
Growth in Mature Economies

The Second CEPR-Modena Conference

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Report from the Second CEPR-Modena Conference

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Edited by Kevin Hjortshøj O'Rourke and Isabella Rota Baldini

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The Second CEPR-Modena Conference

The conference is the second of a series of conferences on growth in mature economies to be held in Modena, Italy and co-organized by CEPR with the Center for Economic Research (RECent) of the University of Modena and Reggio Emilia, with the financial support of Fondazione Cassa di Risparmio di Modena.

The Organising Committee for the second edition included:

Graziella Bertocchi (RECent - University of Modena and Reggio Emilia and CEPR)
Kevin Hjortshøj O'Rourke (University of Oxford and CEPR)
Lucrezia Reichlin (London Business School and CEPR)

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Kevin's research lies at the intersection of economic history and international economics, particularly international trade. He has written extensively on the history of globalisation, and his *Globalization and History* (co-authored with Jeffrey G. Williamson) won the 1999 American Association of Publishers/PSP Award for the best scholarly book in economics. *Power and Plenty: Trade, War and the World Economy in the Second Millennium*, co-authored with Ronald Findlay, was published by Princeton University Press in 2007. Kevin is currently running an ERC-funded project on international trade during the Great Depression. In his spare time, Kevin serves as a municipal counsellor in St Pierre d'Entremont, a small mountain village in France.

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Foreword

The second CEPR-Modena Conference on Growth in Mature Economies was held on 7-8 November 2013, the second in a series of events focusing on growth in mature economies. The inspiration for this conference series came from Lucrezia Reichlin, Professor of Economics at the London Business School and former CEPR Research Director, who sought to bring together researchers to discuss a key policy issue: how to stimulate growth in mature economies, those that cannot move closer to the technology frontier nor add more capital. The protraction of the Eurozone crisis, ageing populations and a shift in world trade balances make this a crucial research avenue in the long run as well as having more immediate policy implications. This report addresses a wide range of issues, from labour-market reforms to China's growth miracle.

The Center for Economic Research (RECent) at the University of Modena Reggio Emilia has played a decisive role in the production of this report and conference series. We are indebted to them and the Fondazione Cassa di Risparmio di Modena, for their generous financial support that made the conference possible. We are grateful to Kevin Hjortshøj O'Rourke and Isabella Rota Baldini for their great efforts in producing this report from the output of the conference, and to Kevin, Lucrezia Reichlin and Graziella Bertocchi for organising the conference itself. And as ever, we also thank Charlie Anderson for his typical skill and speed in producing the report.

Tessa Ogden
Deputy Director, CEPR
10 December 2014

(No) Growth in Italy

Fabiano Schivardi
Luiss and EIEF

Italy's GDP per capita growth rate has been decreasing steadily since the 1960s, approximately by 1 per cent every ten years, eventually reaching the current zero growth potential. After a fast 'catch up' phase in the post-war period, during which Italy benefited from low wages and adopted mature technologies, a slowdown was to be expected. However, Italy did not simply slowdown but rather came to a complete halt. It is important to note that the collapse in Italian growth preceded the current crisis; the country has been stagnating since the mid-nineties, as the effects of the 1993 devaluation gradually faded away.

In this context, Fabiano Schivardi presented the work of *Idee per la Crescita*, a policy forum on Italy's growth challenges, and discussed the diagnosis and proposals to address Italy's growth problem.

Schivardi argued that Italy's problems are mostly rooted in the lack of growth in productivity. A collapse in total factor productivity growth coupled with increasing wages has resulted in a loss of competitiveness. This is a general problem and is not limited to specific industrial sectors, although being specialised in low-tech productions does not help. Nonetheless, Italy's performance is also worse than in competing developed economies within sectors, showing that the issue is common to the entire productive structure.

This suggests that whilst Italy has proven successful in the 'catch up' phase, the country has not been able to adapt its growth model to the changing economic environment and has, as a consequence, inevitably fallen behind. Schivardi focused specifically on the problems related to the Italian productive structure, although the argument is wider and should also encompass Italy's infrastructure and institutional framework.

In the Italian productive landscape there is a well-known prevalence of small firms, which are the backbone of the economy. This characteristic is common to all sectors; data show that Italian firms are smaller than the EU average even within narrowly defined sectors. This small-firm industrial model was successful in the past for traditional sectors with medium to low levels of technology. In such sectors, economies of scales do not play a major role. The lack of internal economies of scale was compensated by agglomeration economies within industrial districts.

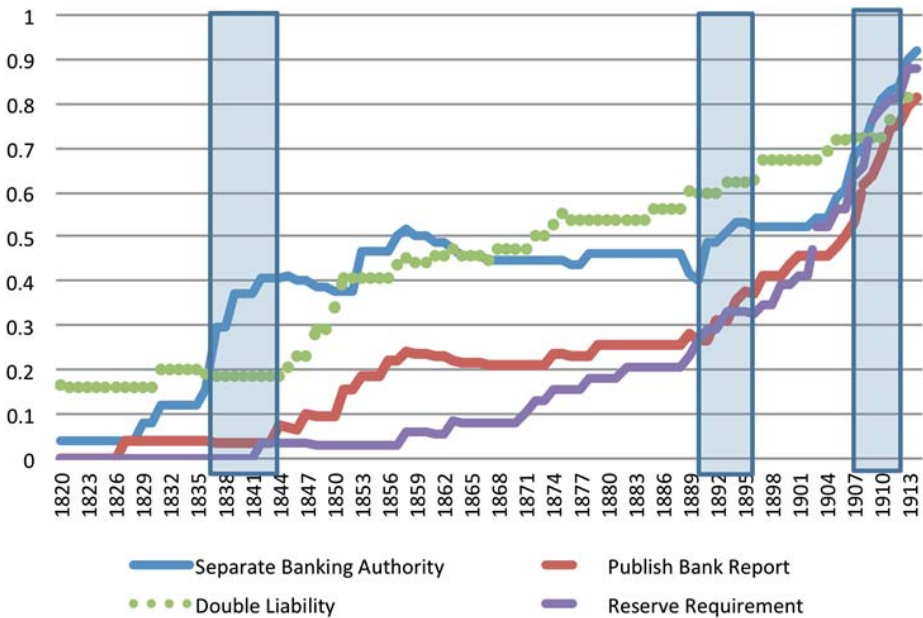
However, as Schivardi pointed out, there have been three major changes in the macroeconomic environment that have made this production model obsolete. First, globalisation has increased competition; new producers with lower marginal costs (particularly labour costs) have entered the market. Second, Information and Communication Technology has brought drastic changes to

the organisation of firms in terms of value chains and knowledge transfer – it is generally accepted that these changes have been more beneficial to larger firms than to smaller ones, although there may be different points of view on this issue. Lastly, the introduction of the euro has put an end to competitive devaluations, which in the past were often exploited by Italian governments to boost export growth during periods of crisis.

These three factors imply that pure price competition can no longer be the strategy for success. Rather, the focus of firms should move towards increasing market power and customer loyalty; these factors allow firms to price above marginal cost and remain profitable in a competitive international environment. A successful implementation of this strategy, however, requires investment in design as well as in R&D.

Investments in intangible assets such as design, research and development, branding and more generally product-differentiating activities are critical for all firms in order to reduce elasticity of demand. Obviously investments in intangibles should be different in different sectors. For example, in the textile sector innovation in design, branding and distribution, rather than technological advances, will be the key to success. In substance only innovative firms, broadly defined, can achieve the market power which allows them to cope successfully with intense international competition. Indeed, Schivardi showed that firms with a higher share of intangible assets (as a proportion of total assets) consistently exhibit a higher growth rate.

Figure 1. Adoption rates for state bank supervision and regulation, 1820-1914 (fraction of existing states)



This evidence confirms that the ‘old model’ based mainly on production efficiency is no longer sufficient to guarantee success. This is especially true in

high tech sectors where competition mainly involves product innovation, but there is evidence that successful firms rely increasingly on 'tertiary' activities in more traditional sectors as well. Tertiary activities are those that occur before and after the pure production process; they are 'services' such as marketing, branding, R&D, product development, distribution networks etc.

Turning to the effects of the single currency on Italian industry, Schivardi stated that the introduction of the euro had, as expected, stronger adverse effects on those sectors that in the past benefited more from competitive devaluations, in other words on those firms that competed on price. In contrast, the single currency does not seem to have had a significant effect on the high tech sector.

According to Schivardi, the increasingly important role of intangibles has serious implications in terms of firm governance, subsidies and the legal framework. For example he argues that the subsidies on the purchase of machines and equipment, established in the sixties by the 'Legge Sabatini' and just renewed by the current Italian government, are obsolete and even meaningless in today's world. On the other hand, a much-needed measure would be a higher degree of legal protection for intangible assets.

After having underlined the new economic framework and its corresponding challenges, Schivardi attempted to explain why Italian firms find the transition to a new growth model problematic.

First, an adequate firm size is essential in all productive sectors to be able to sustain the required investments in intangible assets. Scale is important to achieve a critical mass in terms of customer base and to build brand awareness. For example, although small Italian firms are generally export oriented, their small size constitutes a weakness to penetrate distant markets. Using cross country data and a 'shift and share decomposition', Schivardi argued that if small Italian firms were comparable in size to small German firms their exports would increase by 37 per cent. He also noted that, according to several studies, the small size of Italian firms does not seem to be related to Italian labour regulations which, when a firm has 15 or more employees, become more stringent. This finding appears to be consistent with similar findings across Europe (with the only possible exception of France where the 50 employee threshold appears to have more significant effects).

According to Schivardi the prevalence of small Italian firms can be better explained by looking at firms' corporate governance, finance and management structure. First, family entrepreneurs tend to be extremely risk averse; this is probably due to the fact that the family's entire wealth is generally invested in the business. In this context investing heavily in intangible assets is perceived as risky. Second, significant upgrades in firm infrastructure require specific managerial skills, which may imply the need to hire managers from outside the family circle. This appears to be especially difficult for family businesses where not only the CEO is a member of the family (this is common to several other countries), but where all managerial positions tend to be assigned to family members. A last obstacle is financial: investments in intangible assets imply significant financial resources which in turn require scale and capitalisation. Generally these kinds

of investments cannot be financed only by bank debt, by far the main source of financing for small firms in Italy, but require equity capital.

For all these reasons, family firms are not suited to pursue growth opportunities perceived as risky. This is not only a problem in Italy; in fact Schivardi showed that countries where family ownership is more diffused experienced a sharper productivity decline after 1975.

To address the current stagnation, Schivardi recommended a few policy prescriptions. He called for an increase in equity supply and argues that Italy lags behind other developed countries in the development of financial intermediaries specialised in raising equity. In particular, venture capital, private equity and stock markets are largely underdeveloped.

This issue is clearly complicated since investors are reluctant to set up expensive infrastructures which may remain marginally used as long as families are unwilling to give up control of their firms. However, as Schivardi pointed out, regarding this specific issue the crisis can offer a window of opportunity: since banks are increasingly reluctant to extend credit, firms may be forced to explore alternative sources of finance.

Still, there are a number of open issues which are affecting the growth of private equity in Italy, regarding the legal framework, fundraising, and divestiture. Here, according to Schivardi, government intervention can be useful, as the Israeli experience demonstrates, but it should be temporary as the market ultimately needs to sustain itself.

One proposal, developed by the *Idee per la Crescita* forum to foster the development of private operators, would be to create a 'fund of funds' for venture capital, where government money is invested in private venture capital, but the venture capitalists have the freedom to decide which projects to finance. This would help overcome coordination failures that are a barrier to the industry's development.

However, there are also critical regulatory issues. The Bank of Italy imposes rather strict regulations on financial operators, particularly on 'mid-market' ones. According to Schivardi, in order to avoid excessive and unnecessary burdens, regulations should be correlated with the size of the operator. Furthermore, more certainty regarding the tax-treatment of LBOs is needed, as the current situation poses serious problems, particularly to international operators potentially interested in the Italian market.

Lastly, Schivardi called for the completion of the reform of start-ups and underlines the importance of eliminating tax discrimination among investors, of stimulating innovation through the acquisition of start-ups by large companies and of generating demand for innovation through the digitalisation of public administration.

Schivardi concluded that the crisis is offering Italy a unique opportunity to reform its financial system. The Italian financial system is too dependent on banks, and there is emerging consensus (even among bankers) that the system would benefit from being more balanced. Equity demand needs to be stimulated and, for this reason, Italy needs new financial operators which can offer alternative sources of funding alongside traditional banks. There is also a need to redesign

the architecture of the financial system. This includes a reform of the structure of the bank ownership model currently based on bank foundations (which has proven inadequate during the crisis); encouraging the development of financial operators, such as pension funds, willing to diversify into corporate equity; and, last but not least, ensuring that mutual funds are independent from banks so as to avoid conflicts of interest.

Discussant 1: Francesca Cornelli, *London Business School and CEPR*

While Schivardi's presentation underlined the positive contribution that private equity and venture capital firms could bring to the Italian industrial structure, Cornelli, playing the devil's advocate, highlighted the political challenges of increasing the role of private equity firms, quite unpopular in Europe (and to some extent in the US) because of the widespread perception that their approach is to opportunistically buy companies cheap, using excessive leverage, to slash costs, and finally to appropriate the increase in market value without bringing significant improvements to the underlying performance of the companies acquired. The backlash against private equity has influenced the European regulatory environment while Italy has been a case further apart with very little debate on the issue.

According to Cornelli the problem that should be addressed upfront is what is missing in Italian firms, and only later should we discuss if and how private equity could fill the gap.

The straight-forward answer is that what is missing is capital; however it may also be that Italian firms are lacking managerial skills and entrepreneurs. Both capital and managerial skills may be provided by private equity and venture capital although these may be very expensive options if the problem is merely the lack of capital. In addition, Cornelli underlined that venture capital and private equity are becoming increasingly different from each other in terms of structure and *modus operandi*. Therefore they should be evaluated independently.

Given these premises, what is the real value added of private equity in the current context? According to Cornelli some positive elements can easily be identified. For instance, not only does private equity provide funds for R&D, it also helps prioritise innovation efforts by focusing on the areas of strength of the company. Private equity-backed companies tend to be more focused on innovation efforts and more sophisticated in the management of innovation processes.

There is evidence that backs these claims; for example several academic papers (Lerner, Mortensen and Stromberg) find that private equity involvement leads to greater innovation, measured by the number of patents granted. In addition, Popov and Roosenboom (2009) looking at private equity deals in Europe from 1998 to 2008 find that private equity investments account for 8 per cent of industrial spending but 12 per cent of industrial innovation. Furthermore, they estimate that one euro of private equity-backed R&D investment is nine times

more effective in delivering innovations (measured in patents granted) than traditional, non-private equity-backed, investments.

Given this evidence it seems unsurprising that four of the five top sectors supported by private equity investments in Europe appear in the list of the top ten innovative sectors.

In addition private equity could have a positive impact merely by providing capital. Indeed three of the top five sectors benefiting from private equity investments are capital intensive. There is also increasing evidence that LBOs display comparatively larger IT investments (Agrawal and Tambe, 2013), with long-lasting positive effect on employees' skills and employability, and that countries with higher levels of private equity investments benefit from higher levels of gross fixed capital formation.

Finally, private equity supports companies in international markets by providing strategic and operational guidance to enter and compete in new markets. A study commissioned by the EVCA finds that exports in private equity-backed companies grew by 10 per cent per year, versus a 4 per cent national average.

Several academic papers also show that private equity not only backs new ventures but also indirectly fosters new firm creation: investing in one firm stimulates entry of 2 to 12 new companies in the same metropolitan area. Popov and Roosenboom (2013) find that this effect is even stronger in R&D intensive industries. Frontier Economics (in a study also commissioned by the EVCA) estimates that up to 5,700 firms are likely to be created as a result of private equity activity in Europe.

On the other hand, Cornelli pointed out that the performance of venture capital in Europe has been very poor. The reasons for this failure could be related to the limited size of the domestic markets, to insufficient portfolio diversification and to inadequate exit options. Perhaps the most common and convincing explanation may be found in the difficulties for European venture capital firms to obtain financing from pension funds due to the conservative regulatory framework. In fact within Europe pension funds only invest in private equity in Sweden, the Netherlands and the UK. Conversely most European venture capital is backed by government agencies.

Whatever the reason, venture capital has failed to take off in Europe, so alternatives should be considered. These include corporate venture capital, corporate angels and, most importantly, the creation of 'pools of money' allowing pension funds to invest in private equity. In this regard the experience of Peru is both significant and – thus far – positive. Cornelli however warned that the potential consequences of a significant involvement of pension funds in this market should be carefully evaluated, because if pension funds invest in low return venture capital assets (as the European venture capital experience appears to be) the consequences for the level of future pensions could be very serious.

Another possibility, suggested by Schivardi, is to stimulate private equity and venture capital activity by creating a 'fund of funds'. However, Cornelli showed that 'funds of funds' specialised in one country have not been successful. In fact, while Norway's Argentum fund is considered very successful, Denmark's

experience is not as brilliant. This may be due to the fact that while Argentum invests in the entire Nordic area, the Danish fund is focused primarily on the domestic market.

The main success story in this regard is the Israeli fund of funds. Despite its undoubted success Israel's case is widely debated because: first, investments are generally in high tech start-ups which are not labour intensive; second, and perhaps more importantly, as venture capital firms sell start-ups to major international corporations, these bigger corporations in turn tend to move the company's headquarters away from the country (often in the USA). Obviously, if the objective is the country's economic growth, this type of behaviour is not helpful.

These patterns clearly outline the main trade-off involved in creating a fund of funds: while the government objective is to increase growth, the private fund is looking to maximise returns and is thus inclined to accept the best offer, regardless of the growth-enhancing effects that other financially less attractive offers may display.

In general, past experience shows that public 'funds of funds' are not always successful in choosing the right fund, especially if the appropriate incentives are not put in place. In fact, although the EBRD has been successful in extending private equity presence in transition countries, their approach was to invest in all the reputable funds, rather than selecting the best.

Discussant 2: Gianni Toniolo, *LUISS Guido Carli* and *CEPR*

Toniolo observed that although Italy's rate of growth has been declining for decades, for long periods GDP per capita growth was similar to that of most countries that have also 'caught up'. What is worrying, he claimed, is Italy's performance over the past decade, during which the country has fallen behind in relation to other developed nations.

Why has this happened? Toniolo argued that some of the factors that propelled growth from the fifties until 1995, which have led Italy to achieve up to 90 per cent of US productivity, are now no longer available and that the country's growth model, successful in the post war period, is now obsolete. Italy has been unable to adapt in order to succeed in the new economic environment. Clearly, important changes at the macroeconomic level have led to the loss of policy instruments: expansionary fiscal policies and devaluations extensively used - and abused - in the past are no longer feasible.

However, Toniolo argued, Italy's real problem does not lie in the loss of certain policy options that propelled growth in the past. In fact, he argues, these instruments also had several downsides since devaluations produce inflation and reduce incentives for firms to innovate. Rather, the country's economy, now close to the productivity frontier, needs new growth factors. However, it has failed to develop them. To restore growth Italy needs innovation and industrial restructuring, or else it will lose the challenge of the second phase of globalisation.

An important factor of change according to Toniolo is the progressive weakening, starting from the eighties, of large Italian companies. This is a critical negative development as large companies invest heavily in R&D and their R&D investments generate positive externalities for smaller companies and for the economy in general.

However the key factor identified by Toniolo to explain Italy's stagnation in the past ten years is that the country has lagged behind in terms of secondary and tertiary education, a crucial element in the era of technology. In the post war period Italy converged with other high income countries not only in terms of levels of productivity and GDP, but also in terms of general welfare indicators such as life expectancy and infant mortality. These achievements were not accidental but the result of specific economic and social policies. However, as Toniolo showed, when it comes to education Italy did not converge to the standards of other developed countries. The education model which served Italy well in the 'catch up' phase, based on good basic education for the labour force and a limited number of excellent engineers, is no longer adequate; yet it has not been changed nor updated. Although human capital creation (measured in average years of formal education) has increased, the diffusion of tertiary education is still below the level of most other OECD countries. The relative neglect of investment in education, Toniolo underlined (quoting Tullio De Mauro), has been the most serious crime committed the Italian élite ever since the political unification of the country.

General discussion

Lucrezia Reichlin was not convinced that Italy's growth problems lie only in its industrial structure and argued that there are also many anomalies in Italy's balance sheet such as the very high level of public debt.

Furthermore, Reichlin stressed the peculiarity of the Italian case in which the private wealth of families is 200 per cent of GDP (higher than in Germany or France) whereas the public and corporate sectors are highly indebted.

She also discussed the limitations of not being able to use macroeconomic policy instruments and the general effect of European integration on Italy's economic performance. Specifically, she argued that Italy's adjustments, especially in terms of public debt, during the crisis in the early 90s and again during the period of fiscal tightening required to join the euro, probably influenced the country's growth potential. The case is particularly strong if we look at the data, which show that it is exactly around those years that Italy became an economic laggard.

Vincenzo Galasso underlined that the inefficiency of the Italian public sector, one of the country's achilles heels, was not discussed, arguing that it certainly plays a role in explaining Italy's lack of growth.

Dalia Marin pointed out that Germany's manufacturing sector is also characterised by many small and medium enterprises that, in contrast with Italy's, continue to be profitable. She thus suggested that Italy's problem does not lie in

its industrial structure but rather in the fact that the country is now competing with low-wage countries without the possibility of adjusting its exchange rate.

According to **Fabiano Schivardi**, it cannot be argued that firm size in Italy and Germany is similar; although Germany's manufacturing sector is also characterised by SMEs, Italian firms are half the size of German ones. Furthermore in his view, a flexible exchange rate, though a useful adjustment mechanism, is not an instrument capable of fostering real growth in the long term.

Schivardi also agreed that the huge government debt is an important factor of distortion in the Italian economy and argued that the high taxation rate required to service the debt is bound to progressively reduce the wealth of Italian families.

Lastly, Schivardi stated that there is a 'moral' approach which influences the debate on private equity operators and agrees that returns on investment should be the primary consideration when governments provide financing. However, he also recognised that the issues raised by Francesca Cornelli need to be addressed.

Labour-market reforms

Tito Boeri

Università Bocconi and CEPR

Given the current alarming rates of unemployment experienced by many European countries it is no surprise that labour-market reforms play a crucial role in the economic and political debate. The key word for labour reforms in Europe appears to be ‘flexicurity’; but what does this word really mean, why is it so essential and, perhaps most importantly, are European countries really transitioning towards Danish-style labour-market regulations – widely recognised as Europe’s best practice in terms of ‘flexicurity’?

Tito Boeri defined pro-flexicurity reforms as reforms which reduce the strictness of employment protection, making dismissals less costly; increase the coverage of employment insurance; and implement active labour-market policies to minimise the moral hazard that may result from employment insurance schemes. In this framework unemployment insurance provides a replacement income in case of dismissal.

The case for labour-market reforms in Europe is strong and has been an element of debate for a long time; the Lisbon Treaty in 2001 had already outlined the need to “improve the adaptability of workers and enterprises”. According to Boeri the case for flexicurity as a means to reconcile the need for flexibility in the reallocation of resources with social security is even stronger. In fact, although there are no major issues in terms of a lack of skills in the EU, there is an important problem of mismatch, with a high proportion of employees being either under- or over-qualified for the jobs they are in, and a high proportion of employers reporting a problem in filling job vacancies. This is not a minor issue as Boeri estimated that a more efficient reallocation of jobs and workers could account for up to 50 per cent of productivity gains.

There is no question that in Europe there are sound reasons to move in the direction of flexicurity, but what has been done? Boeri argued that the problem is mainly political: politicians are aware that some labour-market reforms are needed, but are unsure on how to best tackle the issue. Moreover, they have to face elections and are thus not inclined to implement unpopular policies.

Several countries have in fact implemented various labour-market reforms but, unfortunately, not all have proven effective. Evidence shows that many have moved in the right direction in terms of strictness of employment protection, which has been reduced; however there is no clear direction in terms of reform of unemployment benefits.

Most importantly, Boeri argued that the main problem of most reforms is that intervention has been merely ‘at the margins’ that is, touching temporary employment while leaving pre-existing regular contracts unchanged. These are

the so-called two-tier reforms, which only affect a share of the labour force, namely the newly hired. Moreover, most reforms have been incremental, implementing only small changes, rather than discrete ones. Worse, the data shows that over 70 per cent of 'discrete' reforms are two-tier, a further confirmation that politicians seem reluctant to touch regular contracts; rather, they choose to focus on temporary contracts, usually held by the young who have less political influence.

It is clear that these types of reforms, which do not simultaneously affect both employment protection and unemployment benefits, and which only affect a share of the population, are quite distant from Boeri's definition of flexicurity.

Boeri presented the standard model of job creation and of job destruction adjusted for two-tier reforms, assuming that a two-tier reform of employment protection reduces termination costs for entry jobs, while leaving employment protection unaltered for continuing jobs.

