Building the Financial Foundations of the Euro

Experiences and Challenges

Second Edition

Edited by
Lars Jonung, Christoph Walkner and Max Watson

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Preface

The growth and integration of financial markets is a central feature of today's international economy. As the euro area approaches its second decade, it is therefore timely to ask how changes in these markets have contributed to growth, adjustment and catching-up among present and prospective members of the euro area.

Experience in the past few years underscores that changes in the financial sector pose both opportunities and challenges for policy. So a key motive in reviewing recent trends is to distil policy lessons for the future, including for economies at an early stage of integration with the euro area. To shed light on these questions and promote discussion, this volume presents studies that explore different facets of financial market development and integration.

A common feature of the chapters in this volume is, by design, their focus on the economies that already belong to the euro area or are candidates to join it, and the contribution of financial markets in supporting ever-closer economic union in Europe. A second leitmotif is the challenges that cross-border integration presents for policy-makers, including in supervision and regulation. A recurring question is whether policy has kept pace with integration and is helping to realize its full potential.

The studies in this volume were originally presented at two conferences hosted by the Directorate-General for Economic and Financial Affairs of the European Commission (DG ECFIN) in Brussels. The first, 'Financial Stability and the Convergence Process in Europe', was held in October 2005, while the second, 'Adjustment under Monetary Unions: Financial Market Issues', took place in September 2006.

Contributions by discussants and by outside commentators greatly helped the authors in revising their contributions. At DG ECFIN, we would like to thank Klaus Regling, Director-General, Marco Buti, Deputy Director-General, and Jürgen Kröger, former Director of Economic Studies and Research, for their generous support for this project. We are also grateful to Michèle Devuyst and Bénédicte Herry for their secretarial support. We have benefited from the advice and views of Mary McCarthy and linguistic guidance from Sophie Bland.

Lars Jonung, Christoph Walkner and Max Watson
Brussels, February 2008

Part I

Overview

1 Introduction

Lars Jonung, Christoph Walkner and Max Watson

The introduction of the euro and the establishment of Economic and Monetary Union (EMU) have in a very short time changed the financial landscape of Europe. Major restrictions on financial flows across the borders of the Member States have been abolished, and exchange rate risks eliminated. The European Union, more broadly, is gradually being transformed into a single common financial market. This ongoing process is having far-reaching consequences. The financial transformation of Europe raises a number of issues concerning financial stability and fragility, financial supervision, risk sharing across capital markets, the transmission mechanism of monetary policy, and the character and speed of the adjustment process in the euro area – to name but a few.

The deep and far-reaching effects of financial integration in Europe have attracted increasing interest from researchers and policy-makers alike. The purpose of this volume is to make available some major contributions to this new field, as presented at the Annual Research Conferences of DG ECFIN in 2005 and 2006. Both these conferences dealt with financial aspects of the European integration process.

A major message emerging from the conferences and thus from this volume is that financial integration is a fundamental consequence of monetary unification as well as a necessary condition for making a monetary union work satisfactorily. In short, there is an important interaction between monetary and financial unification. They are closely related processes. In short, the euro causes financial integration and financial integration drives the euro project.

We consider this message in detail in the following account of the separate contributions.

In Chapter 2, 'Financial markets in the euro area: realizing the full benefits of integration', Klaus Regling and Max Watson present an overview of the issues considered in the volume. They explore the ways in which financial markets contributed to growth, adjustment and real convergence during the first decade of the euro, and ask how policy-makers can tap the full benefits that financial integration can bring. They emphasize the potential gains to be realized in terms of efficient adjustment to demand and supply shocks under monetary union, as well as the ways in which financial development and integration can support economic catching-up in present and future euro-area members.

Experience in the early years of the euro, they suggest, shows the financial sector playing a larger than expected role as a source and transmission channel of country-specific developments. This mainly occurred in connection with positive shocks in the form of lower risk premia, easier borrowing constraints and asset market booms – although economies did not always have policy frameworks in place to get the best out of these opportunities. Some of these developments – such as falling risk premia – reflected the initial gains of nominal convergence as the monetary union was created. But Regling and Watson consider that financial market influences on real activity will continue to be very important, and potentially benign, in the long run.

Particularly important under EMU is the continuing growth of cross-border risk sharing, since this 'insures' economies against country-specific shocks – thus helping to stabilize them, and indeed encouraging greater economic specialization. Catalysing stronger stabilization benefits through financial integration is especially valuable for euro-area economies, since other conventional cross-country stabilization mechanisms – such as labour mobility or fiscal transfers – play a less prominent role. The financial sector can also help to reallocate resources smoothly after shocks, and dampen the effect of localized credit crunches. More generally, an integrated and diversified financial sector can increase the resilience of the economy, provided policies – including financial supervision – are well designed and effective.

Several key messages for policy are seen to emerge from the early years of EMU. The first is the importance of making strides with fiscal consolidation during nominal convergence booms. Taking advantage of such booms to move strongly towards fiscal balance, or a modest surplus, has two benefits. It helps to moderate the course of country-specific booms (counterbalancing financial accelerator effects to some degree); and it also creates greater budgetary room for manoeuvre, which will be especially important if the country-specific boom is followed by a demanding adjustment period.

A second lesson from experience is the way financial channels have operated to support real convergence under EMU. Regling and Watson highlight work on this topic carried out by the Commission (and described in more detail later in this volume), pointing out that this is relevant also to future euro-area members.

A key finding is that economies undergoing real convergence stand to benefit greatly from the increased savings flows allowed by financial integration, but only if macro- and microeconomic policy frameworks are supportive. Given the speed with which financial integration is taking place, structural and institutional policy environments are particularly important in influencing patterns of resource allocation. Notably, there will be advantages if resources flow strongly to the traded goods sector, and other productive activities: this can underpin productivity growth, and may tend to moderate cycles in competitiveness and the current account. Strong productivity growth also eases any corrections in competitiveness, since it lessens the burden that has to be borne by nominal wage restraint. The public sector needs to support this process through good education and good investment. But in these and in other economies, vigilance is needed to make sure that the transitory revenue gains that occur during extended financial booms are not counted as permanent.

In sum, Regling and Watson note that financial integration can bring important gains in terms of growth, adjustment and convergence, including during economic catching-up. But this integration can also transmit adverse shocks more swiftly, or amplify policy errors. Thus financial markets bring opportunities that policy-makers may seize, rather than conferring automatic benefits. To foster growth and adjustment in the euro area, and to allow new members to share in its benefits, well-designed policies are crucial. These relate to fiscal policy, to the functioning of real sector markets, and to financial regulation and supervision. In all these domains, policy-makers need to internalize fully the opportunities and the challenges of deeper financial integration. EU policy frameworks, the authors emphasize, provide a benign setting to reap the benefits of such integration. And for economies already in EMU, the case for pressing forward in implementing those policies is all the more compelling.

In Chapter 3, 'Catch-up, the transition to full participation in EMU and financial stability', Iain Begg explores the challenges facing EU Member States in Eastern Europe as they navigate their approach to euro-area membership. He notes the impressive degree of real convergence they have already attained, but stresses that the remaining sizeable income gap vis-à-vis the EU average makes it especially important to ensure that policies for nominal convergence do not create serious tensions for a continued process of sustainable catching-up. A major change in monetary regime, he recalls, will have profound effects on the real economy and could imperil financial stability.

Begg focuses on three issues. First, there is the question whether the policy regimes required for euro adoption could constrain development – for example by limiting needed investment in public infrastructure. Second, policy-makers need to evaluate the implications of their pace of transition towards the euro in terms of the depth of shake-ups still required in the real economy. Third, while sound fiscal and monetary regimes should favour financial stability, the impact of changing patterns of capital inflows remains less clear. These issues are portrayed as a J-curve, featuring some potential upfront costs of pressing on to euro adoption, but major benefits down the line in terms of trade and stability benefits.

Begg considers that these factors may stack up differently in light of the varying economic characteristics of the eastern Member States. For small, open economies such as the Baltic States, he considers that the balance of advantage will tend to favour entering Stage III of EMU as quickly as possible. While their starting point in transition was inauspicious, they subsequently adopted regimes that have already transformed their macroeconomic policy performance and shaken up the supply side of the economy successfully. He sees analogies here with Ireland's very successful experience with real convergence and euro adoption.

Poland would be at the other end of the spectrum in terms of factors influencing the timing of euro adoption. It still faces significant challenges in tackling unemployment and handling further deep transformations in an economy still quite heavily based on rural activity. And like the Czech Republic, Poland has demonstrated its ability to manage a national currency successfully under inflation targeting. There is some analogy, Begg suggests, with the case of Spain. The experience of Spain, nonetheless, shows that the path to euro-area membership can be covered successfully in a much shorter time than observers had considered feasible, if current policies are right.

