Increased longevity and social security reform: questioning the optimality of individual accounts when education matters

par Gilles Le Garrec

In 1950, life expectancy at birth in Western Europe was 68 years. It is now 80 years and should reach 85 by 2050. The downside of this trend is the serious threat that is hanging over the financing of our public retirement systems. Financed on a pay-as-you-go (PAYG) basis, *i.e.* pension benefits are paid through contributions of contemporary workers, the systems must cope with an increasingly large number of pensioners compared to the number of contributors. For example, leaving the average age of retirement unchanged in France would lead to a ratio of pensioners to workers (the dependency ratio) of 70.1% in 2040, whereas this ratio was 35.8% in 1990. Changes are unavoidable. Maintaining the current level of benefits within the same system in the near future requires to increase either the contribution rate or the length of contribution (by delaying the age of retirement).

This financing problem calls into question the role of PAYG retirement systems in our societies. For instance, by evaluating the real pre-tax return on non-financial corporate capital at 9.3% and the growth rate over the same period (1960 to 1995) at 2.6%, Feldstein[1] unequivocally advocates the privatization of retirement systems and a switch to fully funded systems. He assesses the potential present-value gain at nearly $20 trillion for the United States. However, beside

the change in the nature of the risk,[2] replacing conventional PAYG systems by financial – or funded – defined contribution (FDC) systems would certainly involve prohibitive social and political costs because one generation will have to pay twice. Implementing such a reform in Western democracies thus appears difficult. For that reason, in recent years a large focus has been put on non-financial – or notional – defined contribution (NDC) systems as legislated in Sweden in 1994. NDC systems are PAYG systems that mimic FDC systems. Individual contributions are noted on individual accounts. Accounts are credited with a rate of return that reflects demographic and productivity changes. Obviously, replacing conventional PAYG systems by NDC systems does not address the main concern of Feldstein, that is, the low return associated with the PAYG financing method. However, supporters of NDC systems claim that conventional systems, by linking pension benefits only partially to contributions, distort individual behaviours, inducing reduced work efforts or earlier retirements. In addition, they claim that only an explicit defined contribution system will be able to stabilize contributions in spite of aging populations.

Looking at the empirical facts, the supposed inefficiency of conventional retirement systems must be reconsidered. Firstly, even if their pension benefits are linked to partial earnings history, most conventional systems are close to actuarial fairness[3] as NDC systems because high-income earners live longer and have steeper age-earnings profiles. Secondly, stabilizing contributions can be achieved similarly within the scope of more conventional defined benefit systems, as seen in the “point system” in France or in Germany. In that case, the unit of pension rights is earnings points (not euros) and can be adjusted according to demographic and productivity changes, as in an NDC system. Cleverly designed conventional retirement systems can often do the same job as NDC systems. Finally,

empirical findings from Sala-i-Martin[4] and Zhang and Zhang[5] tend to support a positive impact of retirement systems on economic growth through the human capital channel.

To explain the positive link between PAYG retirement systems and economic growth that is suggested by the empirical findings, previous authors have then focused on the human capital channel, and more particularly on parental altruism. In this strand of the literature, PAYG retirement systems result in higher economic growth because they provide an incentive for altruistic parents to invest more in their children's education, even if investment per child remains insufficient to be socially optimal. In addition, they also provide an incentive for parents to have fewer children. In that context, when private behaviour is not observable, Cigno, Luporini and Pettini[6] show that a second-best policy would be to provide parents with subsidies linked to the number of children they have and their future capacity to pay taxes. To that end, Cigno[7] suggests that unconventional children-related pension systems be added to conventional retirement systems so as to allow individuals to earn a pension by raising children and by investing in their human capital. Introducing such an unconventional system could stimulate both fertility and economic growth. In France, the 10% bonus on pension benefits for parents of three children or more is such a pension-based fertility subsidy. However, for both reasons of economy and equity[8], these subsidies are taxed since the reform of 2013, with the risk of lowering the fertility incentives. This latter reform will imply more profound changes as from 2020 proportional subsidies will be replaced with payments only given to women on a per-child basis (the first child inclusive).