In a two-tier job structure a newly hired worker is usually given a temporary contract that can later be converted into a permanent one. In the model these new fixed-term jobs last until they are hit by a productivity shock; if the new productivity realisation is below the reservation productivity specific to entry jobs (R_0), the match is dissolved and ends with a flow into unemployment. If instead the new productivity realisation is above R_0 , fixed-term jobs are converted into permanent contracts.

Two-tier regimes generate two wage equations: the first wage equation determines workers' pay in entry jobs; the second wage equation applies to continuing jobs and provides, at all productivity levels, wages above the reservation productivity level. Boeri showed that the partial equilibrium effect of two-tier reforms is to increase the wage differential between entry and continuing jobs. Flexible jobs are paid less than regular contracts and this wage difference is directly correlated with degree of employment protection. This seems at first sight paradoxical: since temporary employment faces a higher probability of dismissal it should, as a consequence, be paid more in terms of compensating wage differentiations. This type of labour-market structure also implies that a stricter employment protection increases turnover in two-tier regimes.

Unsurprisingly, the result of two-tier labour reforms is a dual labour market. In such markets a stricter employment protection for regular workers increases the number of temporary contracts and also results in a lower rate of conversion of temporary contracts into permanent ones. From a macroeconomic perspective, Boeri discussed how dual track reforms have increased the level of responsiveness of employment and unemployment to output changes, reducing the role of automatic stabilisers. What is striking is that while most reforms have introduced more flexibility at the margins, they have not guaranteed additional security as short-term employment does not create entitlement to unemployment benefits. Unemployment benefits are generally higher in non-dual than in dual labour markets.

This dualism also fails to provide the right incentives to invest in human capital. In fact a dual labour market has negative effects on the development of workers' skills since fixed-term contracts are less exposed to training programs, due to their temporary nature. This is a particularly serious problem because it is

mostly the younger part of the labour force – which should be the target of most investments in terms of training – that holds temporary contracts.

Boeri then presented a model illustrating how to efficiently reform employment protection. The model assumes that contracts have a wage deferral element that establishes *ex-ante* the wage dynamics (wages increase over time); however, the productivity realisation is not known and may increase or decrease, possibly creating a situation in which the employer is facing losses (productivity is lower than the wage paid). The model also assumes that productivity in the second period depends not just on random factors external to the firm, but on the decision of the worker as to whether or not to engage in costly investment to improve his or her productivity. Workers can be laid off for disciplinary reasons (the employer argues that the worker did not invest in improving their productivity), but these decisions must be individually validated by a court, which may not observe shirking (in which case the worker receives severance pay); or they can be laid off for economic reasons, in which case the workers receive severance pay. There are cases in which low productivity is related to the worker's lack of investment in the job (which can lead to disciplinary layoffs), but it is also possible for the employee to have no responsibility and for low productivity to be simply the result of a negative shock. Clearly it can be hard to disentangle these situations. The model shows how severance pay is a way for government to *de facto* commit employers not to lay off workers even if there is a negative productivity realisation, which would have adverse consequences for the workers' incentive to invest in human capital.

Boeri argued that there is an optimal severance scheme, in which the size of the severance pay is positively related to the worker's cost of investment in training, and to the difficulty of the judicial system in detecting shirking. According to Boeri, the problem of employment protection is often more related to judges' excessive discretion than to the size of severance payments. This is for example the case in Italy, the European country with greatest judicial discretion.

Another result of Boeri's model is that, given wage profiles, severance schemes should be increasing with tenure. This would also help to reduce dualism. However, many European countries do not implement a progressive severance scheme.

In conclusion, Boeri presented the single contract proposal promoted by several European economists, including himself, and stressed the three main elements of an effective labour reform: a reduction in the discretion of the judges, implying the need for a reform in the judicial system as well as in the labour market; progressive severance pay and possibly the introduction of wage floors to temporary contracts which are exposed to higher risk of termination.

Discussant: Elsa Fornero, *Collegio Carlo Alberto*

In the political debate a better dialogue between research and policy is much needed. Elsa Fornero shared her experience as Minister of Labour, social policies and gender equality in Mario Monti's technocratic Italian government (November

2011- April 2013, during which time she conceived, got approved by Parliament and partly implemented both a pension and a labour-market reform), and discussed the importance of constructive interaction and better communication in order to provide the general public with the ability to understand complex and far-reaching reforms.

Fornero emphasised the great distance between theoretical constructions such as model building and model-based policy implications, and actual decisions, substantially affecting people's lives, reached through a democratic process. She underlined the subtle constraints and difficulties, arising from the typically conflicting agendas of the social partners, that economic models largely fail to recognise; recalled the reluctant and distrustful support of political parties, their eyes already set on the impending general election (due one year after the labour reform had become law); described the efforts needed to find a balance acceptable to political forces and social partners and compatible with general policy aims between short-term effects (more jobs now, no matter what will come later) and medium-term effects (more jobs *and* higher productivity).¹

Reforms are not the result of a vacuum but of specific economic circumstances. Wide-ranging (as opposed to incremental) reforms, of which the Italian labour-market reform is an example, aim to change deeply rooted attitudes and behaviour and to correct misperceptions and mistaken beliefs. This cannot be done merely through a set of legal obligations and prohibitions. Specifically, the long standing deficiencies of the Italian labour market could not be cured simply by changes in the law. Indeed, the new law must stimulate revisions in the way workers and employers participate in the labour market; in the way institutions and employment agencies (up to now very dysfunctional in Italy) provide labour services; in the way schools and firms interact to improve the matching between supply and demand; in the way workers respond to benefits provided by income support schemes. These changes take time, but time is a luxury when the economy is experiencing a prolonged and deep recession and people want almost immediate results.

Fornero gave a few examples of structural failures of the Italian labour market. The trade unions, for example, backed by left-wing parties, have long refused, mainly on ideological grounds, to accept that workers might lose their jobs and have almost interpreted a job as a worker's personal right that cannot be lost under any circumstance (a misinterpretation of the Italian constitution that asserts that 'work' is a right). This has resulted not only in market dualism but also in profound distortions in the allocation of resources, essentially devoted to passive income support. Different social protection/mobility schemes are often prolonged up to 15-20 years, without any serious attempt to help the worker find another job (indeed, indirectly encouraging him to do moonlight work). Under the same convictions, resources have been addressed to early retirement, reflecting the belief that workers over 50 are 'lost' to the labour market.

1 For an account of Fornero's experience as Minister of Labour, see: Fornero E (2013), "Reforming labour markets: reflections of an economist who (unexpectedly) became the Italian Minister of Labour", *IZA Journal of European Labour Studies*, 2:20 (16 December 2013); <http://www.izajournals.com/content/2/1/20>

The room for improvement thus was, and still is, very substantial. However, the difficult negotiations with the trade unions, on the one hand, and the fact that Italy's financial constraints imposed almost zero-cost innovations somewhat limited the scope of the reform, with respect to the government initial plans.

While the pension reform, introduced in a financial emergency, could be sent to Parliament as a decree, the labour-market reform had to go through a full and difficult confrontation with the social partners and a harsh parliamentary discussion during which the long term absence of true social dialogue, devoid of ideological content, became apparent.

The reform process started with an analysis of Italy's well-known labour-market problems: dualism, low participation, decreasing productivity, unwarranted separation between school and work, insufficient vocational training and lack of adult education, predominance of passive policies and poor, often useless, active policies. The high fiscal wedge was identified as another critical issue; however, given the financial constraints, the reform could not address this problem (only €240m was made available).

Having identified the weaknesses, the reform process set the goals, defined in qualitative terms, to avoid yet another false illusion towards the creation of 'a million more jobs'. The general objective was to support 'good' labour flexibility making use of effective matching tools and quality employment services; a significant although partial (for lack of resources) step towards flexicurity. Two more specific targets were identified, together with instruments to reach them: a) *inclusion*, to overcome market segmentation, which meant working on improving the employability of the unemployed and a shift from job to worker protection; b) *dynamism* which implied a reduction of dismissal rigidities, on the one hand, and a shortening of the school-to-work and job-to-job transition, on the other.

The whole process lasted six months and involved extended social consultations with the trade unions and with the Italian associations of entrepreneurs, like *Confindustria*. This wide ranging debate was somehow able to bridge the distance between the respective positions of the different social partners, leading to a broad agreement first with the social partners (the final document was signed by all partners, except the left-leaning CGIL and a couple of other smaller trade unions) and then in Parliament.

Once approved, however, irrespective of the positive international assessment, the reform was rapidly disowned not only by the social partners but also by the same political parties that had approved it. Fornero identified resentment against the pension reform and impatience for rapid results as the two main elements responsible for this swift disowning of the reform. The left criticised the reform for doing away with guarantees (particularly after the revision of article 18 of the Statute of workers, highly symbolic of past workers' 'conquests' which regulated individual firing); right-wing political forces branded it as too timid in restraining the same guarantees. The employers complained about limitations in flexibility; the trade unions would have welcomed more decisions in tackling precariousness. Fornero emphasised the positive assessment by OECD which welcomed the reform as a first important step in the right direction.

Fornero then illustrated the five pillars on which this far reaching reform is based.

- i. *Flexibility in labour-market entry.* The reform reorganises the existing types of labour contracts, with the twofold objective of preserving their positive role in supporting a more efficient market, and of limiting their improper use, which leads to job precariousness for individuals and to unfair competition among companies. The reform increased the period for which there is no need to justify the employment of a worker on a temporary contract and gave start-ups the possibility to use four-year fixed term contracts. Apprenticeship has been identified as the main path to enter the labour market with the aim of fostering competent, skilled and more productive workers and more stable employment relationships.
- ii. *Flexibility in labour-market exit.* As a counterpart to reduce precariousness in labour-market entrance, exit rigidity had also to be reduced. The reform introduced a compulsory conciliation process before legal action could be taken, based on the assumption that, if both parties are in good faith, it is likely that they will find an agreement. More significantly the reform substituted the obligation of reinstatement with a monetary compensation. Redundant workers are now subject to individual dismissal on economic and disciplinary grounds: measures are envisaged to reduce time and uncertainty by limiting the discretionary area for judges to reinstate dismissed workers and cutting down indirect costs stemming from layoff contests. A 'fast judicial track' has been designed for labour disputes. To safeguard workers' rights, the prohibition of discriminatory dismissals has been reaffirmed. True, this cannot prevent a potential judicial (mis)interpretation of the dismissal as discriminatory. However, a possible misuse of the norm (provided it has the practical relevance it is sometimes claimed) has to do with a pro-worker bias of judges, a problem that has little to do with the labour market and cannot be solved by cancelling article 18, as it is sometimes requested, also on ideological grounds (one cannot legislate on the presumption that judges are biased!).
- iii. *Social protection schemes.* Social protection schemes have also been substantially revised and made both more universal and more conditional to pro-active behaviour. Whereas in the past, Italian legislation was mainly focused on protecting the specific job, the inspiring principle of the new reform is to reinforce protection of the worker in the labour market, through a new scheme (the ASpl, Social Insurance for Employment) which - although not yet universal - considerably extends social protection coverage in terms of both expenditure and recipients. It will replace most of the existing provisions (Cassa Integrazione, both discretionary and for restructuring, and mobility schemes) and is based on conditionality (a worker who refuses a job or participation in a (re) training programme loses the ASpl).
- iv. *Employment services and activation policies.* The reform lays down principles to redesign active policies - linking them to passive ones as well as to life-long learning provisions - and to reshape the role of employment services, by streamlining and reinforcing their

organisation. However, this is an area largely under the responsibility of regional governments and parliaments; the central state is only entitled to provide guidelines. Fornero tried to reach an agreement with the regions but did not succeed because three important regions were close to elections and were unwilling to engage in the reform process.

- v. *Follow up and monitoring of the reform's effects.* This involved a substantial effort of data gathering by the Ministry of Labour in an attempt to make labour-market data openly available, in particular to the scientific community, for independent rigorous evaluations.

Fornero also explained why she did not choose the single contract, as advised, among others, by Boeri. The main reason was the unions' fierce opposition which argued that, since the single contract would apply only to new entrants in the labour market, it would have been yet another way of discriminating against younger workers. The government tried the path of a general revision of article 18, relevant to all workers, and this was accomplished (it should be recalled that modifications to article 18 had been, in the past, the pretext for terroristic assassinations).

Fornero then underlined how the German experience in labour-market reform – which she had taken as a benchmark for the Italian reform - shows that with this kind of extensive reforms unemployment initially tends to get worse and only starts decreasing a few years after the implementation.

To conclude, Fornero restated that economic models are and must remain the core of modern economic research. They cannot however include all the relevant variables and constraints so that prescriptions derived from them are to be interpreted as indicating the direction for reforms, more than precise solutions that can be, as such, translated into the real world. Moreover, experts tend to forget that people often fail to understand even the basic concepts of a reform, which creates hostility and makes implementation even more difficult.

It cannot, of course, be expected that a combination of academic economic expertise and substantially improved citizen's economic literacy would be sufficient to provide the answer to all economic problems. Politics will always be needed. That combination, however, can be an essential part of the answer. To do this, it must prove both a rational response to the populist tendencies of distressed political parties and a sensible and down-to-earth version of the perhaps excessively abstract views of the experts.

General discussion

Fabrizio Zilibotti underlined the weakness of the school-to-job transition in Italy, pointing out that many Italian universities do not offer to their students the right set of skills to be competitive in the labour market; because of this, it may be appropriate to replace them with institutions providing tertiary technical education, such as the German *Fachhochschulen*, in which apprenticeships are an integral part of the programme.

Vincenzo Galasso agreed with the statement that the Monti government, backed by competing parties with notoriously conflicting interests, indeed faced strong political constraints. However he pointed out that the technocratic government, considering the particularly critical economic and political conditions in Italy at the time, had enough leverage to impose its own conditions on the reform, threatening to resign as the alternative. Galasso thus suggests that Elsa Fornero could have been bolder in her choices.

Kevin O'Rourke commented that in the two-tier reforms described by Tito Boeri most governments paradoxically seemed to have made the politically more difficult choice of reducing unemployment protections, rather than politically easier choice of increasing unemployment benefits; however Boeri pointed out that the only changes in this regard were made at the margin, affecting only contracts usually held by the young, who have little political influence and are less represented by the unions.

Both Fornero and Boeri agreed with Zilibotti. Nonetheless Boeri pointed out that this approach entails also a reform in the education system and not only of the labour market; Fornero agreed and argued that the low quality of the labour force, in turn related to education, is one of the reasons for Italy's low productivity. However, she also underlined the ideological bias against vocational training, perceived by many as a second-class type of education.

Lastly, Boeri commented on Elsa Fornero's presentation, expressing sympathy for the political difficulties that she had to face as minister. He nevertheless underlined a structural problem in the design of the reform, which, by giving even more importance to judiciary decisions, increases, rather than reduces, uncertainty. Fornero did not agree that the reform was giving more room to judges and said that the last word should be left to empirical research.

Europe's growth crisis

Karl Whelan
University College Dublin

The period of growth in Europe prior to 2008 is sometimes referred to as a 'boom'; yet concerns regarding Europe's long-term growth prospects were raised well before the start of the financial crisis, precisely during the 'boom' years. In fact, starting from the mid-1990s onwards, productivity growth in the eurozone had fallen behind US levels after a long 'catch-up' period.

Whelan examined the prospects for growth in Europe on the assumption, as confirmed by Reinhart and Rogoff (2009), that nominal GDP growth is a key factor in resolving debt crises. Since few doubt the ECB determination to keep inflation below 2 per cent, steady GDP growth is the most effective mechanism for restoring highly indebted governments, businesses and households to sustainable situations.

In their 2008 paper McQuinn and Whelan had already described the deteriorating trends in total factor productivity (TFP) and per capita hours worked. Building on that study, they now argue that growth prospects for the eurozone have further deteriorated. First, in the period 2000-2012 TFP growth rate was on average only 0.2 per cent. Second, the slump in investment due to the crisis is creating negative supply-side effects. Finally, the demographic patterns in Europe are already affecting its growth potential.

TFP growth, which was running at around 2.7 per cent per year on average in the first half of the 1970s, declined to 1.4 per cent in the decade 1987-1996 and ground to a virtual halt (0.2 per cent per year) in the period 2000-2012. Even more disturbingly, in the period 2007-2012 TFP declined on average by 0.3 per cent per year, mainly due to the 3 per cent decline experienced in 2009.

A more detailed analysis shows that in the period 2007-2012 only Germany, Belgium and Austria enjoyed positive TFP growth. In a longer term perspective, over the period 2000-2012, excluding Ireland, the highest TFP growth rate was 0.6 per cent (in Germany and Finland) – lower than the growth rate of the eurozone as a whole in each decade prior to 2007. Perhaps not surprisingly, the worst performers in terms of TFP growth are the countries with higher public debt: Italy, Greece, Portugal and Belgium reported a negative TFP growth in the period 2000-2012.

Neoclassical growth models suggest that TFP growth will be a key driver of labour productivity growth over the next decades. According to Whelan, in the medium term the eurozone's TFP growth rate will likely stabilise at the current 0.2 per cent level. This value, he argued, is a reasonable estimate since the 2000-2012 time span includes periods of expansion and low unemployment as well as periods of slowdown with surging unemployment.

A comparison with the US offers another reason to project a low rate of TFP growth in the eurozone. In fact, despite its current expansion the US also has low TFP growth (around 0.3 per cent per year during 2000-2012). As pointed out by Robert Gordon (2012) productivity growth in the US has been falling since the 1950s, and current innovations seem to be less transformative than previous waves.

Commenting on the effects of the slump in investment, Whelan estimated that low capital stock growth, which is currently around 1 per cent per year – down from 2.4 per cent during the previous two decades – subtracts about 0.5 per cent a year from growth potential.

A different way to assess the growth performance in Europe and in the US is to characterise labour productivity growth as a function of TFP growth and of capital deepening (growth in capital per unit of labour). For the 2000-2012 period McQuinn and Whelan's calculations ascribe 0.7 per cent of the 0.9 per cent average productivity growth rate to capital deepening. However, according to Whelan, this is not sustainable in the long term, as the slow rate of TFP growth will ultimately translate into a slow rate of capital deepening.

Labour productivity and hours worked play a key role in determining the trend in GDP growth. Whelan broke down the change in total hours worked in Europe into four different components: changes in population, the participation rate, the employment rate and the average workweek. Since 1970 population growth has averaged around 0.5 per cent per year while a growing female labour force has been the driver for the significant increase in the participation rate. However the average workweek has declined steadily while the unemployment rate has increased.

Looking forward, it is reasonable to forecast only a modest increase in hours worked in the eurozone. Population growth is expected to be around 0.2 per cent per year until 2023, and a lower growth is forecast until 2048, when the eurozone population is expected to start declining. More disturbing is the fact that the working-age population (15 to 64) has peaked at current levels and, according to Eurostat, will decline by 0.13 per cent per year until 2023, and by 0.4 per cent per year in the subsequent decade. Furthermore, the participation rate in the working-age bracket has tailed off. This is partly due to the ageing population, but the gradual flattening of the increase in female participation rate also plays a role. Finally, Whelan pointed out that, while the TFP problem is more acute in high-debt countries, the issues related to population ageing affect most countries equally.

In summary, according to Whelan, European demographics constitute another reason to be rather pessimistic regarding eurozone growth prospects. Furthermore, he argued that, while Europe's demographic dynamics are often presented as a longer-term problem in the context of the sustainability of pension systems, they are already starting to affect Europe's growth potential.

While this scenario is certainly not encouraging, on a positive note Whelan recognised some improving developments in the European economy. Specifically the unemployment rate is projected to decrease from its current 12 per cent, and the rate of investment is projected to increase as the economy gradually recovers

from the slump. To explain the effects of these positive and negative factors on the growth prospects of the eurozone, Whelan illustrates a long-term simulation applying the Solow model of economic growth. The assumptions underlying the simulation are: annual TFP growth to continue at the current 0.2 per cent rate, the ratio of investment to GDP to recover by 2020 to 21 per cent (constant thereafter), the unemployment rate to fall to 8 per cent by 2020 (constant thereafter), the participation rate of the working-age population to flatten out at 75 per cent, the average workweek to continue its current rate of decline and to stabilize at 29 hours by 2020, and, finally, the working-age population to be in line with Eurostat projection.

The output generated by this model shows that the projected decrease in unemployment and increase in investment boost growth up to 2020. In particular, raising investment leads to the growth rate of the capital stock increasing from 0.75 per cent (2013) to 1.44 per cent in 2021, before declining again. The reduction in unemployment rate increases total employment up to 2020. However, the projected decline in the workweek offsets this positive effect and results in a slight reduction in total hours worked in the decade to 2023. Over the period 2013-2023 output per hour grows by 0.61 per cent on average, while GDP grows by 0.55 per cent per year. Nonetheless, with the projected decrease in hours worked, GDP growth is forecast to slow to 0.31 per cent in the decade to 2033 and to cease thereafter.

This scenario, based on a reasonable extrapolation of European economic trends, is admittedly quite dismal. Could structural reforms, widely regarded as being essential to restoring growth in Europe, lead to a more optimistic growth outlook? To address this question, Whelan considered a study by Johansson et al (OECD 2013) which forecasts the impact of structural reforms on product markets, labour markets, and on retirement. Specifically, as far as product market reforms are concerned, the assumption is that we will see convergence at the eurozone level to the standards of the best practice countries (US, UK, Ireland, Canada and the Netherlands). For labour markets, the projected reform entails a cut of the tax wedge by 4 per cent and a reduction by 10 per cent of the replacement rate of unemployment benefits. Regarding retirement, the assumption is to take as the average duration of active life the Swiss standard.

The combined effect of these reforms on the level of GDP by 2060 varies substantially from country to country, from a minimum of 3.7 per cent in Ireland to 30 per cent in Italy. While their cumulative effect on GDP seems rather large, especially in some countries, their annual average effect on growth rates, weighted by 2012 GDP, is to increase them by only 0.4 per cent per year. The results therefore suggest that this additional growth would not change the baseline scenario significantly, and that eurozone GDP growth will still be below 1 per cent over the next two decades. Of course, Whelan warned, caveats should be applied to the analysis because it estimates the effects of one specific set of structural reforms. In addition, caution regarding their effects does not imply that such reforms should not be undertaken. However, expectations that these policies will produce a growth miracle may not be realistic.

Whelan concluded with some recommendations. He argued that there is a strong economic case for a joint eurozone-funded capital investment scheme to address the large output gap and to boost supply-side potential. However, he recognised that political constraints are likely to rule out such a programme for the foreseeable future. While politically controversial, Whelan also suggested that, given the current macroeconomic scenario and European demographic patterns, a thorough review of the EU immigration policy may provide a potential solution to eurozone growth challenges.

Discussant 1: Dalia Marin, *University of Munich*

To foster European growth, higher competitiveness in southern Europe is essential. Starting from this consideration, Dalia Marin discussed the importance of firm organisation, focusing, in particular, on the impact of offshoring and of management decentralisation in boosting export growth. Both these factors, she argued, have been at work in Germany and play an important role in explaining the country's super-competitiveness.

There are two types of competitiveness: competitiveness based on price and competitiveness based on quality. Price competitiveness is influenced by unit labour costs, which can be reduced either by cutting wages or by increasing productivity. Since wages are sticky, the common belief that recession leads to a fall in wages, which in turn restores competitiveness, is misplaced. Another option would be to produce more inflation in Germany, which would in turn lead to higher wages in the country. However Germany's experience during the Weimar republic makes this option politically unfeasible. Nonetheless, Marin emphasised the steady increase in wages and salaries in Germany, suggesting that the country is starting to produce some, albeit moderate and controlled, inflation.

Since cutting wages in southern Europe and inflation in Germany are off the table, different factors such as the organisational structure of firms become crucial to improve competitiveness. Marin, Schymik and Tscheke (2013) argued that offshoring and decentralisation play a role in explaining the export performance of firms. According to their study offshoring to low-wage countries helps to improve price competitiveness and may trigger organisational changes that provide incentives to improve product quality. Firms choose to offshore when it is less costly to produce abroad and to decentralise when innovation is more important than control of costs.

Offshoring leads to an increase in productivity, which in turn allows firms to take market share and increase profit margins. According to the study, the benefits of an increase in market share seem to prevail even considering that higher profit margins attract more firms into the market and therefore intensify competition.

Using three different data sources, Marin estimated how much can be saved in terms of labour costs thanks to offshoring. First, she pointed out that while outsourcing seems to have little impact, offshoring increased productivity both

in Germany and Austria by around 60 per cent. Furthermore, Marin showed that offshoring firms in Germany tend to have a higher share in export markets both in the EU and globally. The same is true for Austria, but only for firms in the low-tech sector (where price competitiveness plays a more important role).