In conclusion, Begg evaluates the financial stability dimension of these challenges. Notwithstanding a degree of fiscal deterioration in some cases, he sees the core risk as lying in capital inflows, including sizeable EU cohesion transfers. The most obvious risk is vulnerability to a reversal of the more mobile forms of capital flows, and in this regard the switch from inflation targeting to ERM II will require careful handling. A further risk lies in asset bubbles or securities market disturbances. Payment systems and financial supervision will be particularly important, including effective relationships between supervisors and central banks in monitoring financial stability.

Amid the manifold and complex consequences of participating in a monetary union, Gabriel Fagan and Vítor Gaspar focus in Chapter 4, 'Adjusting to the euro', on the catalytic function of the financial dimension. Two main rationales underlie the key role of financial forces in shaping countries adopting the euro. First, compared with other economic aspects from euro-area participation, nominal interest rate convergence and financial integration are easy to document on the basis of available statistical information as both happened relatively fast.

Second, the available evidence indicates that the effects are large and significant. The authors argue that, for countries like Greece, Spain, Ireland, Italy and Portugal (hereafter referred to as 'converging countries'), one important aspect of the process of adjustment to participation in the euro area was associated with the convergence of high short- and long-term domestic interest rates to the relatively low levels prevailing in Germany. From the viewpoint of these countries, participation in the euro area entailed easier access to international financial markets, a fall in the risk premium combined with financial liberalization and financial integration.

Fagan and Gaspar first document stylized facts regarding the macroeconomic effects of interest rate convergence on the converging countries. Second, they examine the ability of simple macroeconomic models to explain the observed patterns of adjustment. Several stylized facts are highlighted. The convergence in interest rates has been associated with a sharp increase in household expenditures and a pronounced increase in household debt ratios in the converging countries. However, the expansion in expenditure does not seem to have been associated with noticeable effects on output or with sizeable effects on private sector productive investment. Instead, it has been allied with deterioration in the current account deficit and with the accumulation of sizeable negative net foreign asset positions. At the same time, the converging countries recorded inflation differentials which, under exchange rate stability followed by the adoption of the euro, implied significant real appreciation and loss of competitiveness, according to standard indicators.

Fagan and Gaspar develop an approach that relies on a model endowment economy set-up, with traded and non-traded goods, to discuss the real exchange rate implications of changing the geographical patterns of world expenditure. Their setting allows the effects on the real exchange rate of changing expenditures patterns over time to be studied. Their model is able to account qualitatively for all the stylized facts reported above. However, with standard time-separable preferences, expenditure increases on impact and, immediately thereafter, its growth rate declines below the baseline. Moreover, the steady-state effects on the net foreign asset position seem implausibly large.

Chapter 4 shows that the introduction of external habit formation makes the model used more 'realistic'. The initial build-up in expenditure is more gradual and the size of effects on the steady state is much diminished. The conclusion is therefore that the model they adopt of a small, open, endowment economy, with habit formation and traded and non-traded goods, goes a long way towards explaining the adjustment process of the converging countries to the euro.

In Chapter 5, 'Booms and busts: experiences with internal and external adjustment', Reiner Martin and Ludger Schuknecht assess the implications of differing exchange rate strategies during financial cycles in industrialized and emerging market economies over the past twenty years. They make a key distinction between countries that made the external adjustment through a major change in the nominal exchange rate and those that adjusted mainly by re-orienting the economy without devaluation. In performing this analysis, the chapter focuses on real and financial sector transmission channels for shocks during a crisis, including the role of balance sheet risks. It is concerned with identifying empirical regularities rather than causality in these two cases.

Martin and Schuknecht examine a number of flow and stock variables that characterize the interaction between various transmission channels that contribute to boom–bust and crisis phenomena. Their findings confirm that real and financial channels interact in such episodes: indeed a cycle of deterioration and subsequent repair in sector balance sheets is an important driving force of the boom–bust cycle.

Martin and Schuknecht find somewhat similar patterns in industrialized and emerging market economies, while acknowledging that the latter may be more vulnerable to systemic risks and capital flow reversals. These common patterns feature a significant difference in the downturn and recovery path of countries depending on whether they used the real exchange rate as a main element in their adjustment strategy. Those cases that they term 'external adjusters' tended to experience more pronounced booms: greater overheating of demand, loss of competitiveness and private and public sector balance sheet vulnerabilities. The external adjusters' imbalances were initially more severe, causing steeper downturns, but their recoveries were also more rapid.

It is noted that some of the Member States that joined the EU in 2004 display either the early or the more advanced stages of a boom–bust cycle. However, data are less reliable in these countries than in the other industrialized economies, so such indications are tentative and at most can serve as a warning sign of potential challenges ahead.

Martin and Schuknecht note that their findings confirm many 'orthodox' messages about sectoral and systemic risks. These include the advantages of adopting preventive strategies, which can help avoid countries finding themselves experiencing the more acute crisis features of the external adjusters. Prudent monetary and wage policies may help moderate the scale of boom–bust cycles. Several lessons also emerge about the contribution of fiscal performance. In particular, fiscal policies should avoid stoking a boom, and here sound headline figures may be misleading due to transient revenue gains during a boom. Low initial public debt can also help by giving scope to socialize the costs and losses of a crisis.

The Maastricht criteria are noted to be well chosen from this angle of crisis analysis: they provide a significant amount of information about the sustainability of economic developments. However, experience across countries during boom–bust cycles also underscores the importance of monitoring balance sheet developments in the private sector, since these may play a major role over time in influencing economic outcomes.

In Chapter 6 'Financial stability in emerging Europe', Piroska M. Nagy and Richard Fox set out to apply an approach they had developed at Fitch Ratings to assess financial stability for the economies of Eastern Europe. This marries concepts of macro-prudential vulnerability developed by Claudio Borio and co-authors at the Bank for International Settlements (BIS) with banking sector systemic risks as captured by ratings of systemically important banks.

There are thus two strands to the analysis. The first is macro-prudential, and is based on a methodology to identify where excessive optimism about earnings and asset prices, compounded by strong capital inflows, may lead banks to underestimate risk over time. This builds on insights in the BIS literature, highlighting strong, simultaneous departures from trend in credit as well as asset prices and/or the real exchange rate. These developments are seen as potential forerunners of financial crises, to the extent the latter arise from procyclicality in the financial sector. The second strand in the authors' analysis is a conventional approach to assessing bank robustness. It is based on Fitch Ratings' assessment of banks, supplemented with an analysis that factors in common weaknesses across the banking sector. An insight is that stronger banking systems can better withstand macro-prudential shocks than weak ones.

Applying this methodology to advanced and emerging market economies, Nagy and Fox develop a matrix to categorize them along dimensions of macro-prudential risk and banking system strength. In the EU, only Luxembourg receives the highest score on both counts, but most 'EU-15' Member States are quite close to this ranking. Estonia is the only eastern Member State (or former transition economy) to rank alongside most EU-15 Member States. By contrast, Hungary receives a weaker ranking, due notably to macro-prudential risk and indirect foreign currency exposure in the banking system. In south-eastern Europe, Serbia is particularly weak, due to concerns about banking system robustness. Other economies that joined the EU in 2004 receive intermediate rankings, with weaknesses most frequently apparent in the field of banking robustness, at least when the assessment was made.

Nagy and Fox conclude that there are systemic risks building up in these latter economies, but they remain manageable for the time being. A particular concern is that those with weak banking systems could be vulnerable to even a small degree of macroeconomic stress: this, they see as a worry in south-eastern Europe and the CIS (Commonwealth of Independent States). Once the foreign ownership of banking systems is factored in, the risks of a classical banking crisis appear much lower. However, a 'growth crisis' cannot be ruled out, particularly where (as in some central European cases) fiscal positions are weak.

The policy recommendations of the authors for the eastern Member States are to strengthen fiscal positions and toughen prudential standards. On the prudential front, they emphasize risk management in areas such as indirect foreign currency exposure, recommending tools such as loan-to-value limits; marginal reserve requirements; and provisioning systems that build up levels of protection during periods of expansion.

In Chapter 7, 'Adjustment in EMU: a model-based analysis of country experiences', Sven Langedijk and Werner Roeger analyse adjustment dynamics in the euro area, using a dynamic stochastic general equilibrium (DSGE) model. This modelling approach is at present turning into a standard tool of macroeconomics. They start from the fact that, since the introduction of the euro, economic developments in the euro area have differed markedly amongst Member States. In particular, growth and inflation differences have been persistent thus affecting competitiveness and monetary conditions in the Member States. Another remarkable development in the early years of EMU is the emergence of substantial and persistent current account imbalances. To be sure, sustained differences in growth performance existed before the creation of monetary union.