Beyond the impact of PAYG systems on parents' behavior, results have first appeared mixed when considering people investment in their own education. On the one hand, Kemnitz and Wigger[9] and Le Garrec[10] have shown that conventional

retirement systems provide an incentive for people to be trained longer because training results in steeper age-earnings profiles. On the other hand, Docquier and Paddison[11] have shown that in reducing the actualized return to education conventional retirement systems dissuade less able people from investing in their education. By embedding both channels, Le Garrec[12] shows that the positive impact dominates the negative one so that the average length of training and then economic growth was increased with conventional retirement systems, at least for low contribution rates. In the spirit of Cigno, this result suggests that a desirable feature of any retirement system would be to subsidize people who invest in their own education by linking pension benefits to the best – or last – years' average annual earnings, not to full lifetime average earnings as in NDC systems. From that perspective, the Balladur reform of 1993 inFrance went in the wrong direction. Indeed, in the private sector earnings-related benefits were linked to the ten best years before the reform, then gradually to the 25 best years after.

Starting from the empirically supported assumption that conventional retirement systems are close to actuarial fairness and yield more economic growth, it is then not straightforward to determine whether the introduction of individual accounts and the stabilization of contributions are desirable objectives. To analyze this issue and the relevancy of the switch from conventional unfunded public pension systems to notional systems we have extended in a recent article[13] the social security-growth literature in two directions. First, following Le Garrec (2012), we consider investment in human capital through both the proportion of individuals who decide to invest and the time they invest. With more general specifications, we can provide explicit and general conditions so that the positive effect associated with

the lengthening of training may be dominated by the negative effect, *i.e.* the decrease in the proportion of educated individuals. We then show that economic growth may exhibit an inverse U-shaped pattern with respect to the size of an actuarially fair retirement system in which pensions are linked to the best – or last – years' average annual earnings, while an NDC system has no impact on economic growth. Second, we consider the aging process, not by assuming decreased fertility as it is usually done in the literature, but through increased longevity. This has important consequences. Indeed, as increased longevity raises the value of investments that pay over time, it generates stronger incentives for people to invest in their education[14]. Therefore, social security interacts with longevity in determining the individual level of investment in education. We then show that increased longevity may raise the size of the conventional retirement system rate that maximizes economic growth.

For policy-making, the message in Le Garrec (2014) is clear: increased longevity should be associated with an increase in the size of the existing conventional retirement systems, not with a switch towards NDC systems. However, there is no guarantee that the political process leads to the optimal size. According to Browning[15], there even are good reasons to think that the political process leads to a PAYG size exceeding the growth-maximizing level. Indeed, he showed that workers tend to increase their support for the PAYG retirement system as they approach retirement. Consequently, considering that the pivotal voter is middle-aged worker, by definition closer to retirement than a young worker, this could strengthen support for a PAYG size that exceeds the growth-maximizing (or the welfare-maximizing) level. Does this mean that in practice an NDC system is preferable to a conventional system? Not necessarily. Indeed, an assessment that the conventional PAYG size exceeds the growth-maximizing level does not necessarily mean that an NDC system would allow greater economic growth. Quite the opposite, if we give

credence to the empirical results reported by Sala-i-Martin (1996) and Zhang and Zhang (2004), economic growth would be slowed down when switching to an NDC system.

Starting then from a situation where conventional PAYG systems yield more economic growth, what may happen with increased longevity. Firstly, as the pivotal voter approaches retirement, it is likely that the PAYG size supported by a majority will increase. Two configurations may then occur. If the effective PAYG size increases less or only slightly more than the growth-maximizing level, the superiority of a conventional system over an NDC system may be preserved. In that case, a switch towards NDC systems will not be optimal. By contrast, if the effective PAYG size increases significantly more than the growth-maximizing level, conventional retirement systems may become harmful for economic growth. In that case, as suggested by Belan, Michel and Pestieau[16], a Pareto-improving transition towards a fully funded system may exist if it results in a significant increase in economic growth. More likely, if such a transition does not exist, a switch to NDC systems can then be considered as a desirable policy for increasing economic growth and social welfare.

In Le Garrec (2014), all the solutions coping with increased longevity have been considered while keeping the calculation of pension benefits actuarially fair. If the main problem of existing retirement systems is that they are too large, another solution would be to make the system more progressive. Indeed, as highlighted by Koethenbuerger, Poutvaara and Profeta[17], the size of the retirement system chosen by the median voter tends to decrease as the link between contributions and benefits is loosened. It is a fact that progressive systems appear smaller than actuarially fair systems. However, as argued by Le Garrec[18], more progressivity also leads to fewer incentives for people to

invest in their education. At this stage, the impact of introducing more progressivity on economic growth appears uncertain, unless it also strengthens majority support for public education funding, as argued by Kaganovich and Meier[19]. From that perspective, incorporating public education in the analysis appears to be a promising avenue for further research.