A close look at European countries' competitiveness reveals that countries with higher levels of offshoring, such as Spain, have significantly improved their current-account balance since 2008. Spain's export growth is rising and has reached Austrian levels, while its unit labour costs and nominal salaries have declined significantly.

One of the benefits of offshoring firms is their lower sensitivity to exchange-rate fluctuations; offshoring firms in Europe have low exchange-rate pass-through and thus may improve price competitiveness even when the euro appreciates. This may explain why euro appreciations seem to do less harm to those European countries in which exporting firms have high offshoring intensity. In a scenario of euro appreciation, a Spanish firm importing intermediate inputs will see its marginal costs decline with a consequent boost in competitiveness on export markets.

Turning to non-price competitiveness, Marin argued that adopting a more decentralised management structure provides incentives for innovation and improved product quality.

Marin pointed out that a decentralised organisational structure plays a role in explaining Germany's competitiveness and illustrated how offshoring creates an additional incentive to decentralise. Data show that German, Spanish and Austrian firms tend to have a highly decentralised management compared to firms in France and Italy, where decentralisation does not play much of a role. According to Marin, exposure to international trade in final goods and offshoring tends to trigger organisational changes and decentralisation.

In conclusion Marin stated that, in markets with a high level of product differentiation, quality competition is more important than price competition. Therefore when the value of innovation is of critical importance, firms are keener to upgrade their product quality by decentralising management than to cut costs by offshoring. This implies that in more sophisticated markets decentralised management is more important than offshoring.

Discussant 2: Jonathan Portes, *NIESR*

According to Jonathan Portes the picture portrayed by Whelan's paper is too pessimistic, as it suggests that the growth trend of 2000-06 was unsustainable, whereas, he argued, there is no compelling evidence of a bubble in that period.

Regarding the slowdown of GDP growth in the US, Portes pointed out that, if the EU is a long way from the US frontier, the catch up should be expected to continue until that frontier is reached. In addition a slowdown in the US would probably impact the EU in an attenuated fashion and with a time lag.

Although increasing TFP seems to be the critical factor in fostering growth in the eurozone, Portes wondered if Greece and Germany really have the same TFP

growth potential and if Spain has less potential improvement than France, as Whelan's charts on the impact of structural reforms seem to show. In terms of the limited impact that structural reforms have on growth, Portes suggested that they must be complementary to other policies, and, in agreement with Whelan, asserted that they cannot be perceived as the solution to Europe's growth problem. He called for sensible macro policies capable of easing the implementation of structural reforms and of making them more effective.

Jonathan Portes also challenged Whelan's labour-force participation projections, citing, as an example, the recent increase of the over-60 labour-force participation rate in the UK, and argued that well-designed policies can have high impacts in terms of the labour-force participation of the elderly and women. On the demographic challenges highlighted by Whelan he underlined that, since some countries such as France and Sweden have experienced a turnaround in the fertility rate, the implication may be that with the right mix of policies Spaniards and Italians may start having babies again.

Turning to the recommendations presented in the paper, he agreed with the need for more liberal immigration policies but stressed that a review of such policies cannot be limited to the number of immigrants entering a country. Rather, he argued, policies need to be focused on the match between immigrant supply and immigrant demand, while a fresh approach is needed to integrate migrants into the European labour market. For some countries, this includes policies to reduce racism since, according to Portes, tackling prejudices is a key element in successfully achieving effective labour-market integration.

Concerning the paper's second policy conclusion, he stated that the case for a significant increase of public-sector capital investment at the European level is strong. However, political constraints are high: not only do peripheral countries lack the fiscal capacity to make such investments, but there is also little confidence at the EU level that they will be able to take sensible investment decisions, considering the vast number of unproductive public investments made in the past.

General discussion

According to **Fabrizio Zilibotti** the real problem is not growth, which he is confident will eventually be restored, but rather inequalities among countries in the eurozone. The already significant discrepancies in terms of technological sophistication among European countries will likely widen, as many countries with no fiscal flexibility have chosen to reduce – rather than increase – R&D spending.

Vincenzo Galasso noted the lack of a discussion regarding the European education system in Whelan's paper, and argued that, in terms of improvement in educational standards, most of the eurozone is not performing well. He encouraged a comparison with countries with better performing education systems such as Finland and Sweden, to assess how this critical factor impacts on growth.

Gianni Toniolo pointed out that, adjusted for leisure time, life expectancy, and income distribution, the gap in per capita GDP between western Europe and the US is not very large. Toniolo suggested that perhaps we should begin to recognise that, in the future, GDP growth will be around 1 per cent, and called for a discussion regarding the possibility of living happily with lower growth.

According to **Richard Portes**, the problem with technological progress does not lie in innovation and the adoption of new techniques, but rather in their transmission to and implementation in countries with less advanced industrial structures. Imported technologies often do not diffuse across different economic sectors and thus remain under-utilised.

Jonathan Portes pointed out that the human capital stock is estimated at around £40tn in the UK, more than three times the size of its physical stock, stressing the need to focus on education as a form of investment to foster growth in the EU.

In reply to Jonathan Portes' argument regarding the effects on Europe of the slowdown of the US frontier, Whelan argued that a US slowdown would impact the EU because, applying the traditional leader-follower theory, the follower always ends up with a fraction of the dynamics of the leader and, if the US, the leader, reduces its progress, the EU, the follower, is bound to be affected as a consequence.

European Banking Union: Lessons from History

Kris Mitchener

University of Warwick, CAGE & NBER

The single market has fostered banking at the European level. Prior to the crisis, 46 systemically important banking groups accounted for 68 per cent of EU banking assets, half of them with significant cross-border activity (ECB, 2006, 2008). However, all supervisory institutions existed and operated at a national level. Subsequent to the crisis, the desire for institutional change at the European level has accelerated and became a priority of eurozone policymakers.

Schoenmaker and Osterloo (2007) have highlighted, in their 'financial trilemma', an inherent incompatibility of global market integration, financial stability and independent national supervision, and the consequent need for institutional change in the eurozone. The crisis dramatically exposed the fundamental flaws of the eurozone structure inasmuch as allowed for limited crisis resolution at the EU level. Many commentators have also pointed out that pan European institutions are required to break the vicious bank-sovereign 'doomsday link'.

What would a European Banking Union include, how will it be structured and why it is needed now? Kris Mitchener attempted to answer these questions by offering an historical perspective on the origins of bank supervision, assessing the events and the drivers that led to the creation of federal supervisory institutions in the US (Mitchener, Jaremski 2013).

The Single Supervisory Mechanism, scheduled to become effective in November 2014 at the EU level, will put 128 'systemically important' banks, whose assets account for approximately 85 per cent of eurozone bank assets, under the ECB's direct supervision. Prior to assuming its new supervisory tasks, the ECB will conclude (by October 2014) a comprehensive evaluation of the financial health of the 128 banks as well as a forward-looking assessment of the shock-absorption capacity under stress of each supervised bank.

In addition to the Single Supervisory Mechanism, a joint resolution mechanism with a single, independent authority was authorised in December 2013. The eurozone backstop proposes to use bank contributions to fund a backstop and wind up insolvent banks. The precise details are still being agreed to, but the proposal states that funds will be built up at the national level to roughly €55bn, with funds being merged gradually over a ten-year period. Non-eurozone members will be able to opt into the banking union. Finally, an agreement reached on 18 December 2013 maintains deposit insurance at the national level, but cements an EU minimum repayment to depositors of €100,000 when banks fail. National

funds will need to cover 0.8 per cent of a country's deposits and repay depositors within seven days of a bank failure, but the agreement stops short of a common EU deposit insurance fund.

According to Mitchener, as long as deposit insurance and resolution authority remain at the national level, conflicts may arise if the ECB decides that a given bank needs to be restructured or closed down. While the ECB would act on the basis of its assessment of the viability of the bank and any danger it might represent to systemic stability at the eurozone level, the national authority responsible for bank restructuring might prefer to minimise political costs by keeping the bank alive through support from the ECB. Therefore, without resolution powers, the ECB may find itself forced to inject more and more liquidity to keep zombie banks alive.

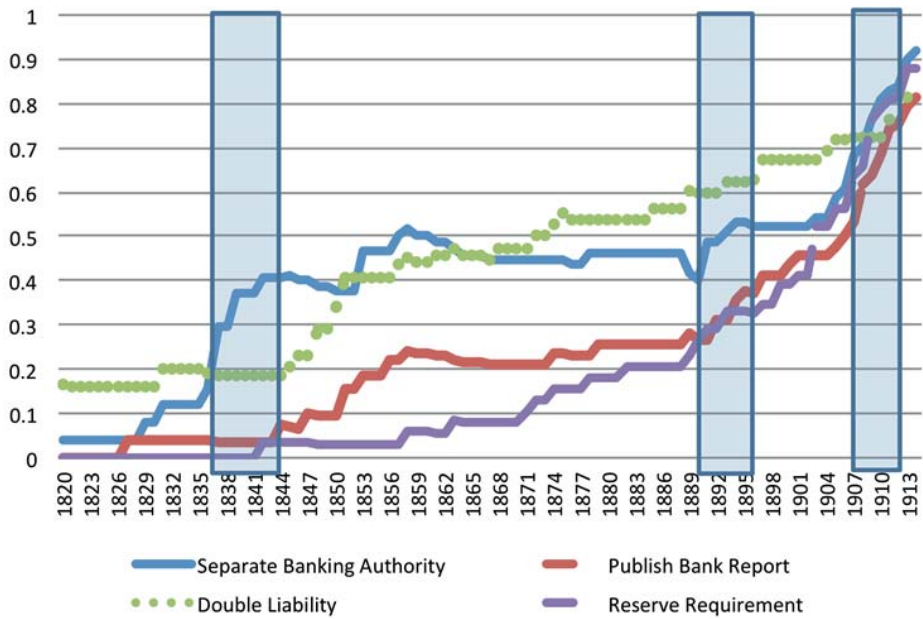
Given the need for institutional reforms at the EU level, Mitchener analysed the US experience in the development of federal supervisory agencies. The starting point for the US was similar to Europe's: it was a political union with considerable independence of individual states and, long before a single regulatory infrastructure was established, each state developed its own regulatory and supervisory system with legal right to charter. In this context, Mitchener argues, the political-economy issues faced by the US were comparable to the current European issues as the US gradually shifted from pre-existing state institutions to nation-wide regulatory and supervisory institutions.

In contrast to Europe, however, capital market integration was initially slow. Even at the end of the 19th century, restrictions on bank branching limited cross-border flow of funds and banks served primarily local, as opposed to national, customers. Supervision, first at state level and later at national level, thus developed alongside an increasingly sophisticated and integrated banking system, allowing the US to avoid the 'financial supervision trilemma'.

As in Europe, policymakers in the US were initially focused on the structure of the banking system rather than on systemic stability. Consequently, modern supervisory priorities only began to emerge in the US toward the end of the 19th century. States first looked to cheaper solutions, both in terms of political and real costs. Reserve requirements and double liability laws for shareholders were widely tried before implementing permanent supervisory institutions. The welfare of depositors (and taxpayers) became a priority only when state-chartered commercial banks shifted liabilities from notes to deposits. They were forced into doing so when the federal government created a new banking chartering authority (the Office of the Comptroller of the Currency) and decided to tax state bank notes out of existence.

Mitchener observed that financial crises were a key driver of creating long-lasting supervisory institutions in the US, as regulations proved inadequate in preventing costly bank failures. Changes at the federal level occurred in response to the 1907 panic (the founding of the Federal Reserve System) and to the widespread incidence of bank failures in the 1930s (the Banking Acts of 1933 and 1935 and to the establishment of the Federal Deposit and Insurance Corporation (FDIC)).

Figure 1. Supervisory institutions change around crises



Source: Jaremski and Mitchener (2013).

According to Mitchener, the supervisory structure of the eurozone in early 2013 was comparable to the structure of the US in 1932: institutions were still disproportionately lodged at the (nation) state level. The ECB, a relatively new central bank, has been tested by a severe (and not fully resolved) banking crisis which, in itself, has prolonged negotiations over the establishment of a real banking union with deposit insurance and a single resolution mechanism. Mitchener argues that it is not a foregone conclusion that the shift of supervision from the national authorities will succeed and that the other two pillars will ultimately be forged in a way to reduce the likelihood of future crises.

With regard to the EU’s choice of supervising only systemically relevant institutions, the US experience suggests that going halfway (‘opt-in model’ as in McCahery et al, 2010) may be problematic. While the Office of the Comptroller of the Currency (OCC) provided guidelines for best practices, some states were free riders and delayed the adoption of formal supervisory institutions at the state level. The dual banking system, with state banking departments supervising some banks and the Office of the Comptroller of Currency supervising national banks, incentivised individual banks to game the regulatory and supervisory system. Ultimately, ‘poor quality’ supervisory institutions were associated with more severe state banking crises subsequently (e.g., in the 1930s) and political capture was periodically problematic at the state level (Mitchener 2005, 2007).

Mitchener argued that the benefits of a deposit insurance scheme at ‘union’ level are several. Deposit insurance can have a calming effect on the immediate situation after a crisis. The US experience shows that the creation of the FDIC in the wake of the 1930s crisis critically boosted confidence in the banking system at

a time when markets and depositors were nervous about the safety of the system. Moreover, euro-wide deposit insurance will provide a more credible backstop and risk diversification. In addition, a single resolution mechanism with authority to shut weak banks would relieve pressure on individual states to save failing banks, and help break the sovereign debt-bank doomsday link. Concerns in the EU, however, are significant, ranging from legacy issues, to the potential need of amending EU treaties, to questions of legitimacy in the eyes of voters.

In the US case, a national deposit insurance scheme and a joint resolution mechanism were established with the Banking Acts of 1933 and 1935. As mentioned previously, the process toward federal deposit insurance schemes and resolution authority was slow and gradual; more than 150 proposals were submitted to the US Congress for federal deposit insurance between 1886 and 1933. Prior to that, experimentation occurred at state level. Before 1861, six states experimented with deposit insurance schemes with mixed success. For example, New York set up a 'safety fund', a mutual insurance system that guaranteed the liabilities of failed banks; the surviving banks mutualised the losses and were expected to replenish the fund. To prevent large losses, state-banking authorities had the responsibility of supervising member banks; however the supervisors had limited powers to control or modify risk-taking behaviours and the system ultimately failed. Another early state experiment was a mutual guarantee system whereby creditors were reimbursed with assets from surviving banks. In this system, a board of directors, composed primarily of the individual bank presidents, was created to oversee the integrity of all the banks in the system. The board of directors had more authority than state regulators since member banks had 'skin in the game' and oversight of the integrity of banks in the system, each bank having a representative on the board.

Eventually, the FDIC emerged in the 1930s evolved as both a resolution authority, independent of the Fed, and a backstop for future crises. Resolving the liabilities of the crisis of the day (the 1930s bank failures) was left to a non-permanent institution, the Reconstruction Finance Corporation, which recapitalised banks of middling risk through a preferred stock-purchase programme. The FDIC also established federal deposit insurance with a common backstop for future crises, funded by bank contributions. The FDIC's ongoing credibility hinges on its ability to change the contributions of member banks, on its underlying supervisory authority and, perhaps most importantly, on the backstop by the US Treasury. Deposit insurance can still be overwhelmed, potentially putting taxpayers at risk. This has happened twice since 1990s, but the FDIC can take out a loan from the federal government. The FDIC then has ability to change bank contributions *ex post*. The political problems are thus alleviated as the loan is eventually repaid via higher bank premiums and assessments after the crisis has waned.

What are the implications for Europe? The experience of the FDIC suggests that deposit insurance and resolution authority can be effectively combined into one agency; proposals by Schoenmaker and Gros (2012) and Allen, Beck, Carletti, Lane, Schoenmaker and Wagner (2011) are consistent with the FDIC model.

Whether supervisory and resolution functions should be separate stand-alone institutions or part of the ECB is a debated issue. Wyplosz (2012) and others have

argued that if the ECB lacks resolution authority and a deposit guarantee scheme it cannot act as a lender of last resort (LOLR). As of November 2013, while the ECB is expected to act as LOLR, it lacks supervisory authority and does not have direct access to detailed information about the banks. Yet, if the ECB failed to identify a weak bank or covers up a crisis because it lacks a joint resolution mechanism, its credibility would be jeopardised. Furthermore, according to Mitchener, if supervision were centralised but national authorities remained responsible for deposit insurance and bank resolution, the ECB would have an incentive to offload the fiscal cost of any problem onto the national authorities.

Obviously, there are also clear arguments in favour of a separation of bank resolution and deposit insurance from the ECB. A separation would avoid potential conflicts between monetary and micro-stability goals and introduce an additional monitoring authority. In addition, should all the powers be centralised in the ECB, there is also the issue of resource strain.

According to Mitchener the primary issues to be addressed are political-economy questions regarding the future costs of the new system and, perhaps most urgently, of legacy costs, since some countries are concerned about resolution costs related to the present crisis. Furthermore, such a joint deposit and resolution authority implies that the banking system bears the direct costs of resolution ('bailing in'); though not immediately since levies will increase over time, post-crisis. Lastly, the institution of such an authority would necessarily need a backstop, like the US Treasury, in order to address potential short-term liquidity issues (the FDIC deposit insurance fund was wiped out during the current crisis).

Mitchener stressed the complicated process of setting up a joint deposit and resolution authority, underlining that, after the creation of the FDIC, common resolution was not instantaneous. Rather, the FDIC developed and evolved over time, adopting a flexible approach to resolution, using different tools for different cases. Mitchener also pointed out that during the early period of US history there were examples of federal bailout of state debts, particularly with the Hamilton plan after the Revolutionary War. Critically, the Hamilton plan was part of a larger political project that entailed binding the states to the union and aligning the issuance of debt with the tax base. In more recent history, however, a no bail out approach became the norm; today the case of Puerto Rico, a territory not a state, will test Washington's resolve to stick to the no bail out norm.

Lastly, Mitchener wondered whether allowing the ECB to charter banks could accelerate the progress towards a banking union. According to Mitchener, if this were to happen, it would be a powerful signal to the market; however a dual regulatory system would persist and it remains to be seen whether the ECB will stand up to politicians better than national supervisors.

Discussant 1: Elena Carletti, *Università Bocconi and CEPR*

Mitchener effectively illustrated the evolution of the US banking system and its institutions. The US experience, in many ways, offers useful hints for potential

future developments in Europe. However, Carletti warned that one must also be aware of some critical differences.

Carletti, underlining the dissimilarities between the US and the EU, stressed how far behind Europe is in the process of creating a banking union. While the Single Supervisory Mechanism (SSM) has been approved and will become effective in October 2014, for the Joint Resolution Mechanism (JRM) there is only a directive proposal dated July 2013, while the Joint Deposit Guarantee Scheme (JDG) is even further behind. She highlighted, however, two additional 'pieces' complementary to a banking union: the ESM, which could be used for direct lending once the SSM is up and running and once the directives for JRM and JDG are approved by the European Parliament, and the forthcoming ECB asset-quality review.

A banking union is essential, she argued, not only to achieve a genuine economic and monetary union but also to break the negative loop between banks and sovereigns, to stop the fragmentation of credit markets, to prevent regulatory capture, to improve the effectiveness of supervision and, last but not least, to reduce the use of taxpayers' money in the future.

According to Carletti, the implications of the US experience are rather negative for Europe as it shows that the establishment of a banking union may take over a century, far longer than the EU has at hand. In addition, she pointed out that, in many ways, Europe is far from similar to the US in 1932. True, the current crisis could be – and to some extent is – an impetus for change, yet European banking sectors are far more integrated than supervisory institutions (although they are currently fragmenting). Secondly, unlike the US, Europe lacks a political and fiscal union with consequent severe political-economy problems.

The second issue raised by Carletti was whether shifting supervision to the SSM will succeed. As Mitchener pointed out, the US experience teaches that 'going halfway' – i.e. shifting only the supervision of certain banks under a central authority – may be problematic.

True, the SSM control is more comprehensive than it appears, since it comprises all the six thousand eurozone banks. In fact, although the ECB supervises directly only the systemically important banks, leaving supervision of smaller banks to national supervisory agencies, the ECB can, at any time, decide to directly supervise even smaller banks to ensure consistent application of high supervisory standards.

However, a dual system in Europe may be particularly complex to handle given that the ECB has no control of macroprudential policies such as capital buffers, since on these policies it has to cooperate with national supervisory authorities. This implies that the ECB never has complete control, not even of the systemic banks under its direct supervision. In addition, the ECB does not supervise banks from third countries establishing a branch or providing cross-border services in the EU, and, finally, it does not have consumer protection as a goal.

Third, Carletti was sceptical regarding the real possibility of the establishment of a JRM and a JDG, arguing that the political-economy problems are deep and complex. Though necessary, the introduction of such regulatory structures would require a strong fiscal capacity and entail debt mutualisation, which raises

a serious legacy issue. In fact, whilst an agreement regarding the mutualisation of future debt can be achieved, reaching an agreement on the mutualisation of past debt is proving to be extremely difficult. However, Carletti argued, this is the most urgent and challenging issue to be addressed in order to proceed with the banking union. She also pointed out that the JRM and the JDG would likely be established as separate entities from the SSM, with all the consequences that this separation entails.

Lastly, the outcomes of the ECB asset-quality review are uncertain and the shift towards a bail-in rather than bailout approach is potentially destabilising, in particular in the absence of fiscal backstops.

Discussant 2: Clemens Jobst, *Oesterreichische Nationalbank* and *CEPR*

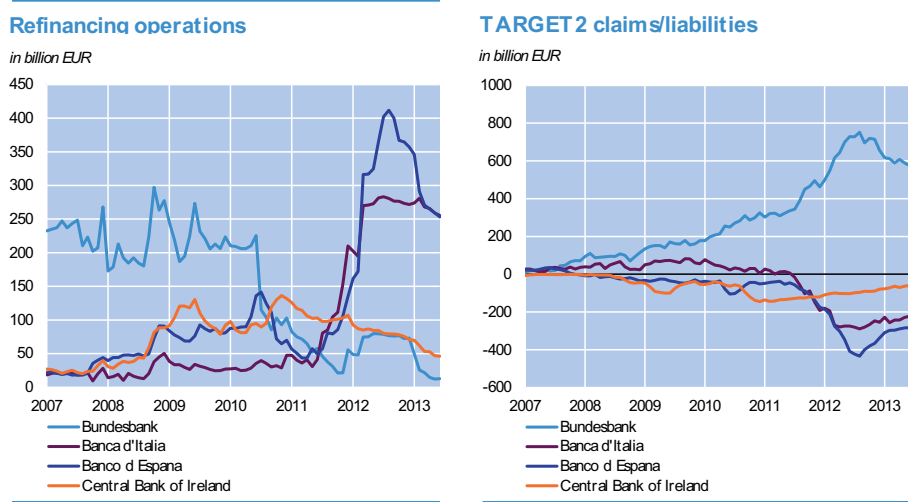
Clemens Jobst focused on the monetary-policy aspects of banking union. Aside from the fiscal and supervisory issues that call for greater integration, Jobst stressed that a monetary union logically requires a banking union, underlining that a single currency should apply not only to central bank money but also to the money issued by commercial banks. Differences in banking systems (in terms of supervision, resolution and deposit insurance) result in different 'banking euros'. Because of these differences, the crisis has resulted in a rapid banking fragmentation along national lines, caused by the sovereign-bank link.

The discrepancies between borrowing costs in different EU countries are a perfect illustration of the fragmentation of the banking system. What is most worrying is that high borrowing costs experienced by the periphery have not declined despite interest rate cuts, showing that monetary transmission has not operated successfully in the last few years.

Jobst showed evidence from Bodenhorn (2007) that in the 1930s a similar fragmentation might have existed at US-state level and that regional rates were influenced by regional shocks and were thus somewhat independent from each other until the mid-20th century, after which shocks came primarily from the centre. This would be an indication that markets in the US remained fragmented until recently. Given this evidence, it is important to understand the drivers behind banking integration in the US from the 1950s onwards, keeping in mind the different role that banks play in the US and in the EU.

Moving back to monetary policy, Jobst illustrated how ECB refinancing operations were directed mainly at distressed peripheral countries such as Italy and Spain. Meanwhile, TARGET2 claims by the Bundesbank have increased steadily and have only recently started to decrease. This event has inevitably created different balance sheets among the eurozone central banks and, according to Jobst, these differences are unlikely to 'rebalance' in the short term.

Figure 1. The Eurosystem’s response in a graph



Note: Selected National Central Banks. Source: Euro crisis monitor, Uni Osnabrück

During the recent crisis TARGET2 claims and liabilities have been widely interpreted as signs of stress. Imagining a ‘more perfect’ banking union, Jobst concluded by arguing that large TARGET2 balances could, at some point, become a sign of a well-integrated banking system. Indeed, in the absence of an acute crisis, a functioning banking union would imply that bank location does not matter, and banks could refinance themselves at any national central bank wherever they are located. This implies that central banks would potentially run up large TARGET2 claims and liabilities on their balance sheets. However, these would no longer retain their current economic meaning. Jobst pointed out that to some extent this was the situation prior to the crisis as the Bundesbank accounted for about 60 per cent of refinancing until 2007, by any measure much more than the share of the German economy or banking system in the eurozone.