Langedijk and Roeger identify some stylized macroeconomic facts in a sample of six euro-area countries that have experienced significant deviations of key macroeconomic variables from euro-area aggregates. These facts are then used to identify various shocks exogenous to their model, including entry-level shocks such as the convergence of exchange rate risk premia, the misalignment of entry parities and the further integration of financial markets, and 'steady-state' shocks such as debt ceilings, the growth rate of the population (especially growth in the household formation age groups), productivity growth, shifts in the structural employment rate, and shifts in preferences from tradables to non-tradables (services, housing). On the basis of the identified shocks, a number of simulations are carried out, providing insights into adjustment dynamics in the euro area.

The model simulations provide a fairly good match with actual growth and inflation performance of the euro-area economies. The main finding is that the diverging growth and inflation developments and current account shifts can largely be attributed to one-off adjustment to EMU (initial parities and exchange risk premium convergence) which broadly seems to have run its course. The absence of an exchange risk premium in EMU allows an increase in capital mobility resulting in a lower correlation between savings and investment. The model simulations show a persistent effect on the current account, which largely operates through a wealth effect. Differences in investment growth are the main cause behind growth differences after the establishment of EMU. Due to its non-tradable character, housing investment is the most responsive component of investment growth to changes in interest rates (risk premia).

In a number of countries some structural divergences are observed as well, related to total factor productivity and labour market developments. Due to differing factor productivity growth across countries, the link between inflation and competitiveness is not always strong. For example, high total factor productivity growth in the tradable sector in Ireland allows high inflation without deteriorating competitiveness. While the model matches the more short-lived (up to three years) divergences from the euro-area average rather easily with the standard entry-related shocks, some difficulties are observed in matching longer-term divergences. After the one-off adjustments in the wake of euro adoption, therefore, economic developments can be expected to be more symmetrical, mainly adjusting to a possible continuation of the series of consecutive supply shocks.

The model gives a somewhat benign picture of the adjustment process in the euro area, though the authors suggest that caution is warranted. A somewhat less rosy picture is possible if housing plays a larger role leading to endogenous build-up of excess demand, especially through wealth effects.

The central role of the housing market for adjustment inside the euro area is highlighted by Peter Hoeller and David Rae in Chapter 8 on 'Housing markets and adjustment in monetary union'. While they focus on adjustment mechanisms that limit or increase cyclical divergence in the first part of their chapter, the central part concerns the transmission of monetary policy via the housing market, which can be a source of resilience as well as a factor leading to prolonged divergence.

The authors argue that the main cost of joining a monetary union like the euro area lies in the implied loss of the instruments allowing for a sovereign setting of interest and exchange rates, making it potentially more difficult to adjust swiftly to shocks. Challenges depend on the frequency and nature of shocks hitting individual countries: the price or output response must be highest in the case of asymmetric economic shocks, which require substantially disparate monetary conditions within the euro area. In the case of symmetric shocks, by contrast, the loss of monetary autonomy is of lesser concern.

Even assuming symmetric shocks, however, a differing transmission mechanism among member countries would yield diverse outcomes in spite of uniform policy responses. Initial shocks might then perpetuate initially small inflation differentials over a significant period of time, eventually leading to heavy competitiveness losses and painful adjustment. This, in turn, could result in a prolonged period of sluggish economic performance reducing potential output growth due to low investment, loss of skills and labour market withdrawal.

Labour, product and financial market policies may play a significant role in hindering a rapid adjustment, and the commitments under the Stability and Growth Pact may limit the leeway for fiscal action to smooth the cycle. The authors discuss both the competitiveness and the interest rate channel by providing a model-based assessment as well as by looking at empirical developments within the euro area.

The central role of the housing market for the monetary transmission mechanism is highlighted in the second part of Chapter 8. Housing markets are important in the transmission of monetary policy and a high interest sensitivity is beneficial as it implies that monetary policy is more powerful in boosting or damping cyclical fluctuations overall in the euro area. However, the characteristics of housing and mortgage markets still differ widely across the euro area, leading to asymmetric behaviour of individual countries.

Hoeller and Rae highlight first the housing market's role in providing resilience in the face of an economic shock and offer then a detailed discussion on housing and mortgage market characteristics, and estimates for the marginal propensities to consume out of financial and housing wealth for differing countries. They discuss the economic implications of the existence of a complete mortgage market, focusing on the variety of mortgage products, as well as on the effects of specific regulatory frameworks for housing finance – ranging from tax incentives to land-use regulations and supervisory issues. Additional issues are explored in boxes, such as past empirical evidence for soft landings following the bursting of a housing bubble, and the advisability of a central bank response to house price booms.

When concluding, the authors stress that policy should neither hinder adjustment, nor exacerbate the cycle.

The chapter by Hoeller and Rae provides an important contribution to the assessment of the current state of housing markets worldwide and cautiously warns of slowdown or recession. Equally significant, by stressing the diversity of housing markets, this chapter sheds light on one of the most central transmission mechanisms within the euro area and allows therefore for a more profound understanding of the current forces dominating intra-euro-area adjustment.

In the literature on monetary unions, the proper policy response to asymmetric shocks plays an important role. Countries subject to severe asymmetric shocks are less likely to be candidates for a monetary union. Likewise, monetary policy-makers within a monetary union are faced with a delicate dilemma if the monetary union is subject to asymmetric shocks. To what extent are such shocks a challenge for monetary unification? How would a less than fully financially integrated monetary union respond to symmetric as well as asymmetric shocks? One way to answer these questions is to study the record of monetary unions other than the euro area, as John Landon-Lane and Hugh Rockoff do in Chapter 9, 'Regional interest rates within a monetary union: lessons from the United States'.

The authors look at the monetary and financial history of the United States from 1880 until today to arrive at some answers to the questions raised above and draw lessons for the euro area. They examine whether asymmetric shocks have constituted a challenge in the US monetary union, whether the problem of asymmetric shocks has changed over time, becoming more or less severe, and how US policy-makers have solved the challenge of asymmetric shocks.

The approach used in Chapter 9 is based on a number of steps. Landon-Lane and Rockoff make a distinction between three phases in the history of the US monetary union: first the period 1880–1913, when the United States did not yet have a central bank; second, the period 1914–43, the first years of the Federal Reserve system; and, third, the post-World War II era, when the federal funds rate emerged as the major instrument for monetary policy. The United States is split into four regions, the Northeast, the Plains, the South and the West.

Econometric and historical methods are used to identify various types of shocks. By shocks, the authors mean independent events that have shifted the supply or demand for funds and thus moved the interest rate and eventually impacted on the aggregate economy via the interest rate channel. They present a full account of all major shocks hitting the US economy, which shows that their econometric method is well designed to identify shocks.

The main result is that the US economy has been hit by a number of symmetric shocks impacting on the entire economy as well as asymmetric shocks impacting on only one region over the periods studied. Asymmetric regional shocks have been met in various ways, sometimes with measures designed specifically to have a regional effect, and sometimes being ignored by policy-makers.

In addition, the authors conclude that the problem of asymmetric shocks has diminished over time in the US monetary union. They explain this decline by the fact that the central bank – the Federal Reserve – gradually obtained control over regional interest rates, implying that the US currency union eventually evolved into a fully fledged financial union. They believe there is a lesson here for Europe: the faster European financial markets become integrated, the easier the task for the European Central Bank (ECB) will be as the problem of regional shocks will become less severe with financial integration.

Comparisons between the United States monetary union, the dollar area, and the European monetary union, the euro area, represent a fruitful way to evaluate European developments as illustrated by both Chapter 9 and Chapter 10, 'Where does capital flow? A comparison of US States and EU countries 1950–2000', authored by Sebnem Kalemli-Ozcan, Bent E. Sørensen and Belgi Turan. They study capital flows between states in the United States and between EU countries during the period 1950–2000 using an econometric approach.

They start from the question: where will capital flow? Different models give different answers. The standard reply based on simple neoclassical models is that capital shall move from rich regions or countries, which are capital-abundant, to poor regions and countries, which are labour-abundant and where the marginal product of capital is relatively high. This result, the 'downhill' pattern, assumes fully or near-fully integrated capital markets with no barriers to the flow of capital. However, a lack of good institutions such as lack of clear property rights may cause capital to flow the other way, 'uphill', that is from poor to rich countries.

Kalemli-Ozcan, Sørensen and Turan first examine the pattern of capital flows within the United States. They demonstrate that capital moved from rich northern states to southern states for about twenty years, during the 1950s and 1960s. They argue that this was part of a process of 'catch-up growth', resulting in income and output levels converging between the north and the south. This process eventually came to an end. Today, capital flows to states that are experiencing positive productivity shocks, commonly rich states. 'Catch-up growth' is thus a matter of history.

Next, the authors turn to the European integration process to examine where Europe stands relative to the United States, by comparing individual EU states with US states. Their econometric results suggest that EU is still in the 'catch-up growth phase', where the United States was in the 1950s and 1960s, with capital flowing from rich to poor states or regions. Capital is flowing to countries like Greece, Portugal and the new EU Member States, just as it did to Texas, Louisiana, Mississippi and Alabama in the decades after World War II. In their view, the catch-up process in Europe may be longer lasting than in the United States because financial market integration has not been completed in Europe, unlike in the US. Government regulations and institutions within the EU are still not fully geared towards complete capital market integration.