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[1] "The missing piece in policy analysis: Social security reform", *American Economic Review*, 1996 (86-2), pp. 1-14.

[2] The risk is linked to the instability of financial markets in FDC systems while it is linked to the forecast of the correct evolution of the dependency ratio in PAYG systems. In the latter, there is also a kind of political risk as transfers go from a majority, the workers, towards a minority, the pensioners.

[3] Except in Anglo-Saxon countries where pensions are weakly related to earnings. Strictly speaking, a retirement system is said actuarially fair if its return is equal to the interest rate. Considering that the economic growth rate, which is the retirement system return, is lower than the interest rate, retirement systems could be described more properly as quasi-actuarially fair.

[4] "A Positive Theory of Social Security", *Journal of Economic Growth*, 1996 (1-2), pp 277-304.

[5] "How does social security affect economic growth? Evidence from cross-country data", *Journal of Population Economics*, 2004 (17), pp. 473-500.

[6] "Transfers to families with children as a principal-agent problem", *Journal of Public Economics*, 2003 (87), pp.

1165-1172.

[7] “How to avoid a pension crisis: a question of intelligent system design”, *CESifo Economic Studies*, 2010 (56), pp. 21-37.

[8] The measure costs 5.7 billions Euros according to the Moreau report in 2013. In addition, as subsidies are proportional, they benefit more high-income earners and consequently also men.

[9] “Growth and social security: the role of human capital”, *European Journal of Political Economy*, 2000 (16), pp. 673-683.

[10] “Systèmes de retraite par répartition, mode de calcul des droits à pension et croissance”, *Louvain Economic Review*, 2001 (67-4), pp. 357-380.

[11] “Social security benefit rules, growth and inequality”, *Journal of Macroeconomics*, 2003 (25), pp. 47-71.

[12] “Social security, income inequality and growth”, *Journal of Pension Economics and Finance*, 2012 (11-1), pp. 53-70.

[13] Le Garrec G. (2014), “Increased longevity and social security reform: questioning the optimality of individual accounts when education matters”, *Journal of Population Economics*, DOI:10.1007/s00148-014-0522-z.

[14] This issue is well documented in the literature. See for example Cervellati M. and Sunde U. (2005), “Human capital, life expectancy, and the process of development”, *American Economic Review*, 95(5), pp. 1653-1672.

[15] “Why the social insurance budget is too large in a democracy”, *Economic Inquiry*, 1975 (13), pp. 373-388.

[16] “Pareto-improving social security reform”, *Geneva Risk and Insurance Review*, 1998 (23-2), pp. 119-125.

[17] “Why are more redistributive social security systems

smaller? A median voter approach", *Oxford Economic Papers*, 2007 (60), pp. 275-292.

[18] "Social security, inequality and growth", WP n°2005-22, OFCE/Sciences Po, December.

[19] "Social security systems, human capital, and growth in a small open economy", *Journal of Public Economic Theory*, 2012 (14-4), pp. 573-600.

How to read the Alstom case

By Jean-Luc Gaffard

The situation of Alstom has hit the headlines since the company executives announced their intention to sell the energy branch to General Electric and to carry out a restructuring that strongly resembles a unit sale. The government reacted strongly to what it saw as a *fait accompli*, seeking another buyer, namely Siemens, with a view to creating one or more European companies in a sector considered strategic, along the lines of Airbus – before it came round to the General Electric solution, which in the meantime had improved in terms of both the amount paid for the buy-out and the arrangements for the future industrial organization. These events, important as they are, should not obscure the more general fact of ongoing deindustrialization, which is taking the form, among others, of the break-up of certain large companies, and which is resulting from inconsistencies in the governance of what French capitalism has become today.

Deindustrialization is generally attributed either to competition from countries with low wages, and thus to excessive labour costs, or to insufficient innovative

investment, and thus to a lack of non-price competitiveness. The solutions sought in terms of public policy oscillate between reducing wage costs and supporting R&D, usually with little regard to the conditions of corporate governance. The emphasis is on the functioning of both the labour markets, with the aim of making them more flexible, and the financial markets, which are considered or hoped to be efficient, without really taking into account the true nature of the company. But a firm is part of a complex network of relationships between various stakeholders, including managers, employees, bankers, customers and suppliers. These relationships are not reducible to market relations encumbered with imperfections that generate poor incentives and that need to be corrected so as to ensure greater flexibility. They are part of more or less long-term contractual commitments between the various stakeholders in a company, which are exceptions to the state of pure competition, even though they are essential to the realization of the long-term investments that bring innovation and growth. The duration of these commitments is in fact the foundation for the average performance of the companies, the structuring of the industry and ultimately the industrialization of the economy.