General discussion

Lucrezia Reichlin pointed out the complex interaction between banking union and the central bank mandate, which is very different in the eurozone and in the US. During the acute phase of the crisis the difference in mandates created confusion regarding the role of the central bank, with huge challenges in terms of governance. In addition, Reichlin argued that banking integration (and its subsequent collapse) in Europe was limited to the wholesale market, whilst retail activities have always remained segmented.

Zsolt Darvas argued that one key difference between the US and the EU was that in 1932 the whole of the US had fallen into a severe depression. Thus the country had strong incentives to increase integration. Conversely, in the eurozone crisis, countries in the periphery are under severe distress, whereas the

core countries are not experiencing the same economic and financial problems. This difference explains, from a political-economy point of view, the difficult integration in the eurozone.

According to **Richard Portes** there are different interpretations as to why the Fed was established. He argued that the Fed was established not only as a result of the 1907 panic but also because, at the time, there was huge emphasis on the internationalisation of Wall Street; American banks wanted to expand internationally and needed a national institution capable of ensuring efficient money markets. Furthermore, Portes recalled that the potential fragility of a fragmented EU banking system was an element of concern raised in 1999. In fact, the Maastricht Treaty included a provision for eurozone supervision, but this issue was not subsequently pursued.

Mitchener agreed that the banking crisis was only one of the many reasons behind the Fed's foundation and mentions, in particular, problems related to the seasonality of money demand, the need for a lender of last resort, since banks did a poor job in lending to each other during crises, and an efficient money market.

Legacy costs, Mitchener agreed, are a critical stumbling block in the progress towards a banking union in Europe. Furthermore, bailouts constitute a major political-economy issue because the concern is that agreeing to a bailout once sets a precedent and potentially creates moral hazard. However, the US experience shows that although there have been historically multiple episodes in which the federal government effectively bailed out single states, in other cases, such as in the 1840 crises, the federal government refused to take ownership of the debt of insolvent states. The US therefore has been successful at managing fiscal balances at a decentralised level, also thanks to the existence of a fiscal union capable of absorbing or mitigating macro-shocks, which is a critical missing element in Europe.

Understanding China's growth miracle

Fabrizio Zilibotti
University of Zurich

China has the world's second largest GDP and a population of 1.34bn. However, its PPP-adjusted GDP per capita (\$9,200 in 2012) is still low in relation to that of the US (\$50,000) and of the EU (\$33,600). This indicates that the country's potential for growth remains high.

Still, China has experienced amazing growth over the past 30 years. Its GDP per capita, which in the 1970s used to be lower than that of many other developing countries, including Nigeria, is now close to the level of Brazil, and ahead of the poorest European countries. Relative to the US, its GDP per capita has increased from 5 per cent to approximately 20 per cent: a gigantic convergence process. This process has meant enormous changes in people's living standards; the percentage of people living in extreme poverty (as defined by the World Bank, i.e. - less than \$1.25 in PPP-adjusted terms) has declined from 84 per cent in 1981 to less than 10 per cent today.

China's GDP per capita growth in the first decade of the 21st century is estimated to be around 8-10 per cent annually. At such rates, per capita income doubled every eight years. Unsurprisingly, China is set to become the world's largest economy over the next decade (according to some estimates China is already the largest economy in terms of total GDP). However, more recently, the country has experienced a mild slowdown. In 2013, GDP grew at 7.5 per cent and its growth is expected to decline further in the coming years. Observers debate whether this slowdown should be considered a cyclical phenomenon, a physiological adjustment, or, more radically, the start of a reversal of fortune. The most pessimistic analyses have so far been repeatedly proven wrong by the data, in fact, China's slowdown is likely part of a global downturn that involves other emerging economies (India, Russia, Brazil, etc.).

In order to assess whether strong growth can be sustained in the future, it is useful to look back at the origins of China's outstanding performance.

Zilibotti's analysis (based on his recent research in Storesletten and Zilibotti, 2014) focused on the reforms and institutional transformations that triggered the Chinese growth miracle.

The start of the miracle can be associated with the first waves of reforms, put into place in 1978 under the paramount leadership of Deng Xiaoping. The most notable ones were the household responsibility system which entailed a de-collectivisation of agriculture, the establishment of township and village enterprises, managed either by local municipalities or privately, and the creation

of Special Economic Zones (SEZ) for market experiments and foreign investment. These reforms ignited the engine of economic growth, which took off in the 1980s thanks to booming productivity in agriculture and to these successful market experiments.

After a few years of slowdown caused by cases of corruption and by political tension between conservative and reformists which culminated in the Tiananmen repression, Deng's 'Southern Tour' of 1992 gave renewed impulse to the process of economic reforms, and put an end to uncertainty. The 1990s saw China transition from a mixed economy to a market economy. State-owned enterprises (SOE) were forced to compete with private enterprises, and inefficient and unprofitable SOEs were shut down or privatised. This, together with a boom in stock-joint ventures involving foreign capital, and the emergence of large domestic private firms, were the key growth contributors. The first pension reform was also introduced in this period (1997), and SEZ were expanded.

A detailed evaluation of many of these reforms is not a simple task, due to data limitations. For instance, we have no information of the extent to which the household responsibility system was introduced more or less intensively at the local level. On the contrary, assessing the impact of SEZ is somewhat easier. These zones are essentially geographically confined areas in which foreign investors could benefit from special (favourable) tax conditions, and were free to hire workers at market conditions (as opposed to having the government assign workers to employees). SEZ were set up with the goal of fostering investment, foreign direct investments and economic development. The possibility of experimenting with different policies and gradually introducing a new economic atmosphere in the country, within a controlled environment, was critically important. The local leadership in SEZ had more autonomy in designing policies; for example Shenzhen, one of the first SEZ opened in 1980, extended special tax rates to foreign firms granting a two-year tax exemption, a 7.5 per cent rate for the following three years and a 15 per cent rate after five years. In comparison, the tax rate outside such areas was 33 per cent for foreign firms and 55 per cent for local firms. In addition, the Shenzhen zone was allowed to introduce a labour market, which was, at the time, unthinkable in other parts of China.

Successful policies were subsequently copied and implemented elsewhere or nationwide. Today, SEZ are less 'special' than before, but some differences persist and huge foreign investments continue to flow into the zones which have become industrial clusters.

In their recent paper Alder, Shao and Zilibotti (2013) carried out an econometric analysis of the effect of SEZ. They exploited the spatial and temporal variation of the introduction of SEZ and used a 'difference-in-difference approach' to compare trends before and after the onset of the zones. A straight comparison between the performance of SEZ and the performance of other areas would have been problematic as the zones are not selected randomly (they are often close to ports and rivers or near Hong Kong) and thus might have performed better even without special conditions. Furthermore, a robustness check was carried out in a set of cities chosen on the basis of non-discretionary administrative rules

(inner capitals). The research also controlled for pre-reform trends, and placebo exercises were carried out.

The results show an immediate increase in the level of GDP in the years immediately following the implementation of SEZ. However, this positive effect subsequently flattens out. The long-term treatment effect of the policy is a level increase of 20 per cent relative to the control group.

Using light as an indicator for economic activity (and exploiting both official GDP and satellite data), Alder, Shao and Zilibotti (2013) confirmed that the level of economic activity increased much more in the areas where Special Economic Zones were introduced. They also found that areas close to the zones also experienced an increase in GDP. The main engine of growth in SEZ was investment in physical capital. As expected, foreign investments increased in such areas, and this had a large multiplier effect on the investments of domestic firms. The study also finds positive effects on human capital accumulation and total factor productivity.

Zilibotti pointed out that such positive outcomes were not merely the result of government economic policies, but also of changing political incentives. Careers in the Chinese Communist Party started to be driven more by growth performance than by ideological loyalty.

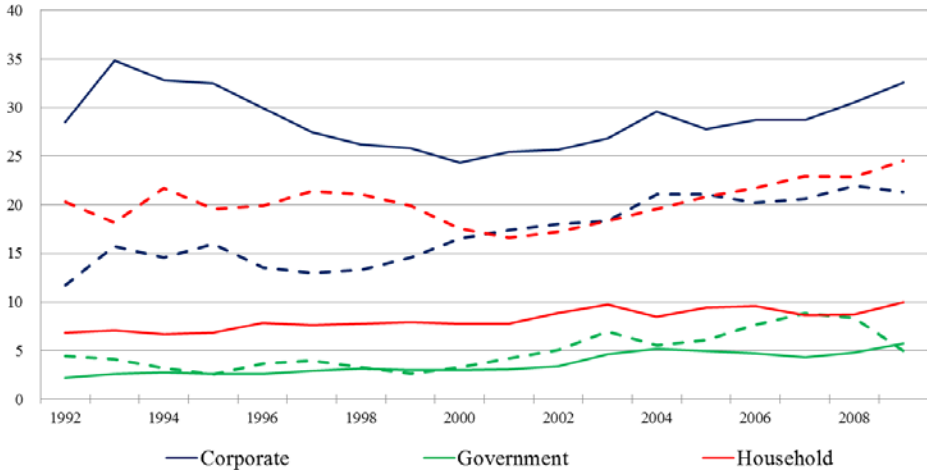
However the high level of growth came with a cost, especially in terms of environmental standards and pollution. Jia (2012) shows that when a local leader is well-connected, and thus has higher probabilities of promotion, he has an incentive to push hard for growth success, disregarding environmental concerns. The result is that across China 99 per cent of urban dwellers breathe air that would be considered unsafe in the EU; the country also suffers from severe heavy-metal pollution in water. A more detailed analysis of the political career incentives in China can be found in Jia, Kudamatsu and Seim (2015).

Zilibotti showed that the implementation of market-oriented policies resulted in a high rate of return on investments, high growth, and staggering wage growth. It also led to a persistent trade surplus with a large accumulation of foreign assets (mostly held in foreign reserves). A puzzling observation is that, in spite of investments commanding very high rates of returns, capitals seem to flow out of China rather than into China in net terms. Is this a strategic choice of the Chinese government or rather the 'spontaneous' outcome of structural forces?

According to Zilibotti, the answer lies in the fact that, although China has a high investment rate, its savings rate is even higher. Moreover, credit market imperfections prevent these excess savings to reach private firms that have access to the most productive investment projects, but remain largely self-financed, as documented by Song, Storesletten and Zilibotti (2011). In their view, the savings glut is inherently related to the privatisation process in the industrial sector. The banking system finances state enterprises, yet fails to channel household savings to private enterprises (the most dynamic part of manufacturing industry). As the share of private firms in the economy grows, the demand of intermediated funds from domestic financially unconstrained firms falls, while private firms are financially constrained and can only finance their investments out of the savings

of their entrepreneurs. The implication is an excess of savings over investments that fuels a trade surplus and the accumulation of foreign assets. This stems from structural factors (i.e., asymmetric credit market imperfections that are especially binding for private firms), it does not arise from a political 'conspiracy'.

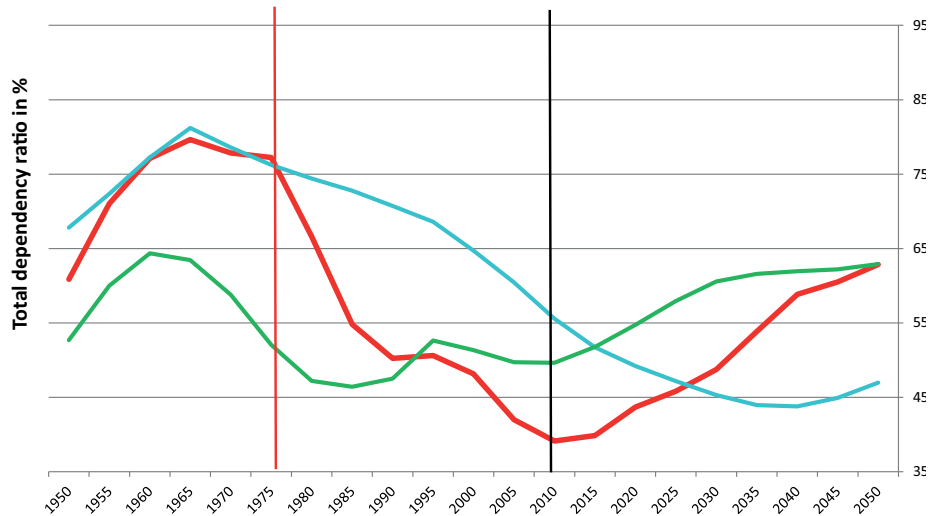
Figure 1. Savings and investment in China: 1992-2009 (percentage of GDP)



Note: Solid line: Investments | dashed line: Savings.

Turning to the future of China, Zilibotti highlighted the fact that the employment share of state-owned enterprises has flattened out since 2008, raising concerns that the process of market reforms may be slowing down. However, this could also be the result of a conscious political choice to shift towards more capital and tech-intensive sectors, typically dominated by state-owned enterprises.

Demography is a concern, especially with regards to the effects of the one-child policy, established the 1970s. So far, China has benefitted from a large working cohort that will soon start to move out of labour force; unsurprisingly, the dependency ratio has started to rise since 2010 and is projected to grow further.

Figure 2. Dependency ratio in China, India and the US

Source: United Nations Population Division.

However, there are factors that play in favour of continuing growth. First, further urbanisation is likely to occur, as there is still a large potential for reallocation. In addition, the country, from being a mere adopter of existing technologies is now investing heavily in R&D, in order to transition from an imitation to an innovation model of growth. China is today the second largest investor in R&D, with an average of 1.97 per cent of GDP invested (the EU average stood at 1.94 per cent of GDP in 2011). This is rather rare for an emerging economy, since these generally invest much less in R&D. If we look at industrial R&D, the country's investments are even more impressive: at 1.36 per cent China invests more than the EU (1.02 per cent) and is closing the gap with the US (1.66 per cent). Unsurprisingly, China is making a fast transition from traditional sectors, such as textiles, to more innovation-oriented sectors such as electronics.

A new cultural revolution is also taking place. The country has seen a high increase in educational enrolment. The tertiary education enrolment rate now stands at 27 per cent, with the number of college graduates growing from less than a million in 2001 to over six million in 2010. The quality of education is also improving: Shanghai now ranks as one of the top cities in the OECD PISA tests; 18.2 per cent of international students enrolled in OECD countries are Chinese. This change is reflected in the stellar increase of salaries for highly educated workers.

In terms of growth expectations, Zilibotti pointed out that, although the slowdown in 2012-13 received great attention – and some malign wishful thinking in the West – China is still growing at a rate of 7.5 per cent, in line with the target of the latest Economic Plan. Overall, long term projections for China are positive: GDP per capita is estimated to converge to US levels by 2040 and growth is expected to average at around 6 per cent for the next 25 years. A

slowdown is thus likely; however there will be no hard-landing. Still, the risk of political or institutional shocks remains high.

The next big step for China will be to implement some decisive financial reforms in order to increase competition in the domestic banking system, to end the discrimination against small and medium-sized firms which cannot access financing, and to increase reliance on equity. There are some encouraging signs: new measures, such as the liberalisation of interest rates and of the international portfolio, have been announced or are under way.

The last challenge for China, Zilibotti argued, is to increase domestic consumption, on the one hand, and to create a more inclusive society, on the other. The Chinese leadership is acutely aware that extending the benefits of growth to a larger share of the population is essential for the sustainability of the system (Wen Jiabao 2012); this entails a well-structured welfare system under which public health and public pensions extend the benefits of high growth across generations. The pension system, reformed in 1997 and again in 2005, is at a critical juncture. It is fairly generous (60 per cent replacement rate at 60) but excludes a large part of the rural population. The debate is between a pay-as-you-go and a funded system, and between whether the adjustment should take place sooner (now) rather than later. Based on the recent research in Song, Storesletten, Wang and Zilibotti (2014), Zilibotti concluded that a fully funded pension system in China today would not be appropriate as it would exacerbate inequalities, while delaying the adjustments is projected to have only a modest effect on future taxes; his recommendation therefore is to expand pension coverage over the next three decades to share the benefits of economic growth across generations.

Discussant: Vincenzo Galasso, IGIER, Bocconi University and CEPR

Vincenzo Galasso praised Zilibotti's paper as giving a very comprehensive analysis of China's growth model and of its future growth expectations. However, while in his discussion Zilibotti focused on the Special Economic Zones, Galasso argued that the general impact of economic reforms is broader. Specifically, growth in China was triggered by the decrease in the labour wedge for domestic private enterprises through the introduction of private employment contracts, and by the reallocation of resources from state owned enterprises to more productive (private) firms. As a consequence the less efficient state-owned enterprises were shut down while the most efficient ones survived and prospered, enjoying the benefits of a competitive domestic private sector.

According to Galasso this growth mechanism may also explain the financial imbalances and wage effects. In fact, given the high savings rate and the development of efficient self-financed private enterprises, banks, accustomed to channel resources to state owned enterprises, now overall requiring less credit, were forced to invest abroad. In addition, wages grew less than output, fostering inequalities and decreasing the labour share.

Galasso also focussed on China's savings puzzle, an issue only touched in Zilibotti's presentation. Household saving rates in China are very high, around 30 per cent (up from 16 per cent in the 1990s) and the country has an unusually u-shaped age-savings profile. According to Galasso, this unusual profile can be explained by the transition from a state to a market-driven economy. Chinese people could no longer rely on the state (or at least not as much as they could before), and started to save more as a form of self-insurance, for their own health and for the education of their children. There is also a precautionary motive behind this high savings rate, as the Chinese face high political risk. Higher entry-level wages also induce younger people to save more. Demographic issues also play an important role: first the one-child policy implied that the elderly could rely much less on their children in their old age, and thus had to save more; second it reduced intra-generational risk sharing among siblings. In addition, the one-child policy, which notoriously created a sex imbalance in favour of men, increased competition in the marriage market. Since the number of females is 'scarce', families have an incentive to provide more wealth to their male son to make him more competitive on the market.

Galasso then turned to the issue of ageing in the country, which is bound to become an increasingly important issue as the old age dependency ratio is set to increase from 12 per cent to 39 per cent by 2040, due to a drop in fertility. In this situation, the current pension system, which excludes a large portion of the rural population, would not be sustainable. Song, Storesletten, Wang and Zilibotti (2012) advocated a Pure PAYG (budget balanced) system with a replacement rate decreasing from the current 60 per cent to 40 per cent. This pension model would have significant redistributive effects since poor elderly people would receive a relatively high pension paid by the current generation who, however, will not have the benefit of similarly generous pensions.

According to Galasso the experience of more developed countries (which faced a similar imbalance between poorer elderly people and a younger population with growing opportunities after World War II) seems to prove that such a pension model would be difficult to sustain both politically and financially. Furthermore, Galasso suggested that increase in longevity, generally underestimated, should be seriously accounted for when attempting to outline a sustainable pension system for China.

Galasso also pointed out other issues not fully discussed in Zilibotti's paper: for instance, the role of urbanisation in boosting economic growth, in addition, while Zilibotti analysed the mechanisms triggering economic growth, he did not discuss the underlying reasons that brought about the first reforms. The last issue that, according to Galasso, was not discussed in Zilibotti's paper is whether China's growth miracle can be also attributed to the so-called 'demographic dividend'. In a nutshell the demographic dividend is the transition phase between a period of high mortality and high fertility to a period of low mortality and low fertility. In the transition period, when mortality falls and fertility starts to fall but at a lower speed, there is a higher share of working-age population, and a lower share of elderly and children. This demographic pattern brought important benefits

to China in recent years, allowing a higher GDP per capita growth rate, since it entails a low dependency ratio and a growing labour force.

In conclusion, Galasso wondered whether there are lessons that Italy can learn from China. Firstly, he pointed out that the countries display some similarities, especially with regards to the duality of labour and product markets, the presence of inefficient state enterprises, corruption in the political system and financial market frictions.

Because of such parallels, Galasso argued that Italy should pose itself some fundamental questions: namely, whether competitive privately owned enterprises still exist and how a reallocation of resources from state owned to privately owned enterprises can be activated. Furthermore, the question of whether such reallocation of resources would successfully reignite growth and improve productivity in state owned enterprises seems worth posing. Lastly, Galasso argued that Italy may be stuck in a sort of middle-income trap and may require a more competitive political system.

General discussion

Graziella Bertocchi asked whether, in his analysis, Zilibotti observed within-country cultural or religious differences that may create internal tensions in the future.

Dalia Marin argued that although China's R&D investments are undoubtedly high, the amount of innovation that derives from them depends on the human capital available, and wondered whether China will continue to have a sufficient supply of human capital to support such investments. According to Marin, without adequate supplies of human capital, such investments will translate into an increase in wages for the minority of skilled workers in the country, but not into higher growth for the economy as a whole.

Alessandro Nuvolari wondered whether the startling investments in R&D that China has made in the last few years played a role in the productivity increase.

Zilibotti observed that the increase in R&D spending is certainly associated with a process of structural change. However, it is difficult to assess whether it is R&D that speeds up structural change or if, on the contrary, structural change requires R&D. Turning to the question of human capital, Zilibotti stressed that tertiary enrolment as well as the quality of education has increased dramatically in China over the past ten years. In addition he pointed out that a large proportion of Chinese students choose to enrol in scientific and technical faculties, which implies that the supply of skilled workers will be increasing.

In terms of possible social tensions caused by minorities, Zilibotti pointed out that, unlike other neighbouring countries, China is ethnically rather homogenous. Although minorities exist, the common belief is that they are not sufficiently strong to pose a threat to the unity of the country. Furthermore, the government is using both carrots and sticks to handle minorities; in fact although on the one hand there is a certain degree of repression, on the other hand, in

certain regards, minorities receive more favourable treatment (for example they are exempted from the one-child policy).

In response to Galasso's comments on the PayGo pension system Zilibotti argued that a fully funded reform today would only exacerbate inequalities, and that delaying the adjustment will have only a modest effect on future taxes (assuming sustained growth in the future). He also pointed out that the effects of declining mortality and fertility rates were considered in the research, and stressed that, despite the one-child policy, in rural areas fertility is still around 2.

Adjustment in the eurozone: Heading in the right direction or mission impossible?

Zsolt Darvas
Bruegel

There are contrasting views regarding the future of the eurozone. Whilst some claim that “there could be light at the end of the tunnel” (Buti and Turrini, 2012), others argue that “the scale of the required adjustment is enormous and the IMF does not believe it will happen” (Munchau, 2013).

Going back to the origin of the eurozone’s distress, Darvas pointed out that, before the crisis, major macroeconomic imbalances were emerging among eurozone countries. In particular there was a strong divergence in credit growth, property prices, consumer prices, labour costs, productivity growth, current-account balances and international investment positions. However, these diverging developments were neglected by policymakers in the belief that markets allocate capital efficiently in a monetary union without currency risk.

Starting in late 2009, euro members with large external deficits faced a ‘standard’ balance of payments crisis, private capital flows dried up and were replaced by ECB bank financing. The balance of payment crisis, along with banking and sovereign debt crises, led to major economic disruptions which require difficult adjustments.

In his presentation, Darvas discussed the correction so far achieved in the eurozone as well as the prospects and policy issues related to further necessary adjustments. Positive signs of adjustment include a good performance of exports in Spain, Ireland and Portugal (not in Greece and Italy) and current-account deficits turning to surpluses (though, according to the IMF – World Economic Outlook – 2013, these improvements are mainly caused by cyclical factors). In Greece, nominal wages fell significantly and, in the periphery (with the exception of Italy) unit labour costs are generally declining. In addition, structural reforms are starting to be implemented and financial fragmentation has eased somewhat; the banking union project is gradually progressing and Grexit is no longer a credible threat to eurozone stability.

Nonetheless, the periphery shows signs of persisting weakness: unemployment stands at unbearable levels, net foreign debt is around 100 per cent of GDP in Greece, Spain and Portugal, public and private debts are high and there is risk of debt deflation. Furthermore, eurozone deflation is making intra-euro adjustment more difficult, business conditions are still very weak despite structural reforms, financial fragmentation has not disappeared and banks hold even more domestic

sovereign debt (the doom-loop has strengthened). Given this evidence, and since internal devaluations (required for rebalancing purposes in the absence of inflation elsewhere) undermine fiscal sustainability, the outlook for the eurozone continues to be weak.