In the future, after the catch-up process and full financial market integration, Europe is likely to move to the phase where capital flows to regions and countries that experience positive growth and productivity shocks – such regions often have higher output than regions with low growth.

The phenomenon of international risk sharing has attracted considerable interest from researchers in recent years. The European integration process has served as an important source of inspiration as the rise of financial integration across borders in the European Union has fostered risk sharing and consumption smoothing. Deeper and more closely connected capital markets in the EU thus allow individuals to separate production and consumption decisions, in this way providing an insurance mechanism in the face of asymmetric shocks.

Starting from the fact that conventional consumption-based measures of risk sharing so far have had a hard time picking up the increase in international risk sharing, Michael J. Artis and Mathias Hoffmann, in Chapter 11, 'Declining home bias and the increase in international risk sharing: lessons from European integration', build on a novel approach to demonstrate that international consumption risk sharing has indeed increased. Their approach uses the information implicit in the levels of relative consumption and output. Their focus on relative levels – rather than on first differences of the data as in virtually all of the earlier literature – allows them to document longer-term trends in consumption risk sharing that earlier specifications have not been able to pick up.

Artis and Hoffmann claim that the increase in international risk sharing is economically significant. If regional evidence from a well-integrated economy such as the United States is taken as the benchmark, they conclude that international risk sharing has increased by between a third and half within a single decade in the EU. They also offer additional important results. First, they analyse the increase in international risk sharing with special reference to the experience of current EMU member countries. Second, they provide a detailed analysis of the channels through which improvements in international consumption risk sharing have come about, confirming that consumption risk sharing has improved equally in all industrialized countries. The level of consumption risk sharing reached among EU countries is higher and – possibly most interestingly – recent improvements have occurred through different channels. Among EU countries international capital income flows have become more important as a way to shield consumption from fluctuations in relative outputs, whereas in their entire panel of twenty-three industrialized countries, the ex post accumulation and decumulation of foreign assets remains the main channel of international risk sharing.

These findings are robust after controlling for other determinants of international risk sharing, in particular for the characteristics of the asset portfolios of the countries in their sample. They corroborate the finding that countries with lower home bias achieve more risk sharing, low risk sharing and portfolio home bias being twin puzzles separated at birth. They add to this the finding that countries with higher equity shares in their international portfolios share a larger portion of risk through capital income flows.

Artis and Hoffmann's results suggest that by the end of their sample period the possibly most important difference between EU Member States and other industrialized countries is that, in the late 1990s, capital income flows had taken over as the main driver of improvements in intra-European risk sharing. By the end of their sample, one-third of the risk sharing achieved through international financial markets was achieved through capital income flows. Outside Europe, this channel still plays virtually no role in risk sharing. While the sheer growth in intra-European risk sharing since the 1990s is already impressive, the patterns that emerge increasingly resemble those observed within national boundaries. EMU membership may make a difference not only to how much risk a country shares, but increasingly also to how it shares it. While it is too early to evaluate these trends conclusively, Artis and Hoffmann discuss the possibility that the creation of the euro in itself, and the associated elimination of exchange rate variability, is responsible for the emergence of their findings concerning increased risk sharing.

The economies of the Member States of the European Union are at present involved in a far-reaching integration process that is likely to impact on financial stability. In Chapter 12, 'Economic integration and financial stability: a European perspective', Gianni De Nicolò and Alexander Tieman explore the relationship between financial stability and the ongoing integration of Europe.

They note that increased real activity synchronization and financial integration can have both positive and negative consequences for financial stability. Integration of both the real economy and the financial system has differing effects. Increased synchronization of real activity may diminish the returns from cross-country diversification if the effects of shocks to a relevant set of economies become more similar, reducing the opportunities for diversifiable risks. On the other hand, financial integration may increase the returns to diversification by expanding financial markets and thus investment opportunities. In addition, stronger connections between intermediaries in different parts of the European Union may heighten the risk of them being subject to contagion in case of financial distress.

De Nicolò and Tieman set out to assess the existence and the potential magnitude of these countervailing effects. In their opinion, this knowledge is important for the monitoring of financial stability. If it emerges that increased synchronization of real activity and financial integration would result in a heightened potential for systemic risk in the financial system, then supervisors should place more emphasis on the monitoring of the systemic risk potential among institutions.

In order to determine the actual effects on changing financial intermediary risk due to increased real and financial integration, the authors first examine if and to what extent the synchronization of real activity and financial integration has actually progressed in Europe by applying a set of econometric tests. Second, they construct measures for the integration process that can be related to the risks that the financial system is exposed to. Their approach allows them to gauge whether the risk profiles of financial institutions taken as a whole as well as on a country-by-country basis have become more sensitive to estimates of a common component in real activity, and whether a proxy of financial integration has had any dynamic impact.

De Nicolò and Tieman find increased real activity synchronization since the early 1980s, increased financial integration and no evidence of a fall of risk profiles of banks and insurance companies in Europe. The data suggest also increased equity market integration starting in the early 1990s. Real and financial convergence has not improved the risk profiles of the financial system. While synchronization of real activity may have reduced the diversification benefits of cross-country investments, increases in financial integration are associated with a decline in financial institutions' risk profiles. The authors conclude that as the integration process may not necessarily lead to improved financial stability, enhanced monitoring of the interdependencies among financial institutions seems to be an important task for European supervisors as integration continues.

Growing financial integration within the EU raises a number of issues such as the degree to which commercial banks across the EU are subject to the same kind of shocks. This issue is addressed by Andrea Brasili and Giuseppe Vulpes in Chapter 13, 'Banking integration and co-movements in EU banks' fragility'. Co-movements in bank risks derive from the exposure to common shocks – relating to either macroeconomic shocks or common exposures to industries, countries, individual counterparts and interbank linkages. Using a sample of almost 100 small, medium-sized and large banks, Brasili and Vulpes analyse co-movements in the fragility of EU-15 banks and explore to what extent such movements have increased since the start of EMU.

Using a dynamic factor model, the authors provide a measure of co-movements in bank risk. Brasili and Vulpes construct a bank fragility indicator, which is decomposed into three components: an EU-wide factor, a country-specific component and a bank-level idiosyncratic element. In addition, they measure the influence of common macroeconomic shocks on their fragility indicator at the EU and the country level. The authors are also able to distinguish between short-term, cyclical and long-term co-movements in bank fragility.

There are reasons to believe that common shocks affecting EU banks have increased recently. First, European economies have become more integrated via trade linkages and via a common monetary policy for those Member States having adopted the euro. Second, bank inter-linkages in the euro area have significantly increased, stemming from direct cross-border interbank exposures, but also from indirect exposures, such as syndicated loans for large firms, derivatives and loan securitizations.

The econometric results by Brasili and Vulpes indicate that co-movements in bank fragility are significant at the EU-wide level and that the commonality of bank risk has increased since 1999. Around 42 per cent of the variance in bank risk is due to EU-wide shocks. The EU component is much larger for bigger banks, explaining in a number of cases more than 80 per cent of the observed variance in bank risk. Larger banks also act as an important transmission channel for shocks. Overall, the strong co-movements among larger EU banks indicate a two-tier system of banking integration, whereas smaller and medium-sized banks remain predominantly anchored in their national environments. Finally, the dynamics of EU banks' fragility is accounted for to a larger extent by banking sector specific factors than by macroeconomic shocks.

Growing bank integration as documented by Brasili and Vulpes provides a clear indication of a need for macro-prudential surveillance at the EU level. These findings also provide some guidance as to the way supervisory competences should be split between national and EU-wide authorities: the still large weight of idiosyncratic components found in the analysis suggests that banking supervision at national level remains important, but its scope should be limited to small and medium-sized banks. In contrast, a case can be made that the supervision of large banks should be subject to greater cooperation among EU supervisory authorities.

Chapter 14, 'Challenges to banking stability in the EU: a survey', by Christoph Walkner highlights the financial stability impact of EU banking integration. In economies where banks do not cross borders, the fate of the domestic economy is closely tied to that of its banks as an economic downturn affecting non-financial companies would also impinge on the profitability and stability of the country's banking sector. Foreign bank entry can have different consequences for financial stability, to the extent that foreign bank subsidiaries (or branches) may behave not as completely autonomous businesses but as part of a larger bank holding company. Another impact on stability derives from increased competition, which promotes efficiency but might lead to reduced profitability of domestically owned banks, rendering weaker banks more vulnerable to stress.