Alstom’s troubles, following on the heels of the difficulties encountered by other firms like Pechiney and Rhône Poulenc that are no longer on the scene, reflect this organizational reality. With sales barely equal to one quarter of the figure for Siemens and one-fifth for General Electric, the size of the company and its various activities has been judged by its leaders to be largely insufficient to meet the demands of competition. With the agreement of the European Commission, the State already had to intervene back in 2004 to recapitalize the company so as to avoid bankruptcy. It then faced the obligation to hive off certain activities and cut jobs drastically. Today, the only way ahead is to carry out a new restructuring, with the hope of saving skills and jobs by integrating them into a larger, more efficient entity while

absorbing the accumulated debts. This cannot take the appearance of a final break-up that benefits one or another of the competitors who managed to develop the right strategies, far from the recommendations of those who fawned over what was once called the new economy. In this case, the beneficiary will be General Electric. This ultimate solution is taking place due to Alstom's inability to benefit in the recent or earlier period from the longer-term financial commitments that would have allowed it to implement an effective growth strategy.

This disappointment, on the heels of numerous others, reveals the inconsistency that has befallen French capitalism between the organization of its industry and of its financial system, which was criticized back in 2012 in a book by Jean-Louis Beffa (*La France doit choisir,* Paris: Le Seuil). The new financial model, inspired by the Anglo-Saxon model, no longer seems to respond to the needs of mature enterprises engaged in activities with investment needs that are substantial and long term and which are subject both to performance cycles related to fluctuations in demand and to the constraints of the innovation process. The ensuing lack of commitment was bound to lead to break-ups, but it would be wrong to equate this to an increased modularity of industrial production resulting from the introduction of new information and communication technologies and which would be valued by the financial markets, as the head of Alstom seemed to think in the late 1990s when advocating a company without factories.

Under these conditions, a recovery in production cannot take place through the invariably one-off specific interventions of the public authorities aimed more or less explicitly at creating national or European champions that are, after all, not very credible. What is needed are structural reforms to deal, not with the rules on market functioning, but with modes of governance, and in particular a revision of the way the financial system is organized.

These observations are developed in greater depth in "Restructurations et désindustrialisation : une histoire française", *Note de l'OFCE*, no. 43 of 30 June 2014.

Doesn't real estate capital really contribute to inequality?

By Guillaume Allègre and Xavier Timbeau

In a response to *Capital in the twenty-first century*, Odran Bonnet, Pierre-Henri Bono, Guillaume Chapelle and Etienne Wasmer (2014) attempt to show that the book's conclusions regarding an explosion in wealth inequality are "not plausible". The authors point out an inconsistency in Thomas Piketty's thesis: the model of capital accumulation is implicitly a model of the accumulation of productive capital, which is inconsistent with the decision to include real estate capital at its market value in measuring capital. If valued correctly, the ratio of capital to income would have remained stable in France, Britain, the United States and Canada, which contradicts the thesis of Piketty's work.

In *OFCE Briefing Note*, no.9/2015 ("Does housing wealth contribute to wealth inequality? A tale of two New York"), we respond that the authors minimize the contribution of housing to inequality. In particular, we do not believe that trends in real estate prices have "second order effects (actual distributional effects) that are attenuated". As is often the case, the disagreement is due in part to a lack of consensus

about what kind of inequality actually matters: inequality in wealth? Income? Consumption? The potentially divergent dynamics of these inequalities? The disagreement is also due to the type of model used. The authors use a dynastic model in which property is passed from parents to children and grandchildren. In this model, changes in real estate prices do not have any real effect. This model is not relevant to accounting for inequalities generated by property in a society where people are mobile and have different life projects from their parents.

The housing bubble could fuel the development of inequality. Home ownership in the world's metropoles is more and more becoming a closed club for the wealthy, which partitions young people between those with social, educational or financial capital, who can acquire property, and those who can only rent or move to less prosperous areas, with the consequence of further reducing their access to different types of capital. Would it not be better to build enough for everyone to find housing at a price that is in line with the amenities offered? Isn't it apparent that this latter situation is more egalitarian than the former?