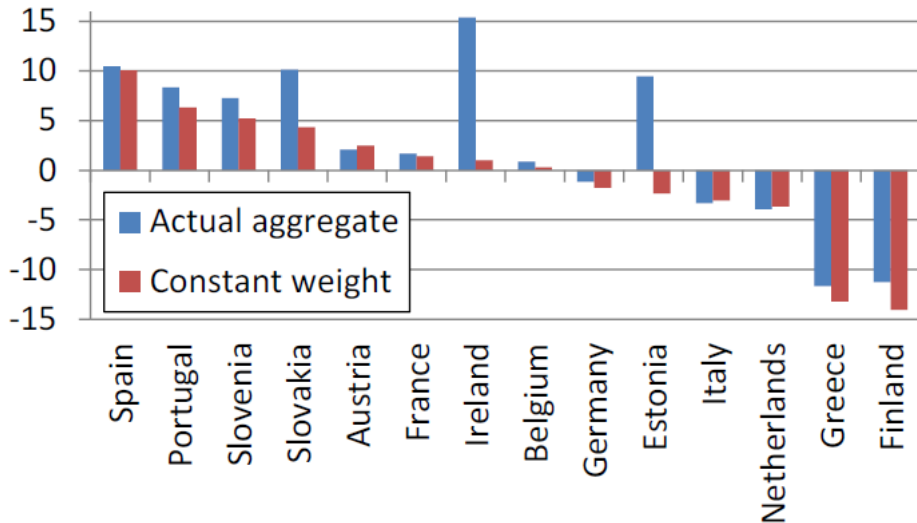
Darvas discussed specific macroeconomic developments, namely migration, structural reforms and price/wage competitiveness adjustments. Darvas' analysis showed that cross-country migration, significant from the Baltic countries but marginal from the periphery, did not act as a shock absorber. Similarly, flows of net workers' remittances remained fairly stable overall.

Structural reforms are usually recognised as a critical factor in addressing imbalances. For example, Garcia, Gali and Lopez-Salido (2013) find a very strong correlation between unit labour costs and changes in the current account among eurozone countries (although they also find a less close association between indicators of structural reforms and the level of current account for the sample of advanced countries). Zemanek, Belke and Schnabl (2010) also reveal a significant impact of structural reforms on intra-eurozone current-account balances. However, according to the World Economic Forum – Global Competitiveness Report (from the period 2008-2009 to 2012-2013) Spain, Greece and Italy, despite the reforms, experienced more deterioration than improvement. Ireland shows some improvements while the position of Greece and Portugal, in relation to Germany, worsened (mostly due to improvements in Germany).

According to Darvas, since migration and structural reforms (as far as they can be measured) are not giving a sufficient contribution to the necessary intra-eurozone rebalancing, internal devaluation in the form of price/wage adjustment has a major role to play. He stressed, as a methodological note, the importance of compositional effects: sectoral shifts, such as a shrinking of low labour productivity (and low wage) construction sector, can lead to an apparent increase in average labour productivity (and average wages).

Darvas argued that it is crucial to quantify these compositional changes in order to properly assess the adjustments achieved since the onset of the crisis. He considered 11 main sectors of the economy and 13 manufacturing sub-sectors, and calculated constant-weight unit labour cost indicators and their components for the period 2000, Q1–2013, Q2. The focus was on the business sector, excluding construction, real estate and agriculture. The research reveals that in Ireland the business sector recovered and labour productivity increased by a cumulative 17 per cent from 2008, Q1 to 2013, Q2. However, using constant sector weights, output appears to be still 7 per cent below the 2008, Q1 level and productivity improvement is limited to 2 per cent. Constant weight analysis shows that in terms of productivity, since 2008, Spain, Portugal and Ireland improved relative to Germany, whilst Greece and Italy did not improve.

Figure 1. Cumulative change in hourly labour productivity from 2008Q1 to 2013Q2



Darvas' analysis on hourly salary change showed a major fall in hourly wages in Greece, a small decrease in Ireland, while increases in Spain and Portugal were less than in Germany. In contrast, Italy's wage increases were close to the German level. A similar pattern appeared in the analysis of unit labour costs: Italy, in contrast with other peripheral countries, did not display any rebalancing in relation to Germany. In summary, despite some rebalancing in unit labour costs, price adjustment was limited. Darvas also showed that profit margins in the tradable sector in peripheral countries are lower than their pre-crisis levels, probably because of the increased cost of capital and an increase in prices of intermediate inputs. In conclusion, he argued, the adjustments in the periphery, in spite of their very high social costs, have, thus far, proven inadequate.

In the current 'triple crisis', understanding the balance between domestic fiscal consolidation and price adjustment is crucial. The periphery is in fact experiencing a balance of payments crisis (which would require low inflation), a public debt crisis (which would be eased by high inflation), and a banking crisis. Competitiveness adjustment in the struggling countries requires an inflation rate lower than in their major trading partners, but low inflation worsens public debt sustainability.

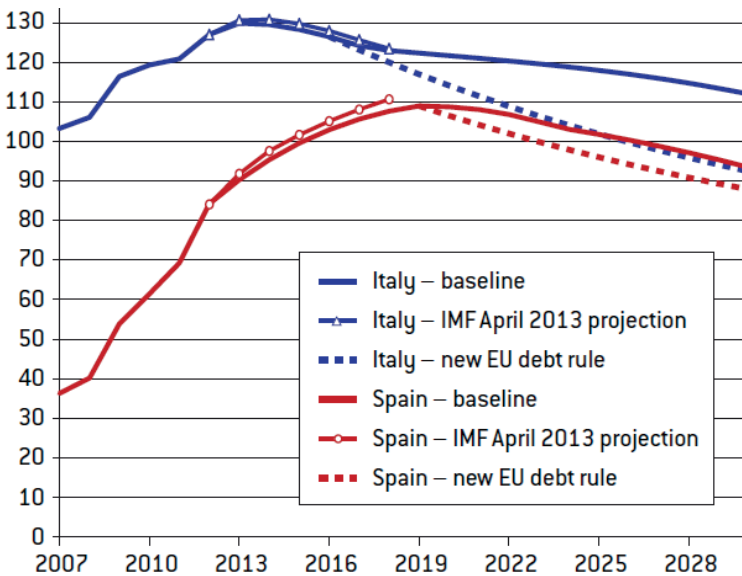
Darvas presented some numerical illustrations of this dilemma, using the example of the two biggest southern members, Italy and Spain. The two countries had zero nominal growth in 2013, a large negative output gap (-5 per cent of potential output), a structural primary budget surplus in Italy (4.8 per cent -- in Spain the figure was -1.0 per cent), and high gross public debt, especially in Italy (133 per cent of GDP in Italy, 95 per cent in Spain). Darvas assumed that:

- Potential growth gradually accelerates to 1 per cent per year in ten years
- Output gap improves by 1 per cent per year (till zero is reached)
- Baseline GDP deflator change: 1 per cent per year

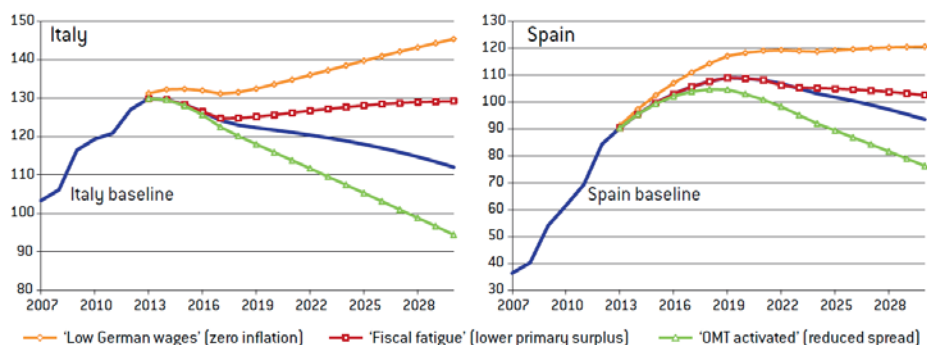
- Fiscal multiplier is 1(1 per cent GDP higher structural primary surplus reduces the output gap by 1 per cent)
- Phillips-curve is rather flat: 1 per cent lower output reduces prices by 0.1 per cent
- Structural primary surplus improves slightly in Italy (to 5 per cent) and by 1 per cent per year in Spain (to 5 per cent in 2019)
- Duration of public debt is six years and expected future interest rates were derived by the term structure

Darvas concluded that, under this baseline scenario, the decline in the debt ratio of the two countries would still be too slow.

Figure 2. Public debt/GDP ratio, 2007-2030, Baseline scenario



Darvas outlined alternative scenarios entailing low German wages (no change in Italian and Spanish GDP deflator – instead of the 1 per cent annual inflation in the baseline); or fiscal fatigue (long term primary budget surplus at 4 per cent of GDP, after three years with a 5 per cent primary surplus) or an OMT activated (interest rate spread to Germany is reduced from the current 230/240 bps to 150 bps by 2015 – constant thereafter). These alternative scenarios, Darvas showed, influence rather significantly the debt trajectory in Italy and Spain. Whilst the first scenario would entail a further increase in the debt to GDP ratio, the OMT option would allow for a steady decline in the debt burden in both countries over the next 15 years.

Figure 3. Public debt/GDP ratio, 2007-2030: Alternative scenarios

In conclusion, Darvas argued that since migration, structural reforms and fiscal transfers had not proven effective in reducing the macroeconomic imbalances, the periphery must now focus on a serious process of improvement of price/wage competitiveness. This process has started, and some of the pre-crisis divergences are being corrected. However this process is occurring under adverse economic conditions in the eurozone, with massive job losses. According to Darvas, while fiscal consolidation was needed in vulnerable countries, earlier actions on cleaning up the banks, severing them from their sovereign, and a larger monetary stimulus could have helped intra-eurozone adjustments.

Looking at the future Darvas predicted that, given the high debt levels, the low profitability in the tradable sector and the partly cyclical nature of the reversal of current-account deficits, it is likely that further adjustments would be needed. In his opinion the eurozone political environment is critical: the ECB should at last to do 'whatever it takes' to prevent a low inflation environment; eurozone partners should ensure adequate demand, and a real banking union is a must. In his opinion however major social and political issues may arise if unemployment does not improve and growth does not restart.

Discussant 1: Richard Portes, *London Business School and CEPR*

Richard Portes questioned some of the assertions made in Darvas' presentation. Specifically he saw no evidence of a reduced fragmentation in financial markets, and, with regard to the increased bank investments in sovereign debt, he wondered whether such holdings were big enough to threaten bank solvency. He also argued that Grexit could still be an issue and that it may be wrong to assume that the current level of unemployment is structural. In addition, he stated that while the eurozone had positive GDP growth in 2013, Q2, GDP was still below the 2012, Q2 level. Finally, he pointed out that further fiscal adjustments in depressed economies are unlikely to be feasible.

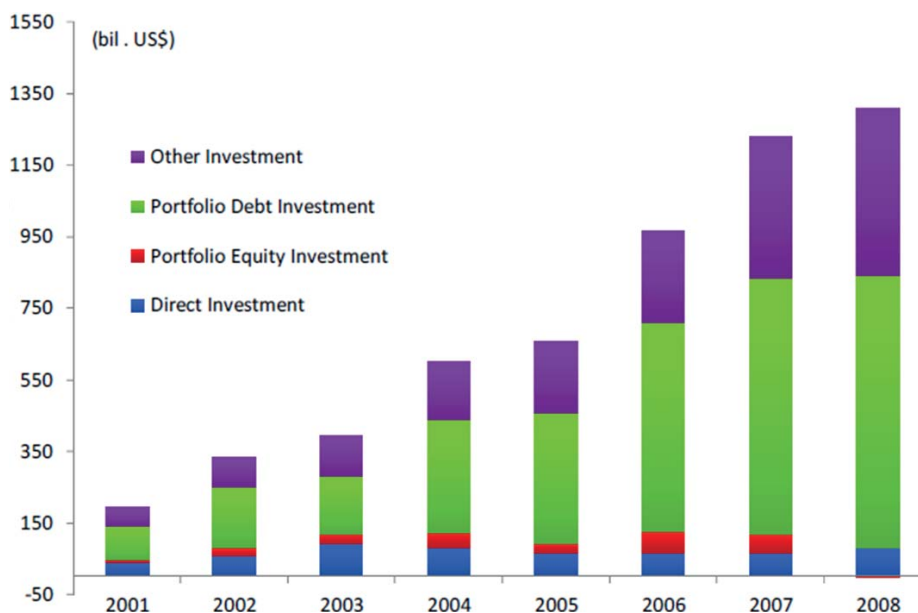
In essence, Portes offered an alternative interpretation of the eurozone problems. The background is well known: the EMU was considered a success until the global financial crisis; yet it was obvious, even before the crisis, that

unified financial supervision and a lender of last resort were needed. When the crisis hit, banks and their creditors were bailed out, tax revenues decreased, and deficits increased. Austerity policies pushed countries into recession which caused further fiscal deterioration.

According to Portes, the crisis was not triggered by intra-zone disparities in competitiveness, nor by fiscal profligacy (except in Greece), but rather by the capital flows unleashed by the monetary union and by financial deregulation. He argued that from a macroeconomic standpoint, 'internal devaluation' is contractionary, and unnecessary since competitiveness is not the central problem.

Since 2002, cross-border bank lending grew explosively. The euro eliminated currency mismatches on banks' balance sheets and banks drew deposits from surplus countries in rapid expansion, while permissive bank-capital rules removed regulatory constraints (Shin 2011). The periphery, particularly in the private sector, experienced massive capital inflows (mainly from Germany and France) pushing interest rates down and feeding excessive credit growth, with corresponding current-account deficits and some accompanying real exchange-rate appreciation. According to Portes, it is clear that the problem is not competitiveness as measured, for example, by unit labour costs (Gros 2012, Wyplosz 2013). Indeed, export market shares did not deteriorate significantly for peripheral countries in the 2000s; on the contrary, since 2010, Spanish and Portuguese exports grew at over 10 per cent annually. Rather, Portes argued, the fiscal consequences of the crisis lie in bank-based financial systems, where the burden of balance-sheet deterioration is shifted from creditors to taxpayers of debtor countries. In this regard, Portes showed that the huge capital flows from Germany and France to the periphery came in the form of bank and portfolio debt, not of FDIs; borrowing was not used for investments in the tradable sectors with productivity improvements. Rather, it went into non-tradables such as construction.

Figure 4. Huge capital flows from Germany and France to periphery were bank and portfolio debt, not FDI



According to Portes, a lack of competitiveness would have caused low growth (low external demand). Instead, growth was rapid and current-account deficits were due to low savings. The most relevant relative price, Portes argued, is not the terms of trade, nor the real effective exchange rate (REER) based on unit labour cost, as stated by Darvas, but rather the ratio of traded to non-traded goods prices.

Portes stressed that policies based on austerity exacerbate the interconnected sovereign debt and banking crises; in his view, austerity is not a solution, it is part of the problem. Deleveraging private and public sector simultaneously is not feasible without a current-account surplus; therefore the surplus countries must raise domestic demand and intra-eurozone imports, thus permitting deficit countries to raise current accounts. In addition, the euro should depreciate as further monetary easing is needed. In substance, Portes concluded, the ECB can buy time, but long-run debt sustainability requires growth.

Discussant 2: Jeromin Zettelmeyer, *EBRD, PIIE and CEPR*

According to Zettelmeyer, Darvas' paper shows that the process of adjustment in the eurozone is still incomplete, even though the economic and social costs, including recession and surging unemployment, are high. The objectives are clear: to finalise flow adjustments, restore competitiveness in periphery, reduce public and private debt overhang and revive growth. The key question, Zettelmeyer argued, is whether it is possible to reconcile different goals. There are in fact, trade-offs to be faced: restoring (demand-led) growth undermines downward

wage and price adjustment; downward wage and price adjustment undermines not only the recovery of growth, but also deleveraging and debt sustainability. A possible solution would be to implement structural reforms; yet, as pointed out by Darvas, cyclical recovery may undermine reform prospects.

The 'official strategy' for the eurozone is to maintain fiscal adjustment, perhaps at a more moderate pace, and simultaneous private deleveraging; to maintain (cyclical) unemployment high to keep pressure on wages, and to encourage structural reforms; the ECB ensures that there is no deflation and that growth stays positive (albeit low). According to Zettelmeyer, this strategy provides an equilibrium – assuming there is sufficient growth to prevent further rises in non-performing loans and consequent declines in bank asset quality, and provided domestic political economies play along (just enough misery to induce reform, not enough to induce a generalised revolt). However, it is a very inefficient and fragile equilibrium (since small deviations may lead to a breakdown) which comes with very high costs such as protracted long-term unemployment and, according to the IMF, a long period of stagnation, as all sectors attempt to deleverage simultaneously.

Zettelmeyer argued that there may be a better strategy to reduce imbalances in Europe. More symmetric adjustments could, for instance, guarantee a better equilibrium, as Darvas pointed out. This is, to some extent, already happening, with German wages on the rise and a re-equilibrium of the German trade balance with the eurozone. However, Zettelmeyer warned, more is unlikely to occur, since many in Germany think that making adjustment too easy for peripheral countries, after a big borrowing spree, may cause moral hazard. In addition, there is limited appetite to sacrifice domestic policy objectives for the greater European good. Lastly, a common belief in Germany is that whilst reforms aimed at reducing a deficit position are positive both for adjustment and for growth, wage policies that have the opposite effects may, in contrast, hinder growth.

Another possibility, according to Zettelmeyer, is debt restructuring, which is, in extremis, a legitimate policy tool. The official eurozone hostility to any form of debt restructuring (for example with respect to bank bonds in Ireland and sovereign bonds in Greece) was one of the historic policy mistakes of this crisis. In fact, when sovereign debt restructuring was eventually attempted in Greece, it was orderly, and led to large-scale debt relief.

This does not mean, Zettelmeyer stressed, that debt restructuring should be perceived as an easy way out. Greek restructuring was essentially designed as a one-off event. It consumed around €87bn of official financing and created the bad precedent to pay holdouts in full. Future restructurings will require a tougher approach, often in a less friendly legal environment. Furthermore, the renationalisation of sovereign debt, largely owned by domestic banks (Brutti and Saure, 2013; Battistini, Pagano and Simonelli, 2013) implies either low debt relief, very harsh treatment of non-residents, or 'national defaults'.

In conclusion, Zettelmeyer outlined a policy of conditional support as a potentially viable alternative. The idea is to break the link between stagnation and structural reforms by encouraging structural reforms with carrots, not just with sticks. Such 'carrots' could be either EU structural funds or a version of the

'European Debt Redemption Pact' proposed by the German Council of Economic Advisors in mid-2011. According to the outline of the European Debt Redemption Pact, new sovereign debt would be bought or guaranteed until pre-existing debt stock has amortised to 60 per cent of GDP; the scheme would be conditional on long term fiscal adjustment and a serious plan of structural reforms.

General discussion

Darvas, in reply to Zettelmeyer's comments, pointed out that the risk of moral hazard (as perceived in Germany as a consequence of easing the adjustment on the periphery) is unlikely in the current situation given the high rate of unemployment. Since unemployment has reached unsustainable levels, fragile countries have a domestic incentive to undertake the necessary reforms.

Commenting on **Richard Portes'** remarks, Darvas agreed that capital flows played a major role in the crisis. However, he pointed out that such capital flows created major intra eurozone divergences in terms unit labour costs. There is very strong correlation between unit labour costs and export performance of the different European countries, especially in 2000-07, but also in 2008-2013. Therefore, Darvas argued, it is difficult to make the argument that unit labour costs played no role in the imbalances among countries of the eurozone.

Can basic entrepreneurship transform the economic lives of the poor?

Robin Burgess
London School of Economics and CEPR

The world's poorest people lack capital and skills and tend to work as wage earners in occupations that others shun. These occupations are often seasonal and offer no security. In contrast, wealthier individuals in the same communities are generally engaged in more secure occupations and are inclined to abandon wage labour in favour of self-employment.

Economic theory studies how limited skills and access to capital constrain occupational choices and limit the ability to escape poverty; anti-poverty programmes attempt to tackle these issues using targeted measures such as microfinance and asset transfers, on the one hand, and education and vocational training, on the other. Presently, evidence on the causal link from lack of capital and skills to occupational choice is limited.

The work by Burgess et al. explores the effect that a simultaneous transfer of capital and skills can have on occupational choices. Burgess' work attempts to provide evidence on the causal link between lack of capital and skills and occupational choice by evaluating the impact of a Targeted Ultra Poor (TUP) programme carried out by BRAC, an international development organisation. This ambitious programme transferred assets and skills to some of the poorest women in Bangladesh. Its scale is massive, as its beneficiaries numbered 400,000 in 2011, a figure expected to increase to 650,000 by 2015. The analysis tracks 7000 of the programme's beneficiaries and their households three times over four years (at the beginning, after two years and finally after four years).

The project targeted the 'ultra-poor' population, the very poor women whose level of misery makes them ineligible for other more common programmes such as micro-credit. The beneficiaries of the programmes were engaged in various income generating activities, generally not regular, and seasonal in nature. In terms of individual characteristics, 93 per cent of beneficiaries were illiterate, 52 per cent owned no productive assets, 38 per cent were the sole earner in their households and 80 per cent of them lived below the global poverty line (\$1.25 per day).

Burgess' analysis was carried out through a randomised experiment across 40 BRAC branch offices in the poorest areas of Bangladesh and only considered occupational change in situ. It did not consider the shift of rural workers into manufacturing or service jobs in cities.

Given the level of education and skills of the beneficiaries, there were reasons to be sceptical regarding their ability to efficiently run small businesses. The effectiveness of capital and skill transfer policies depends on whether lack of capital and skills are the cause, or the consequence, of occupational choice. Moreover, if people are choosing occupations optimally, asset transfers should only generate an income effect. If they are not, self-control problems might lead them to use transfers to boost short-term consumption rather than investment.

According to Burgess, the previous evidence on these issues was not encouraging. The literature on microfinance found that an injection of capital does not create a shift in occupations (Crepon et al. 2011); similarly, existing evidence showed that short-term training programmes improve productivity but have no impact on the choice of jobs (Karlan and Valdivia 2010, Drexler et al. 2011). Finally, the combination of training with large asset transfer might be more effective if there are non-convexities or strong complementarities.

The BRAC programme operates over a period of four years. It allows beneficiaries to select from a menu of small businesses (livestock, small crafts, small retail, vegetable gardens) and it provides a specific and intensive training programme lasting 24 months during which a BRAC volunteer gives training, on a weekly basis, on how to run a business. The training involves both activities related to rearing livestock (the most common choice) as well as book keeping skills. The programme thus acts on two margins: a high value asset transfer (around \$140 worth of livestock), which increases wealth, and training, which increases the return to self-employment.

In Burgess' theoretical model, individuals choose how many hours to work and how to allocate them between wage labour (L) and self-employment (S). Self-employment requires assets and, due to imperfect credit markets, the value of the assets is constrained by initial wealth (I). Depending on their wealth, their return to wage labour and to self-employment, individuals end up in one of three conditions: if wealth is sufficiently high (or returns are sufficiently low) individuals will move out of the labour force; if the asset constraint is non-binding they will specialise in the type of employment that offers higher returns and the hours worked will decrease with increasing wealth; lastly, if the asset constraint is binding and the return on self-employment is higher than the return on labour employment, they will engage in both activities. It is thus clear that the effect of the two components of the programme (asset transfer which increases wealth and training which increases return to self-employment) depends on whether individuals face a binding asset constraint.

The model shows how an asset transfer can have unintended negative effects on hours dedicated to self-employment through a wealth effect (an immediate increase in wealth may result in lower incentive to work). Ultimately, the model demonstrates that the effect of the programme on occupational choices is theoretically ambiguous.

To carry out the evaluation, beneficiaries were selected *ex ante* in both treatment and control villages and were informed of their status only when treated. Beneficiaries, all other poor, as well as a sample of people coming from other wealth classes, were surveyed in 2007, 2009 and 2011. Over the four-year

evaluation period, attrition stood at around 15 per cent both in treatment and control villages. The experiment aimed at identifying the causal impact of the programme assuming similar trends within sub-districts and no contamination between treatment groups.

The analysis revealed that, before the programme's start, the poorest women were likely to be the sole earners in their household, less likely to be literate, and specialised in casual wage employment, whilst the least poor were likely to be self-employed. The correlation between occupational choice and wealth held strongly across wealth classes.

In illustrating the results, Burgess showed that after four years almost all households (97 per cent) maintained or even increased their asset stock. More importantly, Burgess found that fewer of the targeted poor specialised in wage labour, which dropped by 17 percentage points in the treated group. There was a dramatic increase (+92 per cent) in the hours dedicated to self-employment and fewer hours (-26 per cent) dedicated to wage labour; this drop in hours devoted to wage labour was twice as large after four years. Burgess also showed that total labour supply increased by 19 per cent, a result consistent with the hypothesis that targeted poor people were underemployed.

This transformation in occupational choice also had a positive effect on productivity as earnings per hour increased by 15 per cent after four years, and yearly earnings went up by 38 per cent. This increase can be explained, for the first two years, by the increase in hours worked; however, after four years, this result is to be attributed also to higher productivity. Furthermore, allowing the effect to be heterogeneous by initial occupational choice showed that productivity increased entirely within occupation. Women who shift from wage labour to self-employment maintain the same hourly earnings; their total earnings increase because they work more hours as they shift from wage employment, which is mostly seasonal, to self-employment, which is available throughout the year. In contrast, women who were already specialised in self-employment before the experiment experienced a 50 per cent increase in hourly earnings. Last but not least, the programme also proved to have positive effects on consumption and general well-being.