After surveying the literature on macro-financial stability, Walkner examines the progress to date of cross-border banking integration in the EU. He demonstrates contrasting developments within the pre-enlargement EU-15 and the recently acceded EU-10. Cross-border banking linkages are relatively uncommon among the EU-15, when compared to linkages between the EU-15 and EU-10, suggesting that integration in the EU banking sector has progressed further outside the EU regulatory framework than within.

Exploring this paradox, Walkner examines the more typical avenues for banking integration within the EU, namely organic growth through greenfield investments, cross-border mergers and acquisitions, and cross-border provision of banking services. He identifies various barriers relating to national considerations as well as legal and institutional factors. In turn, the factors responsible for the high level of foreign ownership in the banking sector of the EU-10 are considered.

The chapter concludes by examining the EU supervisory framework, which has been regarded until recently as a convenient means to facilitate market entry without the need for a major change in Member State arrangements. Walkner notes this is now subject to debate, and explores a number of proposals for improving EU supervisory arrangements by looking at macroeconomic stability risks deriving from cross-border banking integration in the EU.

While financial integration is progressing within the EU, regulatory structures are still largely nationally rooted, implying possibly suboptimal outcomes in terms of financial institutions' cost-efficiency, competition and financial stability. This topical issue is explored by Dirk Schoenmaker and Sander Oosterloo in Chapter 15, 'Financial supervision in Europe: a proposal for a new architecture'.

The authors start from a presumed trilemma in financial supervision, whereby a stable financial system and an integrated financial market would not fit together with national-based supervisory structures. They highlight two industry trends: first, increasing cross-border penetration and, second, the centralization of important business functions. While the vast majority of the EU credit institutions remain nationally oriented, pan-European banks are emerging with a sizeable cross-border presence. Indeed, the fourteen largest of those cross-border groups already account for almost one-third of total EU banking assets. The extent of cross-border penetration is especially large in the new Member States (those which joined the EU in 2004 or thereafter). The observed trend of increasing cross-border penetration is robust and confirmed by using several methodological approaches.

As for the second industry trend, the authors show that banks are increasingly starting to centralize important business functions. As a result, the organizational structure of international financial firms is moving from the traditional country model to a business line model with integration of key management functions. The growing integration and centralization of management functions, such as risk management, internal controls, treasury operations (including liquidity management and funding), compliance and auditing, greatly affect the scope of control for supervisory authorities.

Starting from these trends, Schoenmaker and Oosterloo ask if the current supervisory settings are sufficient to sustain financial stability. They note that in the current system a financial institution is authorized and supervised by its home country. Given the centralization of important business functions at the headquarters as well as the increasing cross-border penetration of banking groups, the scope of control of the home country authorities is expanding. However, home authorities are not responsible for financial stability in host countries, which remains the remit of the host country. Increasing banking integration therefore gives rise to cross-border spill-over effects or externalities as a home country supervisor might have suboptimal incentives for overseeing – for example – an external branch of a domestic bank which is small overall from the home country perspective, but large from the host country perspective. While the cost of supervising such a bank would rest with the home country, the benefits would mainly accrue to the host country.

In response to this newly emerging European financial landscape, Schoenmaker and Oosterloo present three policy options. These choices range from (1) keeping the status quo, but enhancing the cooperation between home and host authorities for both financial supervision and stability; (2) switching to a lead supervisory structure where the home authority would not only supervise the mother bank and its branches but also the bank's subsidiaries – though without becoming responsible for financial stability in the host country; to (3) a novel supervisory structure, combining features of home country supervision for locally focused banks from the present setting with a European structure for cross-border oriented banks. This option would also push crisis management up towards a European level, although the home country would still take a leading role.

Coming out in favour of the third option, the authors propose a European Financial Authority working in tandem with the national financial supervisors. Key elements would be decentralized day-to-day supervision close to financial institutions and centralized policy-making to foster a uniform execution of the supervisory function. The newly created system would be accountable to the European Parliament and the EU finance ministers meeting as the ECOFIN Council. Although fairly comprehensive, the proposal leaves the thorny issue of fiscal burden sharing open, i.e. which countries should bear the cost of a possible bail-out of a financial institution?

With the rise of cross-border banking conducted through foreign-owned banking offices in the EU, regulatory issues concerning these institutions in case of financial distress have attracted considerable interest in recent years. In Chapter 16, 'Cross-border banking: challenges for deposit insurance and financial stability in the European Union', Robert A. Eisenbeis and George G. Kaufman contribute to the discussion. They focus on developments within the European Union that may create financial stability problems like reliance upon the home country as the primary provider of deposit insurance and inadequate bankruptcy and closure policies.

Eisenbeis and Kaufman describe first the EU cross-border banking regulatory structure and discuss the agency problems that may arise in the supervision and regulation of cross-border banking institutions in the EU. After focusing on the problems of providing deposit insurance for institutions operating in such an environment and looking at issues concerning the payout from deposit insurance plans and resolving large bank failures, the authors proceed to suggest a four part solution designed to mitigate the negative externalities associated with banking failures.

Banks become insolvent when the market value of their assets falls below the value of their deposits and other debt funding. Claimants may experience both credit and liquidity losses in the resolution process. Credit losses occur when the recovery value of the bank as a whole or in parts falls short of the par value of its deposits or other debt on the respective due dates.

Liquidity losses may occur for two reasons. First, depositors and other claimants may not have immediate and full access to the par value of their insured claims or to the estimated recovery value of their *de jure* uninsured claims. In the case of insured deposits, the insurer must have both the legal ability and funding to provide eligible depositors with immediate and full access to their funds. In the case of uninsured claims, liquidity can be provided through advance payments based on the estimated recovery value of the assets in receivership. Second, qualified borrowers may not be able to utilize their existing credit lines immediately.

The authors' proposal is based on four rules or principles, each of them stressing the importance of prompt action: (1) prompt legal closure when the bank's equity capital declines to some pre-specified and well-publicized positive minimum greater than zero (legal closure rule); (2) prompt estimate of the recovery values and assignment of credit losses ('haircuts') to *de jure* uninsured bank claimants when equity is negative to avoid protecting *de jure* uninsured claimants; (3) prompt reopening (preferably the next workday) of failed bank through sale or creation of a temporary bridge bank with full depositor access to their accounts on their due dates at their insured or estimated recovery values and full performing borrower access to their pre-established credit lines; and (4) prompt re-privatization of new bank with adequate capital.

Eisenbeis and Kaufman argue that the adoption of the above four principles and the necessary infrastructure to make them work would minimize most of the agency problems, negative externalities, insurance fund losses, and coordination problems associated with the current cross-border banking development within the EU and elsewhere.

In the final chapter, 'The search for the elusive twin goals of monetary and financial stability', Claudio Borio explores challenges for monetary and supervisory authorities in a world where the major challenge of the great inflation of the post-war era has been eliminated. The main focus of his chapter is on the possibility that the 'elasticity' or 'pro-cyclicality' of economies may have increased, making financial crises possibly more likely. The author suggests that this requires adjustments in current policy regimes.

The reasons for a change in the financial dynamics of the economy are seen to lie in two underlying developments. First, financial liberalization may have made it more likely that financial factors act as drivers of economic fluctuations, including through boom–bust cycles in credit and asset prices. Second, monetary regimes featuring high central bank credibility and firm control over retail price inflation may have made it more likely that emerging imbalances will appear first in asset prices and only later in the prices of goods and services. Together, these factors can cause greater pro-cyclicality in the financial system and amplify fluctuations in the real economy.

Important steps were taken after the Asian crisis to address financial sector risks, Borio notes, notably measures to strengthen national financial systems, based on international standards and codes. Less has been done to probe financial dynamics and liquidity risks. There is a need to address this 'missing pillar' of the international financial architecture. To achieve this, the philosophy and operating procedures of prudential and monetary authorities would need to better capture the failure of private sector agents to measure the time dimension of risk, and especially of systemic risk.

To meet these concerns, Borio advocates closer cooperation between prudential and monetary authorities. This involves more than an exchange of information. It would require a shift in the approach of both sets of agencies. On the prudential side, there would be greater attention to risk in the financial system, as opposed to individual institutions. On the monetary side, it would involve greater concern with imbalances building over the medium term, even if near-term inflation is well under control.

Borio explores how these changes in prudential and monetary approach could be mapped to operating procedures, in order to manage systemic risk more effectively during periods of swings on financial risk perceptions. In the prudential field the main change would be to use instruments such as bank loan loss provisions in a manner that builds up cushions during periods of cyclical strength, and to reverse this process during downswings. Monetary authorities, meanwhile, would lengthen the policy time horizon in some inflation targeting regimes, internalizing medium-term risks.

Such a shift in the philosophy and operating procedures of official agencies, Borio acknowledges, involves non-trivial technical questions. More work would be needed, for example, on the relationship between credit, asset prices (especially real estate prices) and the real exchange rate. Moreover, a significant educational effort would be required. But an evolution along these lines would reduce the likelihood that systemic financial risks, building up over the medium term, might fall through the cracks of official policy preoccupations. This would enhance the stability of the real economy.

