.g. Pelkmans (2005), and Ederveen, Gelauff & Pelkmans (2008).

reforming is the only viable option. Additional factors such as demography, the state of new technologies, international influences, etc.⁵⁹ may also shape a reform strategy.

6. Conclusions

This essay has shown, theoretically and empirically, that product market reforms do help to “lubricate” adjustment processes in the euro area. Of course, these reforms should not be pursued in isolation from e.g. labour market reforms and efforts to make financial markets work better, as we explained in some detail both at the outset and in Section 5. This case for product market reforms in the eurozone is additional to that in pursuit of higher economic growth and employment, usually made in the context of the Lisbon process. In other words, for eurozone countries there is a “*double dividend*” from such reforms. This is the central message of the present essay. It is crucial that this message is actively communicated, for the sake of obtaining higher net benefits (of having a common currency) as a result of lower cumulative adjustment costs.

Four more specific “messages” for national and euro area (and EU) policymakers are noteworthy, too.

First, the eurozone is well served by a common micro-economic reform strategy ensuring that all euro countries undertake significant reform efforts, including product market reforms. Rather than 'centralized', such a strategy is best envisaged as a two-way interactive setting. In the EuroGroup, the much needed explicit recognition of the joint interest does not imply a drive for uniformity in national reforms. Quite the contrary, the local socio-economic context, the (differentiated) national reforms efforts in the recent past and the diversity in reform needs are compelling reasons for targeted reforms at the national level. Nonetheless, all eurozone countries jointly manage and share a common public good and therefore credible deliverables, ultimately facilitating shock adjustment, have to be shown in a transparent manner. At the same time, the national reform efforts have to be much more explicitly and politically associated with the common eurozone interest and embedded in the common strategy.

Second, the record of euro area countries in reforming services is subject to considerable improvement. Whereas for network industries there continues to be steady – be it gradual – progress, in domains such as retail distribution and retail banking but also professional services the scope for deeper reforms rendering market functioning more flexible and responsive remains quite large. Several opportunities currently present themselves to stimulate a deepening of such reforms. The Commission's market monitoring exercise in the framework of the 2007 Single Market Review (see e.g. Box 3) is capable of identifying ill-functioning services markets which ought to be reformed urgently. The current “screening” of national (and regional and local) services regulation in the framework of the services directive 123/2006 should not be regarded as a mere exercise in notification and consistency with the directive but exploited as a basis for wide-ranging reforms in national services regulation, which is often still restrictive and/or heavy in terms of red tape (hence, throttling entry).

Third, some services, like typical local community services, remain truly sheltered from both domestic and intra- EU competition, as noted in Section 4. Whatever good reasons there might be for this constellation, empirical evidence shows clearly that the absence of competition allows – over longer periods – a higher than average inflation and greater

⁵⁹ See IMF(2004b) and Hoj et al. (2006) for some insights on the framework conditions.

inflation persistence. Although the EU or euro area level is not qualified to play any role of significance in reforming these services activities, it is in the enlightened self interest of eurozone countries, their local communities and, in the final analysis, also the eurozone, that some form of “mainstreaming” of reforms is also applied to these activities.

Fourth, in calling for a strategic role of the EuroGroup with respect to (product market) reforms, not the typical expertise of finance ministers anyway, it is crucial to dispose of an appropriate empirical basis to monitor reform progress (over time and between eurozone countries) in a strategic fashion, including the formulation of meaningful beacons or benchmarks. A significant improvement over relatively simplistic Lisbon indicators, the MICREF and LABREF data sets seem to have the potential to serve this strategic purpose well. The EuroGroup should request the Commission to support the former's strategic function by focussing in particular on specific services domains where the reform needs can be analytically demonstrated and empirically supported.

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ANNEX to Section 3 “The Blanchard-Quah Methodology”

The identification of the supply and demand shocks in any of the sectoral two-variable VAR follows the identification methodology presented by Blanchard and Quah (1989). The vector of endogenous variables, Y_t , contains the rate of growth of real output and the inflation rate. The two variables are assumed to respond to two types of shocks: supply shocks and demand shocks.

Let's consider the Vector Moving Average representation of the structural model:

$$Y_t = A(L) \varepsilon_t$$

where $A(L)$ is a polynomial in the lag operator L , Y_t is the vector of endogenous variables (the rate of growth of real output and inflation), and ε_t are orthonormal structural errors ($E(\varepsilon_t \varepsilon_t') = I_2$, $E(\varepsilon_t \varepsilon_{t+s}') = 0$ for all s different from 0).

The structural model cannot be estimated directly, so that the reduced form model is estimated first, that is:

$$Y_t = B(L) u_t$$

As B_0 is an identity matrix I_2 , the following relation holds between the structural and the reduced form representation:

$$u_t = A_0 \varepsilon_t$$

It follows that to identify the structural errors it is necessary to recover the 2-by-2 matrix A_0 from the estimated parameters by setting four restrictions.

The first three restrictions derive from the Variance Covariance Matrix of the reduced-form errors:

$$E(u_t u_t') = \Sigma = E[A_0' \varepsilon_t \varepsilon_t' A_0] = A_0 A_0'$$

The last restriction is imposed on the matrix of long-term effects of the structural shocks, A_1 . It is possible to show that the following relationship between A_1 and the matrix of long-term effect of reduced-form shocks B_1 exists:

$$A_1 = B_1 A_0.$$

By imposing a triangular structure on A_1 , it is possible to assume that demand shocks have no long-term effect on output. In this case A_1 can be derived from a Cholesky Decomposition of the known matrix $B_1 \Sigma B_1'$ as

$$A_1 A_1' = B_1 A_0 A_0' B_1' = B_1 \Sigma B_1'$$

Once A_1 is obtained, it is possible to find A_0 as:

$$A_0 = B_1^{-1} A_1$$

The structural residuals are then easily obtained via:

$$\varepsilon_t = A_0^{-1} u_t.$$