The theoretical framework makes it clear that the programme's impacts are heterogeneous. In fact, quantile estimates show that although the effects on earnings and expenditure are positive for all deciles, the relative differences are dramatic, revealing a significantly larger effect on the higher deciles. This result is possibly driven by the fact that 41 per cent of the beneficiaries were selling the offspring of livestock after four years.

To show the magnitude of the programme's impact Burgess provided comparisons of changes in the outcomes of the eligible poor, relative to other poor (non-eligible) households and to middle-class households. The programme was successful in closing the initial gap with the near poor, bringing the targeted group closer to the middle class.

Lastly, Burgess carried out a cost-benefit analysis: the programme cost TK 20,700 per household and yielded TK 1754 per year (in the fourth year). He compared this to the impact of unconditional cash transfers, though stressing

that this requires an assumption on the counterfactual return to cash transfers, which could be zero – as cash is easier to consume – but could also be higher if invested in individual-specific ‘best activities’. He also calculated that depositing the cash transfer in a savings account, and consuming only the interest accrued every year, yields TK 700 at a 4.5 per cent annual rate; significantly less than TK 1754.

In conclusion Burgess speculated about whether the market could provide capital and skills, since the programme was so obviously beneficial. However there is no formal market for skill training and the market for micro loans is not well suited for large one-off investments.

Discussant 1: Alessandro Nuvolari, *Sant’Anna School of Advanced Studies*

In his discussion Alessandro Nuvolari underlined the comprehensive approach of the TUP programme, which includes the simultaneous transfer of capital and skills, and of the paper’s two-stage verification. However, he pointed to the rather optimistic view of entrepreneurship assumed in the paper.

The literature distinguishes between opportunity-driven entrepreneurs, capable of identifying a specific business opportunity, who effectively produce growth, and entrepreneurs driven by necessity, i.e. individuals with limited occupational choice. The latter, according to Nuvolari, are traditionally considered more problematic, yet the TUP programme is focussed on this form of entrepreneurship and identifies as favourable the transition from wage labour to this type of self-employment.

Moreover, Nuvolari argued, the model does not account for uncertainty risk (associated with entrepreneurship), a critical feature usually included in many papers on occupational choices. Admittedly, in this specific situation, wage employment is also risky, given the seasonal and unstable nature of wage-jobs in the area; however he considered the risk element associated with entrepreneurship worth exploring.

Nuvolari pointed out that a possible heterogeneity in individuals’ risk attitudes could influence the result of the programme on individuals and recommended to include, in future research, an assessment of individual attitudes towards risk.

He also argued that more details on the type of training extended to beneficiaries should be provided; for example the total hours of training and the type of skills offered should be included in the paper, particularly in light of the fact that skill transfer was not only related to rearing livestock but also involved some book keeping skills, thus showing that it included a mixture of general and specific skills.

Furthermore, Nuvolari encouraged the authors to compare the programme not only to unconditional cash transfers but also to alternative training programmes, in order to understand which type of skill-transfer is most effective. He highlighted the need for further analysis and discussion as to why the programme starts to

increase earnings per hour only after four years, whilst after the first two years its impact on this variable seems negligible.

Lastly, Nuvolari discussed the broader effects that the programme could have on agricultural modernisation. Specifically, citing the Brenner debate, he questioned whether the results of the programme suggest a shift in the path of development which has been thus far assumed. Historically, England experienced a concentration in property resulting in few self-employers and many wage-earners, and this structure led the country on a progressive path; in France, the property rights, which peasants successfully established and defended, led to technical stagnation in agriculture. Given this historical evidence Nuvolari casted doubts on whether, in developing economies, encouraging self-employment could effectively lead to development, as the programme appears to suggest.

Discussant 2: Simon Quinn, *University of Oxford*

According to Quinn, Burgess' paper gives a hope to development economists who often see that many policies implemented do not seem to be effective.

Quinn started by discussing the model and argued that the transition from wage to self-employment triggered by the programme may best be described through dynamic modelling. To do so, Quinn used the paper's static model and extended it straightforwardly to the dynamic case.

The paper discusses the effect of increasing both individuals' ability and assets. In Quinn's view, by far the most important change that happens in the model is the very discrete change that happens as you switch between regimes: as 'you move through the wall', past a critical value of ability, a small change in individuals' ability changes massively the choice that people make. In particular, Quinn argued that if you move past such critical level, people decrease labour-employment much faster than they would have if their ability had been below such threshold.

Quinn, however, underlined that there seems to be no discontinuity in utility when this transition takes place. This suggests that the model presented in the paper is a model of two different worlds but – perhaps – is not one of transformation.

Yet, this transition is, according to Quinn, one of the most exciting results of the paper; unsurprisingly the authors rightly emphasise "that targeted poor households are successfully operating and growing their businesses during a time when direct assistance by BRAC has been withdrawn", showing a persistent change in household behaviour.

Transformation is thus key to the paper; the question is how to model transformation in this context and how to articulate it from a methodological point of view. As mentioned, one option, used by the nascent literature to think about wealth transfers in developing economies, is to use dynamic rather than static modelling.

In the static model the household is maximising a concave utility function. To extend it to the dynamic case Quinn considered one example, set the prices

of output, capital and wages equal to one, and varied the two parameters that vary in Burgess' paper, namely individuals' ability (θ) and assets (A). Quinn then added a parameter which accounts for the value of capital on a period-by-period basis (β).

His analysis showed that the paper's main results regarding occupational change did not alter under the dynamic model; however the dynamic model gave more insights regarding the transition phase. He showed that, consistent with Burgess' results, in the dynamic model labour employment decreased with wealth, whereas self-employment at first grew rapidly with an increase in assets, but declined slightly as wealth increased. However the dynamic model explained how state transitions from A_t to A_{t+1} vary with different levels of θ and β .

One key issue to understand is whether this occupational transition would have occurred in any case, albeit at a slower pace, since in this case the programme would just be accelerating the convergence. Clearly, this would still be an interesting and important result – but arguably not the “transformation” that the authors emphasise.

Another possibility is that the occupational changes observed are just a temporary positive shock. Although the experiment shows that four years later the beneficiaries of the programme have not reverted to wage employment, there is still a chance that ultimately they will be going back to their original occupational state.

Quinn also argued that there could be multiple equilibria to the model (wage employment equilibria and self-employment equilibria) and suggested that some elements such as lumpy assets, fixed costs of entrepreneurship, entry/switching costs between occupations, and micro-enterprise capital as a savings product could trap agents into particular wage-labour equilibria. If this were not the case, it could be argued that households would be able to gradually climb out of the poverty trap without the BRAC programme; it would thus be difficult to think of the programme as a transformation.

From a technical point of view, Quinn stated that it is critical to understand whether all the static solutions are also dynamically consistent. Furthermore, empirically we should also analyse the distribution of underlying parameters.

On conditionality, Quinn underlined that the counterfactual related to the conditional cash transfers is a simple cash transfer to be put into a micro-finance savings account. The paper suggests that “taking into account such issues of earnings smoothing and resources leaking away from intended beneficiaries, [...] the TUP programme might indeed be preferred by the majority of the poor relative to an unconditional cash transfer of the same value” since, as Burgess had illustrated, it yields higher returns. However, the real question, Quinn argued, is why – when you give money to the targeted group – do they not choose to buy livestock or to hire themselves some training. The answer is that there is a missing market for these goods. There is in fact a very recent research by Haushofer and Shapiro (2013) that shows very positive effects of unconditional cash transfers.

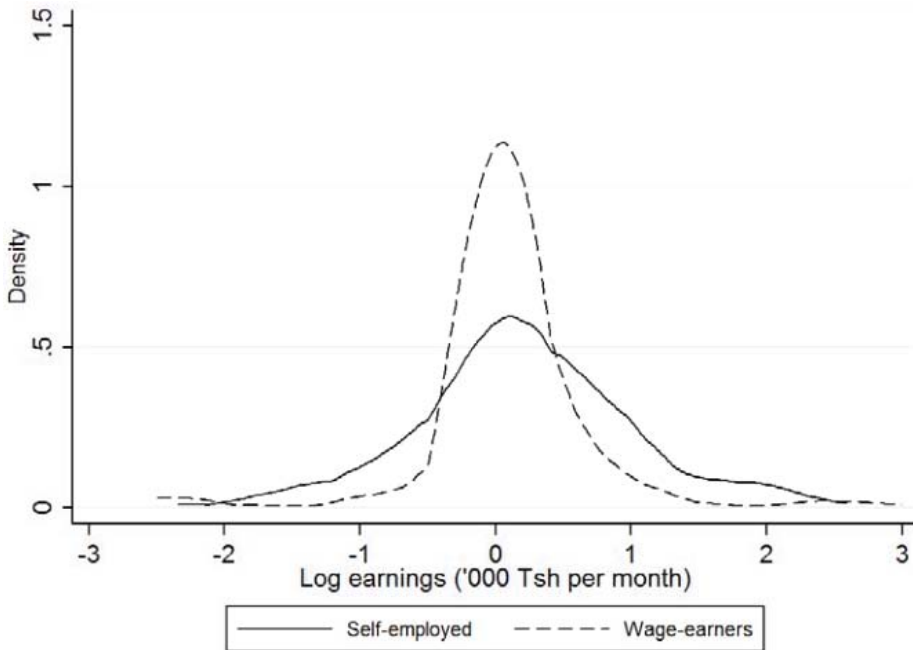
Quinn also questioned whether training and asset transfers have the same effect and suggested separating the two in order to be able to understand the part of the programme with the most impact. Because all of the available training

experiments contain a mixture of different content, existing studies are unable to determine which components of training matter most. However, since training and assets have the same costs, and if training has no impact, as Quinn suspects it may, by concentrating all the resources on asset transfers, the programme would be able to reach twice the number of people.

On spillovers, Quinn noted that the programme's impact is identified by comparing eligible individuals, before and after the programme in treatment communities, to changes among eligible individuals in control communities within the same sub-district, and controls for the effect on other household members. However, Quinn argued, this makes sense only from a strictly econometric point of view, because spillovers need to be considered. It is fundamentally important, in the given context, to think about the effects not just on household members but also on the other 95 per cent of the village, which are the near poor.

In addition, he warned that, although in the papers' specific context it was probably right to affirm that the poorest of the poor are in wage jobs, this assumption is not to be generalised. To show this, he presented a graph (Quinn and Teal, 2008) showing the distribution of income among wage earners and self-employed in Tanzania, which illustrates that, on average, Tanzanian wage-earners earn more than the self-employed.

Figure 1. Growth kernel densities: Wage-earners and self-employed



Lastly, Quinn underlined that it is important to keep in mind that while programmes that encourage subsistence entrepreneurship are effective and successful in reducing extreme poverty, they cannot be thought of as a growth

strategy for Bangladesh. The potential for these small businesses to grow is extremely limited as “existing evidence suggests that small enterprises die early and small. Conversely, big firms don’t represent successful micro-entrepreneurs that have risen through the ranks of smaller firms. Rather, big firms are born big.” (Sandefur, 2010)

General discussion

In the general discussion it was suggested that the programme could also have an impact on the community’s attitude towards poverty and inequalities. Moreover, it was pointed out that while training had an impact on skills and confidence, it was not clear whether training was successful in shifting beneficiaries’ trajectories in the long run. In this connection there was the suggestion of tracking the beneficiaries further after several years, and possibly to also track their children’s occupational choices.

Robin Burgess replied that the work is not claiming to show that the shift in occupation towards self-employment is the root to economic growth. Rather, the importance of the programme lies in the fact that most of the targeted people were tied to the villages they lived in and had little possibilities of migration. In this situation the only possibility to bring them out of poverty was to improve their living conditions in situ. Essentially, the programme attempts to address market failures, which exclude the ultra-poor from access to alternative sources of capital such as microfinance. Moreover he underlined that the most interesting finding of the paper is the increase in labour supply.

Abandoning fossil fuels: how fast and how much?

Frederick van der Ploeg
University of Oxford and CEPR

Climate change is one of the biggest externalities our planet faces. According to Van der Ploeg, the best way to tackle this issue is to price carbon appropriately, either by levying a carbon tax or by having a market for carbon emission permits. The key issue is to determine the optimal price of carbon and the time profile of this price.

In his presentation, Van der Ploeg highlighted the objectives of his paper (co-authored with Armon Rezai): to determine the optimal global climate policy – the optimal time path for carbon taxes and for subsidies on renewable energy – within the context of a fully calibrated integrated assessment model of climate change and Ramsey growth with exhaustible fossil fuel and directed technical change (learning by doing in renewable energy use).

His paper attempted to determine how fast to abandon fossil fuel in favour of renewable energy and how much fossil fuel to leave in the crust of the earth, and compared this approach with the ‘laissez faire’ approach and with second-best climate policies, where pricing carbon is infeasible and the only option is to rely on renewable subsidies (the so-called Green Paradox). Van der Ploeg also discussed what he called a ‘third way’ for climate policy, which entails both a gradual ramp of carbon taxes and a subsidy on renewable energy, as opposed to one or the other.

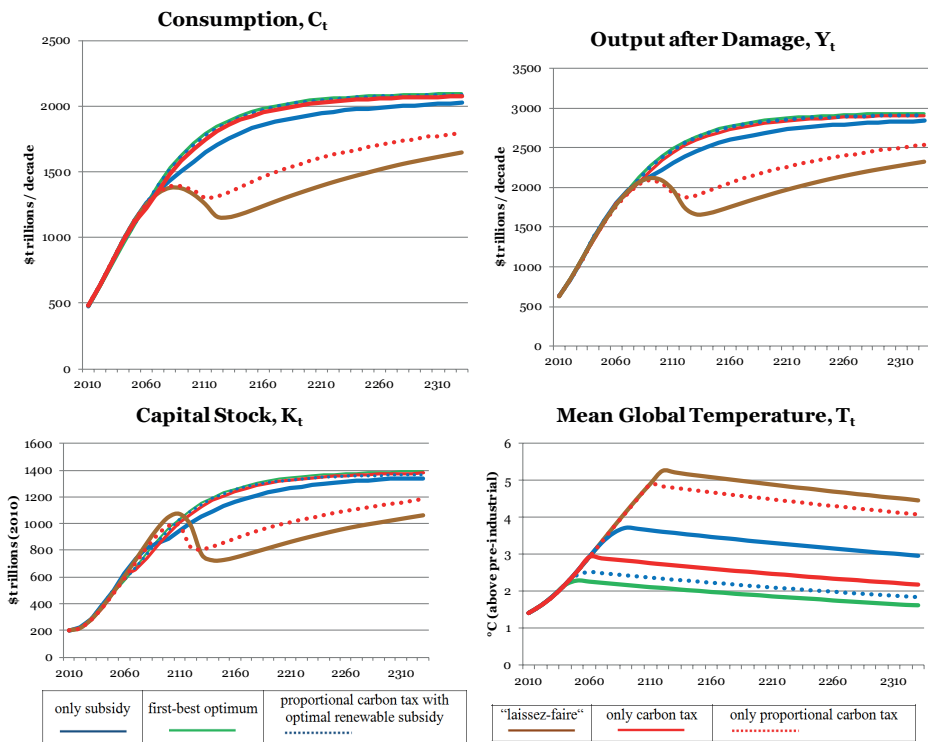
In Van der Ploeg’s model, fossil-fuel extraction costs rise as fewer reserves are left and less accessible fields need to be explored; this allows the model to consider how much fossil fuel should be left untapped. The price of fossil fuel contains two forward-looking components: the scarcity rent (the present discounted value of all future increases in extraction costs resulting from extracting an extra unit of fossil fuel) and the social cost of carbon. In the model, renewable energy becomes cheaper as more is used; this implies an intermediate phase where renewable and fossil-fuel energy are used together. If the cost reductions, deriving from learning-by doing externalities, are not fully internalised, a subsidy is required alongside the carbon tax. Furthermore, the model allows for a temporary population boom, ongoing technical progress, and for additive and multiplicative global warming damages.

According to Van der Ploeg an aggressive subsidy policy is essential to bring renewable energy quickly into use, and a gradually rising carbon tax is essential to price and phase out fossil-fuel energy. Whilst Golosov, Hassler, Krusell and Tsyvinski (2013) find that the optimal carbon tax and aggregate consumption

are a fixed proportion of world GDP, Van der Ploeg’s model shows that the relationship between the optimal carbon tax and GDP is hump-shaped. Golosov’s result, Van der Ploeg pointed out, depends on bold assumptions: logarithmic utility, Cobb-Douglas production, 100 per cent depreciation of capital in each period, zero fossil-fuel extraction costs, and multiplicative production damages captured by a negative exponential function. Furthermore, Van der Ploeg argued, Golosov’s formula for the carbon tax does not perform well if the tax has to address multiple market failures.

Van der Ploeg discussed simulations of four different policy scenarios: ‘laissez-faire’, ‘only tax’, ‘only subsidy’, and his ‘optimal’ scenario. He also added two scenarios for the proportional carbon tax envisaged by Golosov et al. (2013), with and without a subsidy on renewable energy.

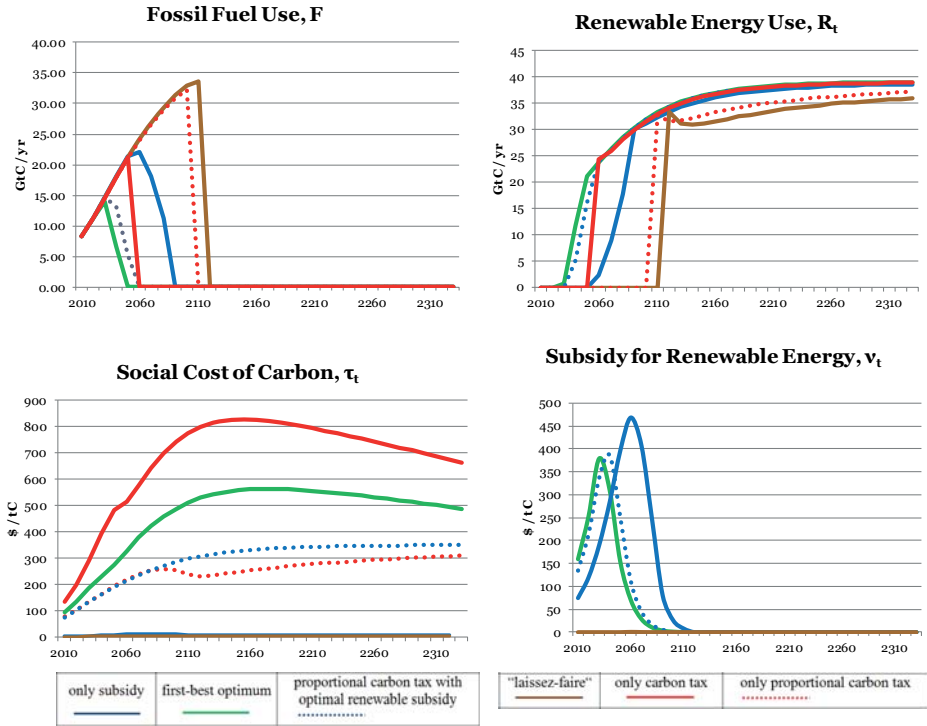
Figure 1.



Looking at the different scenarios in terms of mean global temperatures, Van der Ploeg showed that, whilst in the laissez faire approach the temperature rises by 5.3 degrees and then gradually declines, in the optimal scenario, where renewables are phased in much earlier (and fossil fuel is abandoned much sooner) temperature increases by 2.3 degrees and then gradually declines. Looking at the two intermediate solutions, namely the ‘only subsidy’ and ‘only carbon tax’ scenarios, Van der Ploeg pointed out that, although politically more costly, the

carbon tax scenario is preferable in terms of global temperature, as temperature increase would be lower by approximately 1 degree.

Figure 2.



According to these simulations, in the laissez faire approach the carbon tax (which quantifies the social cost of carbon) is zero, while in the carbon tax only scenario the tax is higher than in the optimal scenario, as it has to compensate for the absence of a renewables subsidy. This implies that, if the second policy instrument (i.e. the renewables subsidy) is not available, the available one (the carbon tax) increases beyond its optimal level. Furthermore, Van der Ploeg pointed out that in the optimal scenario subsidies are introduced almost immediately, faster than in the subsidy only scenario.

Lastly, Van der Ploeg stressed that, under the optimal scenario, a large proportion of fossil reserves are left in the ground, more than under the alternative scenarios, and almost three times as much as under a laissez faire approach. This happens because, due to the declining costs of learning-by-doing in the renewable sector, the production cost of renewable energy becomes cheaper much sooner than in all other scenarios. In contrast, under the laissez faire approach, the increasing extraction costs drive the transition to renewable energy.

The Golosov et al. (2013) formula attains the first-best level of consumption, capital and GDP, provided that the renewables subsidy is implemented alongside it. On the contrary, without the subsidy, consumption, capital and GDP are

much lower and temperature much higher. Without subsidies, the economy uses fossil fuel for too long and waits too long before renewable energy is phased in.

In essence, while the transition to renewable energy only, under the optimal scenario, occurs by 2050, in the subsidy only scenario it is reached by 2090. At the other end of the spectrum, under the laissez faire scenario, this transition may take around 70 more years (compared to the optimal scenario).

Table 1. Transition times and carbon budget

	Only fossil fuel	Simultaneous use	Renewable Only	Carbon used
Social optimum	2010-2020	2030-2040	2050–	400 GtC
Carbon tax only	2010-2050	N.A.	2060–	730 GtC
Renewable subsidy only	2010-2050	2060-2080	2090–	1250 GtC
No policy	2010-2110	N.A.	2120–	2510 GtC

In terms of welfare loss, Van der Ploeg showed that a no policy (laissez faire) approach leads to a welfare loss equivalent to 73 per cent of present-day GDP, whereas, in the two partial scenarios, the welfare loss is 3 per cent under the carbon tax assumption, and 10 per cent under the subsidy only assumption. In order to arrive at a social optimum, where no welfare is lost and there is only a moderate temperature increase, the renewable subsidy should move quickly to the level of 380 \$/tC, whilst the carbon tax should move gradually to 560\$/tC.

Discussant 1: John Hassler, *IIES, Stockholm University and CEPR*

John Hassler began his presentation by summarising Van der Ploeg and Rezai's neoclassical macro growth model, which analyses the social cost of carbon with the aim of providing policy advice on the optimal level of carbon taxes and clean energy subsidies, and discusses the optimal paths of energy use. Within this framework, Van der Ploeg compares the model's social cost of carbon with the work done by Golosov, Hassler, Krusell and Tsyvinski (2013).

Hassler presented his own model (developed with Golosov et al.) as an attempt to show that, under reasonable approximations of the economy, the climate system, carbon circulation and damages, a simple and transparent formula for the optimal carbon tax can be constructed. An interesting feature of the formula

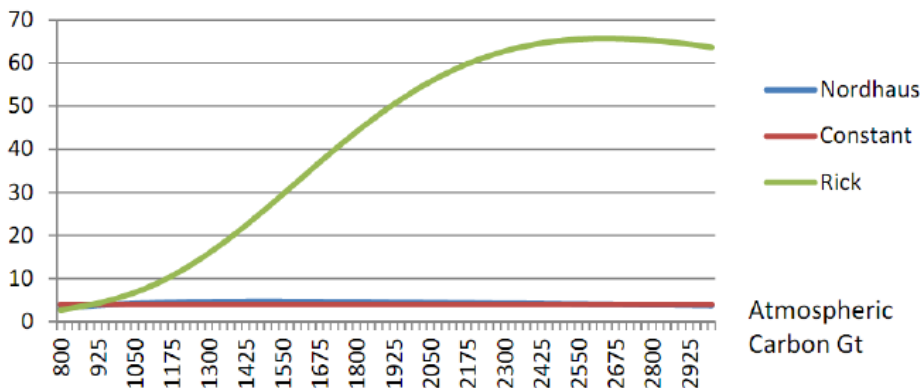
is that it is independent of assumptions regarding fossil-fuel supply, alternative sources of energy, carbon storage, and economic growth. This formula, Hassler stressed, is not second best (therefore other distortions may interfere with the calculations) and, while not necessarily exact, is quite robust.

In order to calculate the optimal carbon tax, Hassler et al. calculated the externality of a marginal unit of emitted fossil carbon, under the assumption that damages can be expressed in monetary terms, and that the flow of damages is a function of atmospheric carbon concentration. The formula is thus affected by discounting (both subjective and through consumption growth), by marginal damages (the percentage of output lost from an extra unit of carbon in the atmosphere) and by how fast carbon depreciates from the atmosphere.