* * *

The work presented in this volume thus sheds light from different angles on a single core question: how well is financial integration supporting growth, adjustment and catching-up in economies that are members – or future members – of the euro area, and are policy-makers moving swiftly enough to realize its full potential? Market events since these chapters were written only serve to highlight the relevance of this question.

In pursuit of this theme, the authors adopt a range of perspectives – in terms of both the specific policy areas they explore and the analytical techniques they deploy. Their purpose is in part to stimulate debate and future research; and it would be against the spirit of our volume to impose a false synthesis or draw unduly simple conclusions.

Nonetheless, it seems fair, and helpful to the reader, to underscore at the outset a few of the leitmotifs that run through the volume, because these are indeed the issues that policy-makers need to weigh particularly carefully as they press forward in adapting the policy frameworks of the EU, and specifically of the euro area.

The primary theme running through these chapters is that the benefits conferred by financial market development and integration are not to be taken for granted. They do depend on well-designed policy frameworks. This is a core message.

The reasons for this lie in a number of inherent imperfections that the literature attributes to capital markets. Most fundamentally, markets are aware that policy-makers have limited capacity to accept turbulence in the real economy, and that they may therefore intervene to bail out markets and guarantee the public's assets.

But beyond this classic argument of moral hazard, several of the chapters also underline that markets respond sensitively and quickly to changes in policies and economic prospects, while real sector markets are typically more 'sticky'. Financial markets are also quick to arbitrage regulations. This means that times of economic change are among those when policy-makers need to pay special attention to the signals and incentives that they send to markets. The rapid financial integration now underway in the euro area, and across its borders, is certainly such a time.

The final chapters of the volume, in particular, communicate some sense of urgency. Markets have moved swiftly: have policy-makers been able to keep pace? The authors clearly believe some speeding up of reform is needed. They stress this in the case of cross-border regulation and deposit insurance. They also highlight it in connection with pro-cyclical macroeconomic policies. And in the final chapter the question is raised whether our failure to achieve financial stability alongside monetary stability requires a systematic stretching of our present monetary and supervisory approaches.

What seems beyond doubt to the authors, nonetheless, is the great potential gains to be tapped from ongoing financial integration. As Regling and Watson underscore in Chapter 2, these gains are even greater for the members of the euro area, since financial integration can help to foster risk sharing, and hence support stable growth and deeper specialization – and this especially in a monetary union where other adjustment mechanisms such as labour mobility remain to be fully developed.

More integration, not less, is thus the message of the authors. They do not have a temptation to throw sand in the gears of the markets as proposed by some commentators inspired by James Tobin. But they do believe that well-designed policy frameworks are crucial; and they press policy-makers to take this challenge in earnest. The prize is clear, in their view. It is to safeguard sustainable financial integration, and to allow the citizens of a widening euro area to tap the full benefits for growth, adjustment and catching-up that deeper financial integration can deliver.

2 Financial markets in the euro area

Realizing the full benefits of integration

Klaus Regling and Max Watson

How have financial markets contributed to growth, adjustment and real convergence during the first decade of the euro? And have policy-makers tapped the full benefits that financial integration can bring? Two recent research conferences organized by DG ECFIN stimulated a range of papers on these topics. A selection of the papers, assembled in the present volume, underscores how wide the potential benefits of financial integration can be, provided the macro- and microeconomic policy environment is right.

Most frequently, economists discuss the gains from financial integration and development in terms of their contribution to fostering economic growth. That is certainly a key dimension. However, a second dimension is important also, especially under monetary union. This is the role of financial markets in supporting economic adjustment. Financial integration contributes to this through risk sharing and income- and consumption-smoothing. In addition, it allows catching-up economies to tap external savings on a sizeable scale, and this too has been a key feature of experience under the euro and in Member States converging towards it.

The emergence of gains from financial integration, however, is far from automatic. The United States has been a monetary union for some two centuries, but full financial integration at the retail level is in many ways a product of the past few decades. The euro area, where other adjustment mechanisms such as labour mobility and fiscal transfers are much less prominent than in the United States, cannot afford such leisurely and intermittent progress! Indeed, the Financial Services Action Plan testifies to the EU's resolve in this regard, and the euro area economies are already benefiting strongly from ever-deeper financial integration.

Moreover, economic history underscores that well-designed macro- and microeconomic policies are crucial if financial integration is to yield its full benefits. This lesson has been most striking, perhaps, in the case of emerging market economies, which have specific vulnerabilities. But in all economies, growing and adaptive financial markets make a positive contribution only if policies are right. Financial markets enhance the gains under favourable policy frameworks; but in other circumstances they can serve rather to amplify distortions and policy weaknesses.

Indeed, the interaction between official policies and financial markets offers continually evolving lessons. In this sense, policy-makers everywhere are engaged in a learning process as they seek to influence expectations and embed stability in innovative global financial markets. This is true in terms of tapping the gains of market innovation, and it is true also in safeguarding financial stability without engendering moral hazard.

So policy-makers in the euro area face challenges at various levels in realizing the full benefits of financial integration, and these challenges are the subject of the present volume.

The first is a recognition challenge: appreciating the full importance of the role that financial markets play in the euro area. The second is the challenge of prudent policy management in the steady state of monetary union: assuring the preconditions for financial markets to help deliver sound resource allocation and economic stability. The third is a challenge specific to catching-up economies: learning the lessons from recent experience as countries approaching euro area membership navigate the rapids of nominal and real convergence. Last but not least, there is an implementation challenge: putting in place forcefully the elements of the EU's Financial Services Action Plan, and complementing it with additional actions to address remaining barriers to full integration.

The importance of financial market integration

Financial development can strongly support economic growth. Its key roles include transforming the maturity of savings, overcoming information asymmetries, fostering consumption-smoothing through the use of financial instruments, and diversifying risks. Financial integration, in turn, plays a key role in boosting financial development – in particular, through scale effects, greater systemic resilience and a broader expansion of risk sharing. The function of cross-border risk sharing is particularly important under monetary union, since it 'insures' economies against country-specific shocks – thus helping to stabilize them, and indeed encouraging greater economic specialization.

The impact of financial market developments on economic adjustment in the euro area was recently reviewed by the European Commission. This was one of the main themes in the *EU Economy Review* of 2006, which was dedicated to the issue of adjustment in the euro area. Among the key conclusions from this review were:

- growth and inflation differences and current account trends in the euro area have been driven to a notable extent by capital account and asset market movements, including during the processes of nominal and real convergence;
- asset markets have, at times, played an important role in amplifying real interest rate effects through changes in wealth;
- credit and asset price booms had sizeable but transient effects on budgets: the magnitude and reversibility of these effects was not always fully internalized by policy-makers when they assessed underlying fiscal positions;
- financial markets are still far from playing their full role in risk sharing and income- and consumption-smoothing. There also appears to be unexploited scope for mortgage market integration to dampen local real estate market cycles.

We would like to stress that the role of financial markets has been even more powerful than was anticipated when monetary union was conceived. Moreover, the full benefits of integration have yet to be fully exploited.

Financial markets as drivers of macroeconomic change

A few examples will illustrate the important role that financial integration has already played in influencing macroeconomic developments in the euro area. Six case studies of Member State experience in the *EU Economy Review* of 2006 highlighted different kinds of 'shocks' that affected growth, inflation and current account balances during the early years of monetary union, based on a two-country, three-sector dynamic stochastic general equilibrium (DSGE) model of the euro area. This model is described in detail in Chapter 7 in this volume.

The Member States selected for these studies were Germany, Spain, Ireland, Italy, the Netherlands and Portugal, since these experienced particularly striking divergences in growth, inflation and current account balances. In most of these cases, factors related to financial markets turn out to have played a major role in explaining these macroeconomic trends – together, of course, with real sector influences such as the after-effects of German unification, changes in TFP growth in the traded and non-traded goods sectors, and migration flows.

Specifically, a reduction in the exchange risk premium was an important influence on economic developments in a majority of these cases, and especially in Spain, Italy and Portugal. Changes in credit constraints played a significant role in four of the cases. In addition, financial market factors, together with real sector effects such as migration, were a key influence on housing demand – and this played a major role in all cases. Finally, when we consider the channels through which these factors operated, we find that house prices played a significant role, especially in Italy and the Netherlands (Table 2.1).

Experience in the early years of the euro thus highlights the role of the financial sector as a source and transmission channel of country-specific developments – in this case mainly through benign shocks in the form of lower risk premia and easier borrowing constraints.

It is important to reflect how far this experience is a guide to the future. After all, many of the initial shocks that predated or followed the creation of the euro are now tapering off, including the impact of nominal convergence in economies that had experienced high risk premia before the strengthening of macroeconomic policies and elimination of nominal exchange rate fluctuations.