Critically, Hassler underlined some simplifications of the model regarding damages, carbon depreciation and savings and utility. He showed that the model roughly matches Nordhaus's model in terms of marginal damage as a percentage of GDP, which they estimate to be not far from constant. The conclusion is that the optimal tax is proportional to current GDP, and this optimal tax level is independent of technology, future output, alternative energy and carbon storage, proving therefore to be surprisingly robust.

Hassler underlined some differences with Van der Ploeg's model; first, their model does not analyse second best, and learning by doing is not internalised, factors which could influence the optimal tax. Second, he pointed out that the key difference between the two models is Van der Ploeg's more convex damage function, given by the introduction of a quadratic function 'calibrated' to yield 50 per cent loss at 6°C and 99 per cent at 12.5°C. However, Hassler argued that this approach has limited scientific support, since we know little about what is happening at extreme temperatures; in contrast, for more moderate scenarios good studies exist. For instance a careful bottom up study carried out by the EU Peseta project implies that given an increase in temperature of 5 degrees in Europe in 2080 (3 degrees global), northern Europe will gain 0.5 per cent whereas the south will lose 1.5 per cent, which is less than a year's growth. These conclusions are quite consistent with Nordhaus and others.

Figure 3.



In addition, Hassler underlined that, despite the much stronger convexity of Van der Ploeg's model, taxes are still approximately proportional to output.

Finally, he presented tentative policy conclusions deriving from his work. First, he argued that although the cost of climate change will be substantial from a global perspective, most likely it will not be catastrophic. He stated that we do not have at this time the required knowledge to value costs and to consider the probabilities of possible, but unlikely, outcomes of catastrophic changes in global temperature in relation to other catastrophes (such as a killer flue, for instance). Second, he pointed out that, presently, the best climate models are fairly smooth and that there is no consensus regarding abrupt global tipping points at particular temperatures. Third, according to Hassler, the optimal carbon tax is moderate and the example of Sweden, a country where such tax was introduced, seems to prove that there is no threat to growth in adopting carbon taxes.

Hassler argued that an important conclusion is that regional (EU) tax on conventional oil is useless since supply is inelastic; however the amount of conventional oil is not sufficient for it to pose a climatic threat. On the other hand, coal and non-conventional oil and gas are the problem and their supply is elastic. As of today they are still unprofitable to extract, yet fast technological developments are worrisome; looking forward it is important to make sure that the large reserves of coal and non-conventional fossil-fuels sources remain unprofitable to extract.

Discussant 2: Marzio Galeotti, *University of Milan and IFFE-Bocconi*

Marzio Galeotti started his discussion by placing the findings of Van der Ploeg's paper in a policy context. He argued that the impact and the magnitude of climate change is different across regions and sectors of economic activity, that there is still much uncertainty regarding climate change, and that a global agreement on climate is neither settled nor in sight.

According to Galeotti, the world is undergoing a revolution in global energy flows that will bring about deep changes in the geopolitics of energy in the next couple of decades. Critical developments in the energy industry affect not only renewable energy but also non-conventional oil and gas, which are playing an increasingly important role. This is especially true in the US, which is strengthening its position as a key global player in terms of energy production.

Galeotti pointed out that awareness of the issue of climate change is increasing in developed countries which are, in consequence, adopting more stringent climate policies. In contrast, emerging markets and less developed economies are focusing on growth-oriented policies and pay less attention to climatic issues, although this has recently started to change.

The EU is at forefront of the fight against climate change: it has set goals and targets and adopted instruments such as renewable subsidies, energy efficiency standards and the European trading scheme. However, there are many open debates around the issue: first, subsidies for renewable energy in many countries are perceived as excessive; furthermore, there is much discussion as to whether,

in order to reach the goal of emission reduction, the two key factors – renewable subsidies and emission trade schemes – are required or if, on the contrary, a single instrument may be enough. In addition, there is much debate over whether international emission trading should be preferred to a carbon tax. Lastly, the dispute around whether, in order to have a truly effective climate policy, a global partnership, instead of regional initiatives, should be established, is very much at the centre of the discussion on climate change.

For these reasons, Galeotti argued, Van der Ploeg's paper plays an important role in the climate discussion, since it provides an analytical formulation of the social cost of carbon, of the optimal carbon tax, and of the optimal subsidy on renewable energy; it also suggests that the optimal tax and the optimal subsidy would bring about and speed up the 'ecological' transition, leaving fossil fuel untapped.

There are, however, some critical issues in Van der Ploeg's model. For instance, Galeotti wondered whether assuming that there is a permanent component of carbon is realistic (even for a thousand years) or if the 'permanent component' will, eventually, fade away. Even assuming a permanent carbon component, Galeotti wondered whether it is safe to conclude that there is a permanent portion of damage that will never go away.

Critically the model's assumption of fossil-fuel depletion neglects new discoveries and new technologies for fossil-fuel extraction. According to Galeotti, these factors should be taken into account since they will affect the results, presumably in the dynamics of switching from one regime to another. In addition, while Van der Ploeg's model discusses the mathematical properties and role of the carbon tax formula, the role of additive damages should be better motivated in terms of climate impact. Galeotti also argued that the model accounts for emissions from fossil-fuel combustion but does not consider the non-energy related emissions from land use, land-use change and forestry.

Galeotti also wondered whether the assumption of perfect substitutability between carbon and renewables in energy technology is realistic. Perhaps in electricity generation, he argued, it is reasonable to assume that coal will be completely replaced by renewable solar and wind energy; however, in the case of transportation and heating, this assumption may not be completely realistic.

Lastly, Galeotti pointed out that learning by researching, which allows for a stock of knowledge deriving from the cumulated sum of patenting and R&D activity, can be a viable alternative to specifying endogenous technological change (which is assumed in the model).

Turning to more fundamental issues, Galeotti argued that Van der Ploeg presented a global model, with no regional details. However, we know more about sectoral and regional impacts and damages, thanks to the works using disaggregated computational general equilibrium models, than we know on aggregate global impacts. Moreover the fact that the model provides a global view obscures the strategic interdependence of countries in tackling climate change.

Also, according to Galeotti, Van der Ploeg's model (and others in this strand of literature, e.g. Golosov et al.) trades off analytical tractability against the increased realism of nonlinear simulation models such as Nordhaus' model; however, in

his opinion, this does not imply that one approach is better than the other as both are essential.

In conclusion, Galeotti discussed Bob Pindyck's critique of climate-economy models. According to Pindyck, such models are essentially useless as we basically do not know how to value critical parameters such as climate sensitivity, damages, and catastrophic events. However, Galeotti stated, other scholars argue that, precisely to overcome such difficulties, we should invest time and intellectual resources in attempting to uncover the value of these parameters.

Crisis-era protectionism

Simon Evenett

University of St. Gallen and CEPR

Protectionism has evolved through the years, taking different forms. In his presentation, Simon Evenett discussed the discriminatory measures undertaken by governments against foreign economic interests since the beginning of the global crisis. These measures, he argued, often represent an attempt to shift the burden of adjustment onto foreign countries, thus limiting the extent of adjustment at home.

Evenett began by discussing the differences between the protectionism seen in the most recent downturn and that adopted during previous systemic economic crises, arguing that lessons can be drawn from earlier crises. Evenett stated that protectionism was not the cause of the great depression and, likewise, is not the cause of the current slump. However, research by Eichengreen and Irwin suggests that macroeconomic policies conditioned the resort to protectionism. In particular, countries which left the gold standard and devalued their currencies resorted to a lesser extent to tariff increases (a substitutability effect).

Similarly, today there is increasing evidence that macro-policies have influenced the resort to protectionism. However, it is also mistakenly assumed that countries which implemented correct macro policies did not need to turn to protectionism, whereas the reality is that discrimination against foreign commercial interests was often embedded in such 'correct' policies. Evenett called this type of behaviour 'dirty substitutability': a country substitutes one dirty intervention (protectionism) for another dirty intervention (for example a buy-national clause).

Evenett also observed that, since protectionism has a bad name, its manifestation tends to change from crisis to crisis. While in the 1930s many countries resorted to import quotas and tariffs, in the 1980s voluntary export restraints were more popular. The question today, he noted, is to what extent we can observe in the current crisis a similar transformation of discriminatory practices. This is an important question since the mere fact that today's protectionism does not come in the form of tariffs or import quotas does not mean that the protectionist dog is not barking. Indeed, Evenett argued, protectionism is mostly implemented nowadays in the form of subsidies with strings attached.

In the past, international accords had little influence over national decision making. Today, mainly thanks to the existence of the WTO, it is often assumed that protectionism is kept under control. However, according to Evenett this has not been the case; in practice the WTO changed the composition of protectionism but did not affect its overall magnitude.

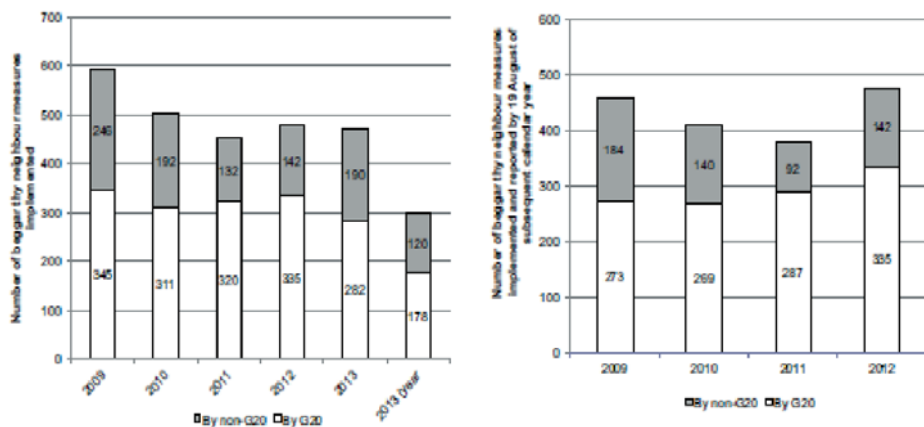
In order to recognise the evolution and transformation of protectionism it is important to understand the set of policies associated with it in practice. As mentioned, protectionism is often historically defined in terms of certain policy instruments affecting the trade in goods, such as tariffs, and which are thought to reduce imports or improve the trade balance.

However, while these definitions have been useful in the past, they seem outdated in the 21st century, since today a firm can supply a foreign market in a variety of ways: cross-border trade in goods and services, movement of people to supply services, and foreign direct investments. The discriminatory tools that a government can use to reduce the attractiveness of supplying overseas markets have also evolved; for example, visa restrictions on staff movements are a form of protectionism. According to Evenett, it is therefore important to move away from traditional definitions and to widen the range of policies considered as protectionist to include all policies favouring domestic firms over foreign firms selling to the same customers.

In this context, Evenett presented evidence of the resort to trade discrimination during the current recession. Because of the paucity of data on non-tariff measures, it is erroneously assumed that there was no substantial change in policies in the crisis years. Evenett attempted to fill the gap in available data by collecting 3884 reports on policy measures, announced or implemented since 2008, looking at both sides of the story (i.e. increased restrictions and liberalisations). His analyses use this real-time database to provide evidence for discriminatory practice.

First, Evenett warned that reporting lags in protectionism may lead to the illusion that protectionism has fallen since 2009. However, taking into account these lags, he demonstrated that the number of protectionist policies has been rather stable over the years, with a spike in 2012, showing within-crisis inter-temporal variation. He recognised that, ideally, we should look at the welfare effects of such policies. However, since this is unfeasible using real-time data, counting their number is at least a first step.

Figure 1. Failure to correct for reporting lags hides the 2012 jump in protectionism imposed by the G20



In terms of the measures used, Evenett showed that, since the beginning of the downturn, traditional protectionist policies such as tariffs and trade defence (anti-dumping) instruments were never the most popular instruments, whereas the use of subsidies increased at the beginning of the crisis and in the last two years (2012-13). Indeed subsidies and other 'beggar-thy-neighbour' measures have been, since 2009, the most commonly used type of discriminatory tools.

Another interesting feature of the crisis is that frequently only a single firm or a single sector is targeted. Given the huge amount of single-sector or two-sector targeting, this may be thought of as the return of industrial policy.

The data suggest that discrimination can occur both against foreign firms as well as amongst domestic firms, with measures targeting only specific firms. Furthermore, Evenett showed that although there is some heterogeneity in the adoption of these types of discrimination, the EU seems to be the most discriminating along both dimensions. This, he noted, has happened despite the existence of the European single market.

After an overview of the extent, type and selectivity of interventions, Evenett turned to the substitutability hypothesis, recalling Eichengreen and Irwin's research which found that exchange-rate depreciation and resort to protectionism were substitutes in the 1930s. Evenett argued that we need to consider not only the substitutability between a clean instrument and a dirty instrument, but also that between two discriminatory instruments.

In addition, according to Evenett, if one thinks about substitutability more broadly, other forms of macro policy intervention apart from depreciation, such as expansionary fiscal policy, relaxed budget constraints and monetary policy, should also be considered. The key issue to understand is the extent to which such substitutability applies to the current downturn. In his analysis Evenett observed 65 cases in which governments expanded spending while insisting on a buy national clause on public contracts; this is a typical example of a dirty substitute for tariff increases. Likewise, Evenett's analysis found that a quarter of all protectionist measures involved discriminatory subsidies, clear evidence of discrimination that does not involve tariff increases.

Evenett also discussed whether international accords such as the G20, the WTO, and the EU's measures have proved effective against protectionism.

The G20 countries committed not to engage in protectionism. However, this was not a legally binding agreement but simply a promise. To assess the success of this agreement, Evenett looked at the G20 countries vis-à-vis a benchmark of the next 10 largest trading nations and found that the G20 countries tended to implement more protectionist measures (80 per cent of all measures were protectionist against around 63 per cent of the next ten), although the next ten countries seem to implement 'murkier' measures (not tariffs or trade defence – such as anti-dumping). Still, in terms of refraining from using protectionist measures, evidence shows that the G20 countries committed to free trade have performed worse than the next ten countries which did not make the pledge.

Turning to the WTO, Evenett observed that frequently more discriminatory countries tend to resort to non-traditional forms of protectionism, which are less regulated by WTO. Since WTO obligations are incomplete (they are tougher

on tariffs and dumping, weaker on subsidies and non-existent in other areas) countries find ways to circumvent the WTO by resorting to less regulated discriminatory measures.

Another weakness in the WTO structure is that only governments are able to file a complaint against another country for breaking the rules, and no one else can report incorrect behaviour on their behalf. Evenett argued that, since during a crisis many governments simultaneously come under pressure to offer protectionism, a government breaking the rules is generally reluctant to file a case against another government also breaking the rules. This behaviour creates the so-called 'glasshouse syndrome' because "people who live in glasshouses do not throw stones". This is why we have seen a decrease of the average number of disputes brought to the WTO in the last few years, an indication, according to Evenett, that the glasshouse syndrome is undermining the discipline of the WTO.

Lastly, Evenett looked at the effect of EU membership and showed that members of the EU did not use any trade barriers (they are not allowed to) but resorted to a vast number of subsidies. While Germany stands out as the country extending most subsidies, the trend is common to all member states. The resort to non-traditional forms of discrimination is above the G20 average for all the EU major players (Germany, France, Italy, etc).

In conclusion, Evenett argued that the crisis calls for a redefinition of protectionism to include all non-traditional discriminatory measures, and that the substitutability hypothesis is relevant but needs to be reformulated as consideration between discriminatory alternatives. Finally, he insisted that it is essential to carry out a rigorous analysis to address the WTO loopholes.

Discussant 1: Anna Maria Mayda, *Georgetown University and CEPR*

Anna Maria Mayda praised the report for shedding light on the 'real time' extent of protectionism, taking account of different types of trade barriers, that Evenett called 'murkier' policies. Given the broad and up-to-date scope of the analysis, it is not surprising that the report is focussed on the extensive margin of protectionism, i.e. on the number of trade-related measures as opposed to how deeply protectionist these measures are.

Mayda emphasised that the results of the report are consistent with the literature on the subject. For example Abiad, Mishra and Topalova (2012) analysed trade dynamics and protectionist measures following past episodes of financial crises, using 179 episodes from 1970-2009, and concluded that "average tariffs increase by more than 1 per cent in the fourth year after the crisis, and this effect rises to up to 6 per cent in the longer-run".

How do we make sense of the pattern in protectionist policies that Evenett observed over the last five years? Mayda started by describing the basic model of trade policy, which results from the interaction between the demand for and the supply of trade policies. Whilst on the demand side the interaction

is between individual preferences and interest groups, on the supply side the interaction is between policymakers' preferences and the institutional structure of governments.

Given this model, Mayda discussed how these two sets of interests could explain the increase in protectionist measures in the last five years. To do so, she posed three questions:

- Was there deterioration in public opinion regarding trade?
- Do the patterns we observe reflect changes in the activities of interest groups?
- What else can explain why the G20 countries do not seem to have kept their promises?

With regard to public opinion on trade, the literature has found that respondents' attitudes are consistent with the income distribution effect predicted by the Heckscher-Ohlin model, and that an increase in government expenditure reduces the positive impact of risk aversion on protectionist attitudes. Non-economic determinants such as nationalism also matter.

However, so far there has been no analysis of change in attitudes towards trade over time and, in particular, during periods of crisis. In order to fill this gap Mayda used data from the Pew Research Global Attitudes Project (Pew Research Center), which surveyed people of the G20 countries, in the years 2007-2011, on their opinions on the growing trade and business ties between countries (the specific question asked was: "What do you think about the growing trade and business ties between (survey country) and other countries - do you think it is a very good thing, somewhat good, somewhat bad or a very bad thing for our country?").

Surprisingly, the results show that public opinion on trade has not deteriorated significantly; on the contrary, the general public in most countries has a positive attitude towards free trade that persisted during the crisis. One explanation, according to Mayda, is that the welfare state has been able to provide a safety net capable of absorbing, at least in part, the increased risk perceived by respondents as a consequence of the crisis.

Mayda also considered whether the changes in trade policy reflect changes in the activities of interest groups. However, she found that the activities of firms lobbying on trade did not change, but on the contrary remained relatively stable; therefore the explanation must be found elsewhere.

What else can explain why G20 countries do not seem to have kept their promises? In his report, Evenett highlighted that "a key feature of the latest standstill is that it is non-binding and was implemented outside of the WTO legal structure". Mayda suggested that if countries had made their crisis-era commitments within the WTO legal structure, the results would have been different. In fact, Ludema and Mayda (2013) showed that the WTO has indeed been relatively successful at neutralising the incentive of countries to "shift the pain of economic adjustment on to trading partners", which means that the WTO has been able to reduce the incentive to carry out beggar thy neighbour policies.

In trade theory, the terms-of-trade hypothesis postulates that countries use tariffs to improve their terms of trade, whilst trade agreements cause them to internalise the costs that such terms of trade shifts impose on other countries. Ludema and Mayda investigated whether the MFN (most favoured nation) tariffs set by WTO members in the Uruguay round are consistent with the terms of trade hypothesis, and test this hypothesis using data on tariffs, trade and production across more than 30 WTO member countries. Their conclusion is that the internalisation of the terms of trade effects through WTO negotiations has lowered the average tariff in the 30 countries by 22 to 27 per cent, compared to the non-cooperative level.

Discussant 2: Monika Schnitzer, *University of Munich*

According to Monika Schnitzer, Evenett's work on crisis era protectionism offers important insights into the true extent of state intervention that, due to time lags in reporting, is often underestimated. However, she pointed out that while Brazil, India and Russia frequently publish decrees for small tariff changes, Mexico has implemented a far-reaching tariff reform in just one government announcement. Given this example, she wondered whether simply counting the number of measures implemented, as opposed to evaluating the actual impact of the single measures, is really the correct method of assessment.

Schnitzer questioned whether all forms of protectionism, from trade defence measures and tariffs, to export subsidies and state aid measures, should be judged equally, and if all forms of discrimination are indeed negative. To answer this question, both the impact of protectionism and the impact of trade liberalisation on growth must be considered: do countries forgo growth opportunities if they restrict trade? In what ways does trade affect productivity growth? Finally, does trade promote convergence between countries?

In Mexico's case, the NAFTA agreements signed in 1994 had a positive impact on the country's productivity and performance; estimates suggest that Mexico's GDP per capita by the end of 2002 would have been about 4-5 per cent lower without NAFTA. Nevertheless, innovative activity did not improve sufficiently to allow Mexico to catch-up to the levels and growth rates of US productivity. The adoption of advanced technologies and the reallocation of resources are the mechanisms through which trade liberalisation is expected to foster competitiveness and economic development. However, quite frequently, economic performance does not converge.

Katrin Peters and Monika Schnitzer discuss in their paper (2014) that a critical reason for this failure to converge is the lack of developed credit markets in emerging economies, which affects technology adoption and aggregate productivity. Studying the effects of trade liberalisation on technology adoption, aggregate productivity and welfare, and on convergence between countries, Peters and Schnitzer observe an increase in the first two elements (technology adoption and productivity and welfare) in countries with developed credit markets, whereas the effect on countries with less developed credit markets is

still positive but smaller. However, they also find that trade liberalisation fails to promote convergence; rather the welfare gap widens and one country always seems to 'win more'.

Studying the effects on Mexico, the paper finds that the average TFP gap across industries increases; however when industries are divided into subgroups according to their dependence on external finance they find that those with low external financial dependency tend to narrow the TFP gap while industries with medium and high external dependency tend to widen the gap. Therefore financial and credit constraints seem to hinder productivity convergence, as observed by Lederman et al. (2005).

Schnitzer also argued that financial constraints are one of the reasons preventing poor countries from catching up (Yuriy Gorodnichenko and Monika Schnitzer, 2013). She pointed out that, despite increasing globalisation, there are still large and persistent differences in income and development across countries. In addition, in emerging and transition economies foreign owned companies are more productive than domestically owned companies. Through an empirical analysis of firm-level financial constraints, using survey data from transition countries, Gorodnichenko and Schnitzer found that domestic companies have difficulties in catching up because technology adoption and innovation are hindered by firm-level financial constraints. Although using survey data can lead to problems of endogeneity, since companies that plan innovation/technology upgrades are more likely to report financial constraints, Schnitzer used independent variables (information on exogenous financial losses due to losses during transportation, theft and input shortages) to overcome this problem. The results showed that the negative impact of financial constraints is greater for smaller and younger firms and in regions with a less developed financial sector; in contrast the effects of financial constraints on state or foreign owned companies is negligible.

Schnitzer's work highlighted that trade liberalisation, although important to foster an efficient reallocation of resources and to foster innovation and growth, is not sufficient to promote convergence. She concluded that companies need the capacity to innovate and to increase productivity, but financial constraints may represent an important obstacle (other obstacles include a lack of management and technological know-how). For this reason governments in less developed countries might need to help domestic firms to catch up and overcome financial constraints. In such cases, according to Schnitzer, subsidies are acceptable. On the contrary, she argued, what is worrisome about Evenett's report is that developed countries are becoming increasingly protectionist.

General discussion

Dalia Marin observed that the report presented by Evenett may explain why trade did not increase as much as expected during the crisis. Furthermore she observed that, strikingly, it seems that trade economists have not found

important welfare gains resulting from trade, perhaps suggesting that trade may not play the central role that is normally attributed to it.

Richard Portes wondered whether the spill-over effects of the beggar-thy-neighbour policies discussed in the paper are actually so significant, and argued that their effects may be surprisingly small.

In response to Portes' remark, Evenett pointed out that the question that the paper attempts to address is whether government policies create discrimination, and argued that with real time data this is the only question that can be answered. Clearly, when one analyses the effects of such policies, the conclusion may be different. However, preliminary results regarding the impact of the largest measures show that their effect is not negligible.

Policy panel: The role of the state in the economy. Lessons from the Alitalia and Telecom Italia cases

Massimo Mucchetti

President of the Senate Industry Commission

Enzo Moavero Milanese

Minister of European Affairs

The role of the state in the economy is a much-debated issue, opposing those who favour a laissez faire approach, and those advocating more interventionist policies. Senator Massimo Mucchetti and Enzo Moavero Milanese, Minister of European Affairs (Monti and Letta governments), discussed the issues at stake, with particular emphasis on Alitalia and on Telecom Italia.

According to Mucchetti, philosophical debates regarding the ‘correct’ role of the state in the economy do not add much value; rather, a pragmatic approach that considers both the historical period and the specific issues in question should be pursued. Most students of economic history would in fact agree that there are positive examples of state involvement in the economy. For instance, Mucchetti argued, in 19th-century Germany the state played a crucial role in the development of a strong and competitive industrial structure.

Regarding Alitalia, Mucchetti stated that Italy’s national carrier probably represents the largest waste of public money in Italian history: according to some calculations the sum of all the rescue packages and subsidies extended over the years to the airline amount to more than one percentage point of Italy’s GDP.