Nonetheless, there are at least two reasons to think that financial market influences on country-specific developments in growth, inflation and current account balances may remain important:

1 Some countries (such as Ireland and Spain) until recently were experiencing strong asset market booms. It remains to be seen how the unwinding of booms will ultimately affect demands in these economies – although it is clear that housing demand in these cases has been responding to some permanent real sector influences, such as migration and rising income levels.
2 It remains to be seen how recent external shocks from conditions in global financial markets could impact the euro area in the period ahead. As in the early years of monetary union,

Table 2.1 Major financial market and asset price influences on growth, inflation and current account balances (1995–2005)

	Germany	*Spain*	*Ireland*	*Italy*	*Netherlands*	*Portugal*
Decline in exchange risk premium*	0	90	60	90	40	140
Easier credit constraints**	−2	24	21	7	22	25
Major impact of housing demand	Yes	Yes	Yes	Yes	Yes	Yes
House prices: major role in transmission				Yes	Yes	

Source: *EU Economy Review* (2006).

Notes:
* Exchange risk premium improvement (+) versus Germany: model values for 1995–8, in basis points.
** Rise (+) in household debt ratio to GDP 1999–2005, in percentage points.

the euro will protect its members from some shocks through the elimination of intra-euro area nominal exchange rate fluctuations. But in other ways shocks (for example to global exchange rates, risk premia or trade flows) could affect members differentially.

These considerations underscore the case for increasing the efficiency with which real sector markets adjust, and for ensuring prudent fiscal policies to enhance economic resilience. But they also highlight the importance of realizing the full benefits of financial integration in terms of its stabilizing role in the economy.

The stabilizing role of financial integration

Financial sector integration can greatly enhance the adjustment process under monetary union. The financial sector can help reallocate resources smoothly after shocks; dampen the effect of local credit crunches; and smooth incomes and consumption through the use of financial instruments and the cross-border holding of financial assets. More generally, a widely integrated and diversified financial sector should increase resilience at times of economic stress.

Experience in the United States underscores the benefits of financial integration for the adjustment process. When specific shocks affect output in a US state, almost two-fifths of the impact on incomes of firms and households is diversified away by cross-state asset holdings (Box 2.1). In the European Union, the equivalent effect has been estimated at only 10 per cent – although current research suggests it is on a rising trend. Also, as mortgage markets have become more integrated in the United States in recent years, some estimates suggest that this may have halved the scale of 'credit crunches' in local real estate cycles.

Catalysing stronger stabilization benefits through financial integration is particularly important for the euro area, since other cross-country stabilization mechanisms are less prominent. Labour mobility is lower than in the United States; and there are no sizeable fiscal transfers to smooth inter-country shocks. Even in the United States, some estimates suggest that financial integration plays a larger role than the federal government in smoothing income fluctuations following economic shocks. This contribution of financial markets is thus of key importance in the steady state of monetary union. These important issues are analysed in depth in Chapters 10 and 11 of this volume.

Box 2.1 The role of financial markets in risk sharing and consumption-smoothing

Financial markets can be compared with other institutional channels as a route for risk sharing. In particular, it is interesting to explore their significance relative to the more familiar route of the fiscal system, which shares risks through taxes and transfers. In the United States, the role of private risk sharing has been compared to that of fiscal transfers, and according to some estimates private risk sharing has an even greater impact. According to Asdrubali, Sørensen and Yosha (1996), 39 per cent of shocks to gross state product are smoothed by capital markets and 23 per cent are smoothed by credit markets. This compares with 13 per cent that are smoothed by the federal government. The remaining 25 per cent are not smoothed.

Thus the role of private risk sharing (and of financial markets more generally) in the United States is large relative to that of fiscal transfers.

As regards the euro area, at this stage it is difficult to assess the quantitative importance of this type of adjustment, in particular when comparing it with other types of adjustment processes. Available estimates for the period before adoption of the euro suggest that risk sharing through financial markets may have smoothed at least 10 per cent of shocks among EU Member States, but this proportion is considered to have been rising strongly since the late 1990s. As the EU budget is much smaller than the federal budget in the United States, and does not respond to cyclical swings, it is logical to assume that risk sharing through financial asset holdings could play by far the predominant role as financial market integration continues. More broadly, it is clear that risk sharing and resource reallocation through financial markets can play a critically important role in a monetary union where labour mobility is low and there is not a large federal budget. On this point see also Chapter 11.

The challenges of nominal and real convergence

A further feature of financial market experience since the introduction of the euro concerns the processes of nominal and real convergence. It is particularly important to analyse this experience carefully, so that future euro area members can benefit from it.

As we look back on the track record of euro area members that have been experiencing nominal and real convergence, several points deserve attention. The first point is the importance of using the opportunity of *nominal convergence booms*, when economic conditions are particularly propitious, as a period to achieve fiscal consolidation. During these booms, fiscal consolidation will also help moderate demand pressures on the economy. This strategy has the added advantage of ensuring fiscal room for manoeuvre for the future – which may be particularly valuable when a strong nominal convergence boom comes to an end.

In addition, the analysis in the *EU Economy Review* of 2006 sheds some light on the role of financial factors in *real convergence* experience in euro area members. While the DSGE modelling approach is not designed to capture long-run convergence effects, it does highlight differences in medium-term adjustment patterns, including through the impact of sectoral productivity shocks and through the relative role of financial and real shocks in stimulating demand. The most enlightening contrast is between Ireland and Portugal. In the former, successful real convergence was driven initially by very strong productivity growth in tradeables, in a setting of fiscal and wage restraint. The latter, by contrast, initially experienced a powerful consumption and housing boom, driven in large part by financial integration. This was not accompanied by strong productivity growth. Meanwhile, the authorities did not profit from these good times to consolidate the public finances – indeed there was an increase in the public debt. This boom did not lead to sustained real convergence: it was followed by a petering-out of growth.

One lesson from this experience is that economies undergoing real convergence stand to benefit greatly from the increased savings flows allowed by financial integration, but only if policies are well designed. Given the speed with which financial integration takes place, structural and institutional policy environments are particularly important in influencing patterns of resource allocation. There will be advantages if resources flow strongly to the traded goods sector, and other productive activities: this can underpin productivity growth, and may tend to moderate cycles in competitiveness and the current account. Strong productivity growth also eases any corrections in competitiveness under monetary union, since it lessens the burden that has to be borne by nominal wage restraint. The public sector needs to support this process through good education and investment – but, as during nominal convergence booms, it also needs to reduce its use of savings as imbalances in the private sector widen.

During real convergence, banking supervisors also need to be vigilant. This is a setting in which there is a quantum increase in the savings available to exploit high rates of return in under-capitalized economies, and it can trigger 'exuberance' – leading to distortions or fragility. As well as asset allocation, including in areas such as real estate, it can be important to monitor cross-border funding patterns – such as possible over-reliance on short-term cross-border bank funding, which could give rise to fragility risks. Under monetary union, economies do not experience 'external' financing constraints in the normal sense of the term; but patterns of current account financing, and the counterparts to current account imbalances, still provide valuable information to policy-makers about the sustainability of savings flows.

The circumstances of future euro area members, of course, vary greatly – and differ in many respects from their predecessors on the road to euro adoption. Among other factors, they typically lifted capital controls earlier than many existing members, and in some cases they have achieved already a substantial drop in risk premia. Some already have very sound fiscal positions. Financial sector catch-up is well underway, often from a modest starting-point.

So the relevance of past experience with nominal and real convergence will need to be interpreted carefully, on a case-by-case basis. Nonetheless, it remains a valuable policy resource for future euro area members to draw on, as they benefit from an expanded pool of savings in an open capital account setting – and also when their monetary autonomy either is, or soon will be, limited. It will be crucial that they achieve strong productivity gains to underpin income growth and to facilitate adjustment, so that the fruits of financial integration are reflected in sustained real convergence.

Realizing the full benefits of financial integration

For all members of the euro area, indeed, including those experiencing nominal and real convergence, the early years of monetary union highlight a number of policy priorities that are crucial in order to realize the full benefits of financial integration. These relate to fiscal policy, to the functioning of real sector markets and to policy frameworks that govern the financial sector itself. In all these domains, policy-makers need to internalize fully the opportunities and the challenges that relate to deeper financial integration.

In terms of *fiscal policy*, financial integration typically reduces the costs of borrowing and increases the ease with which deficits can be financed. In the euro area, risk premia on the public debt of some Member States have fallen significantly with the elimination of nominal exchange rate changes although there has recently been some reversal in certain cases. This puts the onus even more strongly on national policy-makers to exercise fiscal discipline within the broad framework of the Stability and Growth Pact. Strong national fiscal institutions can play an important role also in buttressing fiscal discipline, and the nature of these has been explored in recent reports on *Public Finances in EMU* by the European Commission.

Experience in the early years of the euro has highlighted the importance of achieving adequate fiscal consolidation in 'good times', a priority that is underscored in the reformed Stability and Growth Pact. Here, fiscal policy-makers need to pay careful attention to the impact of country-specific booms under monetary union. These call for particular prudence at times when asset prices are rising, the composition of GDP is tax-rich and estimates of potential output may be revised up prematurely. All these factors could contribute to overestimating underlying budget balances during boom periods, and thus could lead to pro-cyclical fiscal behaviour.

This issue of fiscal analysis during credit and asset price booms is far from unique to the euro area; but the experience since the late 1990s underscores that it is very important in this context. In particular, it is a mechanism through which there could be a mutually reinforcing interaction between financial market and fiscal pro-cyclicality. In other words, policy and market factors could amplify adjustment cycles in the economy, leading to unduly protracted swings in asset prices, output and inflation. This heightens the case for fiscal vigilance in 'good times'.

The management of the public finances is also key in fostering a healthy allocation of savings through well-judged tax and expenditure policies that support growth and avoid distorting activity. Indeed, integrated and adaptive financial markets make it all the more important to avoid fiscal distortions such as tax deductions or subsidies that favour specific purposes such as housing. And the public sector also needs to avoid triggering distortions through the impact of its wage-setting policies – including during the real convergence process.

The euro area environment also places special responsibility on policy-makers to ensure the efficient working of *product and labour markets*, and thus to create an environment in which the full benefits of financial integration can be tapped. This is important to foster growth, but the issue of adjustment to shocks is also of crucial importance. In particular, efficient real sector adjustment is the key to swift competitiveness adjustments after country-specific shocks. And the more efficiently product and labour markets function, the less national real interest rate effects will complicate the adjustment process.

Financial markets can play a key role in the adjustment process, but only if policy frameworks affecting the real sector provide the right environment.

Last but not least, *financial sector policies* need to drive integration forward, while ensuring that stability is not jeopardized. Policy-makers in the euro area have a special interest in proceeding rapidly with implementation of the EU's Financial Services Action Plan, given the adjustment benefits that integration can yield under monetary union. They will also stand to gain particularly strongly from measures to integrate the workings of mortgage markets, clearing and settlement arrangements, and deposit insurance. Vigilant competition policy at the EU level will be essential to ensure that efficiency gains are passed on to consumers.

Growing financial integration has implications for supervision. It is important that market participants and their supervisors internalize the changed nature of the country-specific adjustment process under monetary union, and take an appropriate medium-term view of the opportunities and risks that may accompany extended swings in output. There may be a need for close prudential surveillance during extended country-specific booms, in order to counter excessive risk-taking that could impair resilience during downswings. And, throughout the EU, cross-border supervision and crisis management need to keep pace with continuing market integration. And, as always, integrated and innovative financial markets tend to amplify both the opportunities and the challenges for policy-makers.

In all these policy domains, there is continuing potential for a positive and constructive interplay between policy initiatives at the EU-27 level and the frameworks needed for a well-functioning monetary union. The Stability and Growth Pact, the Lisbon Strategy and the Financial Services Action Plan are all EU-wide initiatives. They are, however, even more important for members of the monetary union in order for its full gains to be realized.

Where financial markets are concerned, in sum, the messages of the euro's first decade are clear. Financial integration can bring important gains in terms of supporting growth, adjustment and convergence in the euro area – and allowing new members to share fully in its benefits. But well-designed policies are needed to seize these opportunities. Here, the fiscal, structural and financial policies of the EU provide the essential framework for all of its members as they seek to realize fully the gains of financial integration. And for those that already participate in monetary union, the case for pressing forward strongly in implementing those policies is all the more compelling.

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Part II

Monetary integration

Convergence and adjustment

II.1

Moving to monetary union

3 Catch-up, the transition to full participation in EMU and financial stability

Iain Begg

Since the resolution of the Russian crisis of 1998, an event that had pronounced repercussions for several neighbouring countries, the growth rates of the recently acceded Member States of central and Eastern Europe (RAMs)[1] that joined the EU in 2004 have comfortably outpaced those of most of the EU-15. After the adverse shock of the early transition period when every country endured falling output and high inflation, most countries saw a bounce back in activity. This return of rapid growth in all the RAMs since the late 1990s (when, in addition to the Russian crisis, other asymmetric shocks of varying kinds had slowed growth) has resulted in an impressive degree of real convergence in GDP in recent years. Indeed, among the EU-15, only Greece and Ireland have had growth rates comparable with the RAMs since 2000 and, as Table 3.1 shows, the fastest growing RAMs have grown at four to five times the rate of the euro area as a whole. The convergence is consistent with what would be expected from the many studies triggered by the work of Barro and Sala-i-Martin (1992). However, as can be seen from Table 3.1, although the gap in GDP per head has narrowed, it remains substantial and bridging it will remain a challenge.

All the new members are expected to become full members of EMU, which will require them to fulfil the nominal convergence criteria. For some, current values for the relevant indicators suggest that there will be few problems in this regard, but for others a more extensive adjustment will need to occur. Nevertheless, for all the RAMs, the extent of the nominal adjustment they face to be eligible to move to stage 3 of EMU is not only manageable, but is also less than that which confronted some of the current members of the euro area at the time the Maastricht Treaty was signed as well as in the mid-1990s.

A successful transition to euro area membership will, though, entail far more than meeting the Maastricht criteria. A change of monetary regime, especially one as far-reaching as adoption of the euro, will have profound effects on the real economy and will also affect financial markets in ways that could imperil financial stability. Moreover, there are potential tensions between the catch-up process (real convergence) and the achievement of the nominal convergence criteria that could affect the political economy of how and when to seek full participation in EMU.

Financial stability[2] has been recognized as a crucial factor in promoting long-term growth and is, therefore, bound to be an issue in both catch-up and euro accession. Its importance has been underlined by the ECB (2005a) and is also evident in the increasing attention paid to it by the relevant authorities. That the RAMs are alert to the challenges of financial stability is evident from the increased emphasis it receives in the priorities of the respective national central banks. The Czech National Bank, for example, highlights on its web-site the fact that it 'commenced financial stability analysis in earnest when it defined the priorities of its economic research for the period 2003–4 and published the *Banking Sector*

Table 3.1 GDP levels and growth

Member State	*GDP per capita in PPS (EU-25=100)*			*GDP growth (%)*
	1995	*2000*	*2005*	*2000–6, cumulative*
Czech Republic	69.6	64.7	71.2	21.8
Estonia	33.9	41.5	53.0	43.3
Hungary	49.5	53.3	63.0	24.3
Latvia	29.8	35.4	46.1	53.7
Lithuania	34.1	38.4	50.2	49.7
Poland	40.7	46.1	48.6	22.2
Slovakia	68.4	73.1	79.9	32.1
Slovenia	44.5	47.8	55.6	22.7
EU-15, of which:	110.8	109.8	108.6	10.5
fastest growing (IRL)	99.0	126.3	136.4	35.5
slowest growing (DE)	119.2	111.7	106.2	4.8
euro area	110.8	109.8	108.6	9.1

Source: Ameco database.

Stability Report for 2003' and now publishes an annual financial stability report. Major causes for concern are the quality of prudential supervision, the potential for a rapid increase in consumer debt and how it might compromise macroeconomic stability, and the relatively under-developed banking sectors in the RAMs.

The next section of the chapter examines the challenges associated with acceding to stage 3 of EMU and in striking a balance between the long-term gains from EMU and the short-term risks to real convergence, highlighting the salience of financial stability. The following sections look at what is entailed in adjusting to EMU prior to accession (stage 2 adjustment) and once fully integrated (stage 3 adjustment). Next the links between real convergence and financial stability in the EMU context are appraised. Concluding comments complete the chapter.

The challenges of acceding to stage 3 of EMU

Strictly, the RAMs are in the same position as Sweden in having no opt-out from full participation in EMU. Instead, they initially had a 'derogation' from the obligation to participate fully in EMU. Given that the RAMs have to fulfil the standard Maastricht conditions which, in practice, include a minimum two-year participation in ERM II, the earliest any of them could have joined would have been in 2006, although it is important to note that all are expected to make the necessary effort, distinguishing them from the UK and Denmark, which are legally entitled to choose whether or not to join. Sweden, though, has already demonstrated that there is no real obstacle to staying out indefinitely and it looks as though some countries, notably the Czech Republic, intend to exploit this flexibility. Slovenia became the thirteenth euro area member in 2007, and was joined by Cyprus and Malta in 2008, while others, such as the Baltic countries, want to accede soon, whereas there are now signs that countries which were previously quite enthusiastic – Hungary, for instance – are now minded to proceed more cautiously, not least because it is confronted by awkward fiscal indicators.

Behind these positions lies a debate about the costs and benefits of early euro area accession, focusing especially on its implications for real convergence. The question is whether switching