During the 2008 crisis the government took an active role in the Alitalia case. The company was on the brink of bankruptcy and, to resolve the problem without further injection of public money, Prodi’s government held an international public auction, which saw the participation of Aeroflot, Lufthansa and Air France. Air France presented the most attractive proposal both strategically and financially. The French carrier was prepared to make Alitalia the ‘third pillar’ of the Air France-KLM partnership, and also committed to assume the financial burden of the inevitable restructuring of the company. According to Mucchetti, the sale of Alitalia to Air France in 2008 would have been a decision in Italy’s national interest.

However, Prodi lost the following elections and the subsequent government rejected the Air France proposal. On the contrary, it decided to sell a restructured

Alitalia, with pre-existing obligations remaining in a public bad company, to a group of private entrepreneurs.

For a number of reasons, including the financial crisis, the newly privatised Alitalia did not succeed and today the company needs new capital, which the private shareholders are not willing to provide. However the government is currently contemplating the intervention of Poste Italiane, the state-owned postal service, to provide the required financial resources.

Is this a wise decision? Should the government intervene or should it simply take a neutral approach and leave the outcome to the market?

There are several traditional and low-cost carriers active in the Italian market; therefore, there is certainly no risk of Italy being excluded from international routes or of Italians not being able to fly. However, according to Mucchetti, the government should first take a strategic decision on what is best for the national interest. For example, it should decide whether Italy should have direct connections with China, the largest source of tourists in the world, or if it is irrelevant for Italian tourism that Chinese tourists may, in the future, be able to fly to Italy only via Frankfurt, Paris or some other European hub. More generally, the question should be whether tourism in Italy would benefit from more non-stop long-distance connections.

Mucchetti argued that these are important issues and that the government's role is to analyse the situation and take the best strategic decision in the interests of the country. In his view, in the Alitalia case, the government is correctly taking an active role and is looking for a partner that can add value to Alitalia without relegating it to the position of a feeder carrier. He stressed, however, that the correct approach would have been to put Alitalia in a receivership procedure (applying the Marzano law), wiping out, if necessary, its shareholders. This approach would not have required the intervention of Poste Italiane.

Turning to the case of Telecom Italia, Mucchetti pointed out that the EU has intervened in the telecom sector more than in any other industrial sector to protect consumers. However the result – far from being positive – is an extremely fragmented market, composed of several relatively weak operators unable to make the necessary investments in infrastructure. As a consequence Europe, relative to the US and Asia, is falling behind in terms of broadband penetration and other new telecommunication technologies.

In the US, in many Asian countries and in Latin America strong and profitable telecom companies operate in a condition of *de facto* oligopoly. These strong operators can sustain heavy technological investments and have the financial strength to acquire most European telecom companies.

The case of Telecom Italia is an extreme example. The state allowed Telecom Italia to become a private, heavily indebted operator. As a consequence Telecom Italia does not have the financial strength to update the telecommunication infrastructure, which in fact has not been upgraded since the privatisation. Unsurprisingly, Italy today has the lowest broadband penetration in Europe.

Paradoxically, while successive Italian governments neglected the deteriorating situation of the telecommunications infrastructure, Italy committed to heavily subsidise investments in renewable energy. According to some calculations the

subsidy amounts to roughly €170bn in 20 years. By way of comparison, this amount (actualised) exceeds the capital paid by the state to state-owned entities in the course of the last 80 years, including the fascist and the postwar period. Ironically, the renewable energy industry employs only 30,000 people and uses imported technology with little local value added.

In conclusion, Mucchetti argued, national resources are always managed; the real alternative is between good management and mismanagement.

Moavero started by pointing out that, in order to try to understand better the role of the state in the economy in Italy, it is necessary to take into account certain characteristics of the Italian political debate, with regard to the EU. Italy, as well as being a founding member of the EU, is one of the largest stakeholders in the EU institutions. Italy participates in all decisions at the European level and, most frequently, votes in favour both in the Council and in the European Parliament. Moreover, whenever asked, the Italian Parliament ratifies these decisions, with large majorities, even beyond the governmental one. However, domestic political debate on European issues is characterised by the widespread bipartisan generic complaint that Italy is obliged to enact a given measure because 'Europe' imposes it. In these occasions, reference is made to the EU as if it was an outlier foreign entity. This curious attitude, hardly explainable rationally, is motivated by reasons relating to the attitude of many politicians to put on the Union the blame for decisions and policies felt as unpopular.

Turning more specifically to the role of the state in the economy, a first aspect raised by Moavero relates to the ownership of companies by the state itself. He reminded that, at the time of the signature of the Treaty of Rome (1957) in Italy, as well as in many European countries, a large part of the national economy was dominated by local state-owned companies. This is the reason why that treaty does not contain provisions implying any difference between private and public ownership of a company. The legal situation remains the same at present: both nationalisations (i.e. the acquisition of a company by the state or other public bodies) and privatisation (i.e. the selling of a state-owned company to private investors) are compatible with EU law. Therefore, European rules are neutral on ownership. The EU Court of Justice confirmed this in several judgments, starting with the landmark one in *Costa v. ENEL*, stating that the nationalisations of a number of Italian private electricity company, in order to create a state-owned holding (ENEL), was not contrary to the EEC Treaty.

Consequently, an EU country government may decide, autonomously, to privatise or nationalise. Examples of this kind happened in the UK, during Mrs Thatcher period (privatisations) or in France, during the first presidential mandate of Mr Mitterrand (nationalisations). No European regulation imposes privatisations; but, Moavero stressed, privatisations may become, indirectly, useful or even necessary to cope, in certain circumstances, with EU law obligations. In this perspective, two main drivers may be identified.

The first driver for privatisation, according to Moavero, are the EU provisions requiring every country to grant a level playing field to both private and public-owned market actors. If the owner of a company is the state (or another entity with public status), its behaviour should correspond to that of a normal private

investor in a free market economy, in order to be fully compatible with EU law. On the contrary, a state cannot award special favour to the firms it owns. In particular, European rules prohibit a government to cover the losses or to finance non-productive investments of state-owned companies. The European Commission has made clear and applied, since the 1980's, this tough policy line. According to it, in front of the long standing severe difficulties of a loss making public-owned company, the national authorities have only two alternatives: either they allow the company to go into bankruptcy or they sell it to private investors. In the latter case, the European Commission considers the interruption of the privileged connection with the state (an owner with unlimited money), deriving from the privatisation, as a valid ground for the authorisation of a last rescue aid to the company (e.g. covering its losses), in order to allow the selling.

A second driver of privatisations, in Moavero's view, is connected with the rules of the European economic and monetary union, established by the treaty of Maastricht. In particular, the need to reduce countries' public debt obliged several governments to sell consistent part of their estate. This included many companies owned by the state (or other public entities) which are, normally, in good health, and not loss-making ones. It is precisely for this reason that a significant number of privatisations were decided in Italy during the 1990s: the income of the selling to private investors was destined to the reduction of the high national public debt. Also nowadays – and for the same reason – the Italian government announced its intention to sell shares of public-owned companies.

A second aspect raised by Moavero related to industrial policy. It is often argued that the EU regulatory framework does not allow for an effective European industrial policy. However, Moavero argued that this is only partially true. It is worth noting that the first European treaty, which established the Coal and Steel Community, was aimed at stimulating close cooperation in two key industries in order to help the post second world war process for recovery and peace. The Euratom Treaty, which followed after seven years, also derives from an industrial-policy vision and provides for a number of European joint actions in the atomic field.

The Treaty of Rome, creating the European Economic Community, does not specifically mention a common industrial policy (like for agriculture and transport). However, several of its articles set up (indirectly) instruments for effective industrial policy actions. First, those concerning the functioning of the 'internal market'; notably the provisions for the free movement of goods, services and investments, including the so-called 'right of establishment'. Second, the rules protecting free competition: both in the case of antitrust and state aids rules, some derogations are provided applying criteria relating to a typical industrial-policy logic. Third, the sector of transports, an industrial sector of crucial importance, is specifically regulated.

Furthermore, since the 1980s, a number of common policies have a significant impact on industrial activity. The progressive achievement of the EU single internal market and its liberalisation gave the industry a terrific booster. The strengthening of the European regional and cohesion policy has increased the funds to support structural investments in less developed regions and in areas

affected by industrial decline. The EU budget provides specific funds to finance initiatives crucial for a healthy industry growth (such as research, technological development, innovation and the building of trans-European networks for telecommunications, transports and energy). The regulations coming from the EU environmental policy have a significant influence on the reality of any industrial activity within the Union and greatly contribute to the growth of the so-called 'green economy'.

According to Moavero, all these important initiatives are tantamount to an EU industrial policy, albeit with different labels. Because of this he argued that, while a specific provision referring to industry is now present in the text of the Treaty on the Functioning of the EU, it is probably fair to say that the European regulatory framework does not deal with industrial policy per se. Still, a number of European common policies and regulations have considerable effects on industry, thus allowing the EU institution and notably the European Commission to carry on many initiatives of an industrial policy character. Moreover, Moavero concluded, it is a quite evident that the industries of all EU countries have and are still experiencing a net advantage, as to the improvement of their effectiveness and competitiveness, from the European integration process itself.

Italy shows examples of both good and bad doing in interacting with the described European system. On the one hand, the Italian economic boom during the years 1960s would likely not have been of the same magnitude without the freedom to sell goods, out of any customs duty, in other countries of the European Community. Also today, the more export oriented (inside and outside the EU) Italian industries face better the impact of the global crisis. On the other hand, although Italy is net contributor to the EU budget, Italian industries are not performing well in using the EU funds. In particular, with reference to the funds allocated for R&D and innovation, Italian companies and research centres never receive more than about 7 per cent of the total amount financed via the EU budget, where in theory their target should be around 12 per cent. For Italy, in order to get the full benefit from these funds, enhanced and concerted effort on the part of the public and private sectors, including universities and small research centres, is essential.

Moving to the more specific point concerning Alitalia, Moavero accepted Mucchetti's analysis of the history of the Italian airline company. Alitalia missed the challenges arising from the liberalisation of the European aviation market started in the late 1980s. Notably, it failed to restructure effectively and to seek international alliances. If 20 years ago Alitalia was not dramatically different from Lufthansa and Air France, today Alitalia has drastically fallen behind.

Regarding Alitalia's current crisis, Moavero reminded that the Letta Government, having in mind the ultimate interest of the country, looked for a solution in order to provide the airline a valid industrial partner. Meanwhile, it was opportune to preserve the presence of Alitalia on the market, without violating the relevant EU rules. The shareholders agreed on the capital increase required to keep Alitalia in business; the approval was granted by all private shareholders and the banks, as well as by the non-Italian partner Air France. In this frame, the involvement of Poste Italiane (a state-owned company) covered only a minority

portion of the injection of fresh capital. Whatever the outcome will be, Moavero concluded, the intervention of Poste Italiane takes place on the same terms and market conditions as those applicable to private investors. Because of this, it is difficult to argue that it is merely a preferential public support, not be compatible with EU state aid rules.

Lucrezia Reichlin, chair of the panel, introduced the issue of privatisations and wondered whether they would be beneficial to the Italian economy. Indeed the privatisation of state and public assets has often been considered by many governments, including the Letta government, as a means of reducing public debt.

On this issue, Mucchetti stated that he has no ideological bias; privatisations can be good or bad, depending on the case under discussion and on the implementation of the privatisation decision. As a general rule the state should only privatise when it is profitable and convenient; otherwise, barring the few cases in which – for technological or other specific reasons – a public company can better operate under private ownership, privatisations make no obvious economic sense.

Mucchetti mentioned specifically the examples of ENI and ENEL. If one considers the substantial dividend flow to the Treasury arising from the partial public ownership of these two companies and compares it to the market value of the public stake in the two companies, clearly a privatisation would not make economic sense. Arguably, the conclusion might be different if a privatisation programme substantially reduced the stock of public debt. However while Italy's public debt amounts to €2072bn, the privatisation programme outlined by Saccomanni (finance minister in the Letta government) would lower public debt only to €2050bn. According to Mucchetti, in this situation, considering the loss of dividends, there are no economic reasons to privatise.

Mucchetti concluded by mentioning the Andreatta-Van Miert agreement of the early 1990s (Andreatta was the Italian foreign minister, Van Miert was the EU competition commissioner) that resulted in the liquidation of IRI, the state participation holding company. IRI, according to Mucchetti, was liquidated on the basis of the assumption (subsequently proven misplaced) that the company was a source of losses and that it was receiving illicit state aid.

In this regard, Moavero pointed out that the Andreatta-Van Miert agreement has to be analysed and interpreted within its historical context. The deal resulted from the liquidation of EFIM, an insolvent state-owned holding agency, and from the legal obligation (according to the Italian Civil Code) for the Italian government, as EFIM's sole shareholder, to repay in full the agency's creditors. The European Commission considered this obligation as the evidence of the existence of an implicit and automatic guarantee of the Italian state and this was deemed a form of state aid incompatible with the relevant European regulations. The Andreatta-Van Miert agreement was transposed into a legally binding condition of the Commission's authorisation to the Italian government to pay all EFIM's debt. Pursuant to it, the Italian state had to divest from all its agencies and to decrease its stake, in any firm, below 100 per cent of company's capital.

The concrete implications of the Andreatta-Van Miert agreement were relevant, but diverse, in Italy. For example, in the case of the other two big state-owned holding agencies ENI and IRI. While the oil producer ENI had to sell the loss-making petrochemical business, IRI the big conglomerate group, holding several loss making firms, had to reduce its consolidated debt to market-compatible levels. IRI did that by selling its participations, before being dissolved. Therefore, argued Moavero, the severe application of European competition rules on state aids, eventually implied the liquidation of EFIM and IRI (together with slimming down of ENI), framed by the Andreatta-Van Miert agreement. Consequently, the door was opened to a first significant wave of privatisations in Italy. This wave was widened by the Italian government's decision to use the entire income of the privatisations to reduce public debt, in order to meet the Maastricht criterion for the start-up of the European single currency. It is indeed worth remembering that all these events happened during the first half of the years 1990.

Nowadays, concluded Moavero, partly as a consequence of the dramatic impact of the global crisis and of the high level of its public debt, Italy is again confronted with the necessity to look at its public goods and in particular, at the remaining state-owned companies. Urgent needs of income can only be satisfied by new privatisations (as proposed by the government). However, said Moavero, beyond privatisations, the national objective in Italy should be the maximisation of the value of any public assets (including: industries, arts, territory, etc.), allowing its best possible economic exploitation, as well as preserving and protecting it. This requires lot of care, a new approach and good programming capacity: a sort of 'cultural revolution' engaging both public authorities and citizens.

General discussion

Schivardi agreed with Mucchetti's case-by-case, non-ideological approach, but felt that, given the complexity of the issues involved, a compass may be indispensable; for example, one should always assume that competition is a positive factor in the economy.

According to Schivardi, while the privatisation of Telecom Italia has not been successful, there is no question that the Italian telecom market is very competitive and that consumers now benefit from lower prices. In contrast, ENI and ENEL may be successful companies but, to some extent, they still enjoy considerable pricing power, resulting in higher energy prices for Italian consumers. Turning to the Alitalia situation, Schivardi argued that, without question, an international carrier will choose to operate a profitable direct route between Italy and China, and therefore, in a free and competitive market, there should be no need to rescue Alitalia.

Mucchetti replied that the only compass that the government should follow is the national interest. While competition is generally good, the EU has changed the rules in the telecommunication sector more than once in the last 20 years, creating uncertainties and hindering investments. In countries such as Korea and Japan, the telecommunication infrastructure is more advanced and the services

offered are of higher quality. Therefore, costs may be higher but for a better service. In Italy's case, Mucchetti argued, failure to invest in telecommunications infrastructure puts Italian companies at a comparative disadvantage, with ultimately harmful consequences for the country's competitive position. Nationality is not the key issue: the Air France offer for Alitalia in 2008 would have benefited Italy, whereas their most recent proposal is not in the national interest.

References

- Abiad A, P Mishra and P Topalova (2011), "How Does Trade Evolve in the Aftermath of Financial Crises?", Working Paper No. 11/3, January.
- Alder S, L Shao and F Zilibotti (2013), "Economic Reforms and Industrial Policy in a Panel of Chinese Cities", CEPR Discussion Paper 9748.
- Allen F, T Beck, E Carletti, P Lane, D Schoenmaker and W Wagner (2011), *Cross-Border Banking in Europe: Implications for Financial Stability and Macroeconomic Policies*, CEPR.
- Agrawal, A and P Tambe (2013), "Private Equity, Technological Investment, and Labor Outcomes", Proceedings of the 34th International Conference on Information Systems, Milan, Italy.
- Bandiera O, R Burgess, N Das, S Gulesci, I Rasul and M Sulaiman (2013), "Can Basic Entrepreneurship Transform the Economic Lives of the Poor?", IZA Discussion Paper, No. 7386.
- Battistini N, M Pagano and S Simonelli (2013), "Systemic Risk and Home Bias in the Euro Area", European Economy - Economic Papers 494, Directorate General Economic and Monetary Affairs (DG ECFIN), European Commission.
- Belke A, G Schnabl and H Zemanek (2010), "Current Account Balances and Structural Adjustment in the Euro Area", *International Economics and Economic Policy* 7 (1), 83-127.
- Bodenhorn, H (2007), "Usury ceilings and bank lending behavior: Evidence from nineteenth century New York," *Explorations in Economic History*, Elsevier, vol. 44(2), pages 179-202, April.
- Boeri T, P Garibaldi and E Moen (2013), "The Economics of Severance Pay", IZA Discussion Paper No. 7455.
- Bordignon M, M D'Alberti, F Daveri, R De Benedetti, C De Franceschi, A Gambardella, F Giavazzi, F Guiso, A Ichino, G Tabellini, F Schivardi and R Vitale (2013), "Idee per la crescita: le opzioni e le proposte per ritornare a crescere", Università Bocconi, IEF, April.
- Brutti, F and P Sauré (2013), "Repatriation of debt in the euro crisis: Evidence for the secondary market theory", mimeo.
- Buti, M and A Turrini (2012), "Slow but Steady? Achievements and Challenges in Competition Disinflation within the euro Area", *ECFIN Economic Brief*, forthcoming.
- Crépon B, F Devoto, E Duflo and W Parienté (2011), "Impact of microcredit in rural areas of Morocco: Evidence from a Randomized Evaluation", mimeo MIT.
- Drexler A, G Fischer and A Schoar (2014), "Keeping It Simple: Financial Literacy and Rules of Thumb", *American Economic Journal: Applied Economics*, 6(2): 1-31.
- Evenett, S (2013), *What Restraint? Five Years of G20 Pledges on Trade*, the 14th GTA Report, CEPR, September 2013.

- Estrada García A, J Galí and D Lopez-Salido (2013), Patterns of convergence and Divergence in the Euro Area, NBER Working Papers 19561, National Bureau of Economic Research, Inc.
- Fornero, E (2013), "Reforming labour markets: reflections of an economist who (unexpectedly) became the Italian Minister of Labour", *IZA Journal of European Labour Studies*, 2:20, 16 December.
- Golosov M, J Hassler, P Krusell and A Tsyvinski (2013), "Optimal taxes on fossil fuel in general equilibrium", *Econometrica*, forthcoming.
- Gordon, R J (2012), "Is U.S. Economic Growth Over? Faltering Innovation Confronts the Six Headwinds", NBER Working Paper 18315.
- Gorodnichenko, Y and M Schnitzer (2013), "Financial Constraints And Innovation: Why Poor Countries Don'T Catch Up," *Journal of the European Economic Association*, European Economic Association, vol. 11(5), pages 1115-1152, October.
- Gros D (2012), "Macroeconomic Imbalances in the Euro Area: Symptom or cause of the crisis?," CEPS Papers 6865, Centre for European Policy Studies, 2012.
- Haushofer, J and J Shapiro (2014), "Policy Brief: Impacts of Unconditional Cash Transfers", Massachusetts Institute of Technology. Accessed April 30.
- Jia R (2012), "Pollution for promotion." Mimeo, University of California at San Diego.
- Jia R, M Kudamatsu, and D Seim (2015), "Complementary roles of connections and performance in political selection in China", *Journal of the European Economic Association*, forthcoming.
- Karlan, D and M Valdivia (2011), "Teaching entrepreneurship: impact of business training on microfinance clients and institutions", *Review of Economics and Statistics* 93: 510-27.
- Legge 28 giugno 2012, n. 92, recante "Disposizioni in materia di riforma del mercato del lavoro in una prospettiva di crescita".
- Legge 18 febbraio 2004, n. 39 recante: "Misure urgenti per la ristrutturazione industriale di grandi imprese in stato di insolvenza".
- Lederman D., W Maloney, and L Servén (2005), "Lessons from NAFTA for Latin America and the Caribbean Countries: A Summary of Research Findings", Washington DC, World Bank.
- Lerner J, M Sorensen and P Strömberg (2011), "Private Equity and Long-Run Investment: The Case of Innovation", *The Journal of Finance* Volume 66, Issue 2, pages 445–477, April.
- Ludema, R and A M Mayda (2013), "Do terms-of-trade effects matter for trade agreements? Theory and evidence from WTO Countries," *The Quarterly Journal of Economics*, Oxford University Press, vol. 128(4), pages 1837-1893.
- Marin D, J Schymik and J Tscheke (2014), "Organisations as Competitive Advantage: How De-centralized Management and Offshoring Can Explain the Export performance of Firms", mimeo.
- McCahery J A, G Hertig and R Lee (2010), "Empowering the ECB to supervise banks: A choice-based approach", *European Company and Financial Law Review* 7, 2, p. 171-215 45 p.

- McQuinn, K and K Whelan (2009), "Prospects for Growth in the Euro Area," *CEifo Economic Studies* Vol 54(4), pp.642-680.
- McQuinn, K and K Whelan (2013), "Europe's growth crisis", preliminary draft, November.
- Mitchener, K and M Jaremski (2014), "The Evolution of Bank Supervision: Evidence from U.S. States," NBER Working Papers 20603, National Bureau of Economic Research, Inc.
- Mitchener, K (2005), "Bank Supervision, Regulation, and Financial Instability during the Great Depression." *Journal of Economic History* 65: 152-85.
- Mitchener K (2007), "Are Supervision and Regulation Pillars of Financial Stability? Evidence from the Great Depression." *Journal of Law and Economics* 50: 273-3.
- Peters, K and M Schnitzer (2012), "Trade liberalization and credit constraints: Why opening up may fail to promote convergence," CEPR Discussion Paper 8942, April.
- Popov A and P Roosenboom (2009), "Does private equity investment spur innovation? Evidence from Europe," Working Paper Series 1063, European Central Bank.
- Popov A and P Roosenboom (2013), "Venture capital and new business creation," *Journal of Banking & Finance, Elsevier*, vol. 37(12), pages 4695-4710.
- Quinn S. and Teal F., "Private sector development and income dynamics: A panel study of the Tanzanian labour market," CSAE Working Paper Series 2008-09, Centre for the Study of African Economies, University of Oxford, 2008.
- Reinhart, C and K Rogoff (2009), *This Time is Different: Eight Centuries of Financial Folly*, Princeton University Press.
- Rezai, A and F van der Ploeg (2013), "Abandoning fossil fuel: How fast and how much", OxCarre Research Paper 123.
- Sandefur J., "On the Evolution of the Firm Size Distribution in an African Economy," CSAE Working Paper Series 2010-05, Centre for the Study of African Economies, University of Oxford, 2010
- Schoenmaker, D and S Oosterloo (2007), "Financial supervision in Europe. A proposal for a new architecture", *Structure of Financial Regulation*, Mayes and Wood, Chapter 15.
- Schoenmaker, D and D Gros (2012), "A European Deposit Insurance and Resolution Fund", DSF Policy Paper, No. 21, Duisenberg school of finance, Amsterdam.
- Shin H S (2011), "Global Banking Glut and Loan Risk Premium", Mundell-Fleming Lecture.
- Song Z, K Storesletten, Y Wang and F Zilibotti (2014), "Sharing high growth across generations: pensions and demographic transition in China." Forthcoming in the *American Economic Journals: Macroeconomics*.
- Song Z, K Storesletten and F Zilibotti (2012), "Rotten Parents and Disciplined Children: A Politico-Economic Theory of Public Expenditure and Debt," *Econometrica*, Econometric Society, vol. 80(6), pages 2785-2803, November.
- Song Z, K Storesletten and F Zilibotti (2011), "Growing Like China", *American Economic Review*, 101, 202-241.

- Toniolo G (ed.) (2013), *The Oxford Handbook of the Italian Economy since Unification*, Oxford University Press, New York.
- Wyplosz, C (2013) "The Eurozone Crisis and the Competitiveness Legend," *Asian Economic Papers*, MIT Press, vol. 12(3), pages 63-81, October.
- Wyplosz, C (2012), "Fiscal Rules: Theoretical Issues and Historical Experiences," NBER Chapters, in: *Fiscal Policy after the Financial Crisis*, pages 495-525 National Bureau of Economic Research, Inc.