For more on this, see: Allègre, G. and X. Timbeau, 2014 : *"Welcome to Nouillorc* : Le capital-logement ne contribue-t-il vraiment pas aux inégalités?", *Note de l'OFCE,* no. 42 of 25 June 2014.

Unemployment insurance for

the euro zone?

By Xavier Timbeau

In the latest publication of France's Treasury Department, *Lettre Trésor-Eco*, no. 132, June 2014 (Ministère des Finances et des Comptes publics and Ministère de l'Économie du Redressement productif et du Numérique), Thomas Lellouch and Arthur Sode develop the operating methods and the merits of a common unemployment insurance for the euro zone. They specify the main steps of how it would be applied, which would ensure neutrality between the Member States. They argue for harmonized employment and labour market policies, leading in the long term to a single contribution rate in the euro zone:

– "Harmonization at the euro zone level of an unemployment insurance component would provide the euro zone a new solidarity instrument capable of giving a social Europe real substance while ensuring greater stability of the zone as a whole…

– This common base could compensate *e.g.* those who are unemployed less than one year (the most cyclical component) at 50% of their past salary, with financing determined on a harmonized base (*e.g.* payroll). It would be supplemented by national compensation in accordance with the preferences of each state, thus ensuring the continuation of the current level of compensation…

– Modulating the contribution rate of each member according to its unemployment level, with regular updates based on past trends, would ensure *ex ante* budget neutrality between the Member States…

– In the longer term, and after the unemployment rates of the various Member States converge, a system marking greater solidarity between the Member States could be considered, with financing through a single contribution rate …".

New solidarity, but posing three problems …

Unemployment insurance functions as an important automatic stabilizer. Having a common system for the euro zone members would have made possible significant transfers during the crisis we have just been through. Based on the scheme proposed by the authors (pooling the most cyclical component), Spain could have benefited from almost 35 billion euros by end 2012, mainly from Germany and France. This would not be sufficient to cancel Spain's public deficit, but it would have kept down its level.

A system like this could play a major role in avoiding the sovereign debt crises that dry up a State's credit. It would introduce solidarity and neutral transfers during cycles, but would be responsive to the state of the cycle.

However, this proposal raises three problems: the first is that unemployment insurance systems are the fruit of a national social compromise that has won general acceptance and is consistent with the rest of the country's labour market policies, whether these are active policies or not. A European unemployment insurance component built on top of national systems could lead to confusion and to questions about the national balance. This could disrupt the social dialogue, since the social partners would have a potential resource for which they are not responsible, in addition to the issue of whether the European authorities or partner countries might also wish to have a say. Furthermore, unemployment insurance is often a sensitive subject, as was seen by the issue of entertainers and artists (*intermittents*) in France in early summer 2014.

This could be solved by limiting the sharing to macroeconomic transfers, independent of national arrangements. But, and this is the second problem, to ensure that transfers between states do not become permanent, the transfers need to be balanced over the business cycle. This requires a procedure for

identification of the cycle that the stakeholders agree on. The recent experiences of the crisis and the calculation of structural deficits show that this is far from the case today. Another option would be to "replenish" the system prior to using it by accumulating contributions over a number of years before a major downturn. It would suffice to limit use to what has been accumulated to resolve discrepancies. But then the system would be bereft of value in the face of a systemic crisis. The day the buffer collapses, the Kings would be as naked as before. At best the crisis is delayed, at worst it is aggravated.

A final option would be to give up balancing the transfers *a priori* (or by the mechanics of the way it operates), leaving it to polarize gradually one way or another and to ensure an asymptotic convergence. But in this case the system could lead to undesired structural transfers that could very well call it into question.

Spain for instance has high unemployment, well above its structural rate; entering into a transfer system based on the differences between current unemployment and structural unemployment could be done only on an equilibrium basis, or would run the risk of a long-lasting initial transfer.

This then raises the third issue, governance. It is difficult to design such a system without implying, at least potentially, significant transfers between States. How could such transfers be justified without a legitimate common representation? Furthermore, what could be done to avoid these transfers becoming an instrument for control of macroeconomic policy as a whole? The establishment of a banking union is a reminder of how key this problem is. Likewise, Spain's refusal to submit to the conditions set for a conventional assistance program (EU / IMF) clearly indicates that in the absence of legitimate and sincere solidarity, the beneficiaries of transfers will be as suspicious as the payers.

Why a negative interest rate?

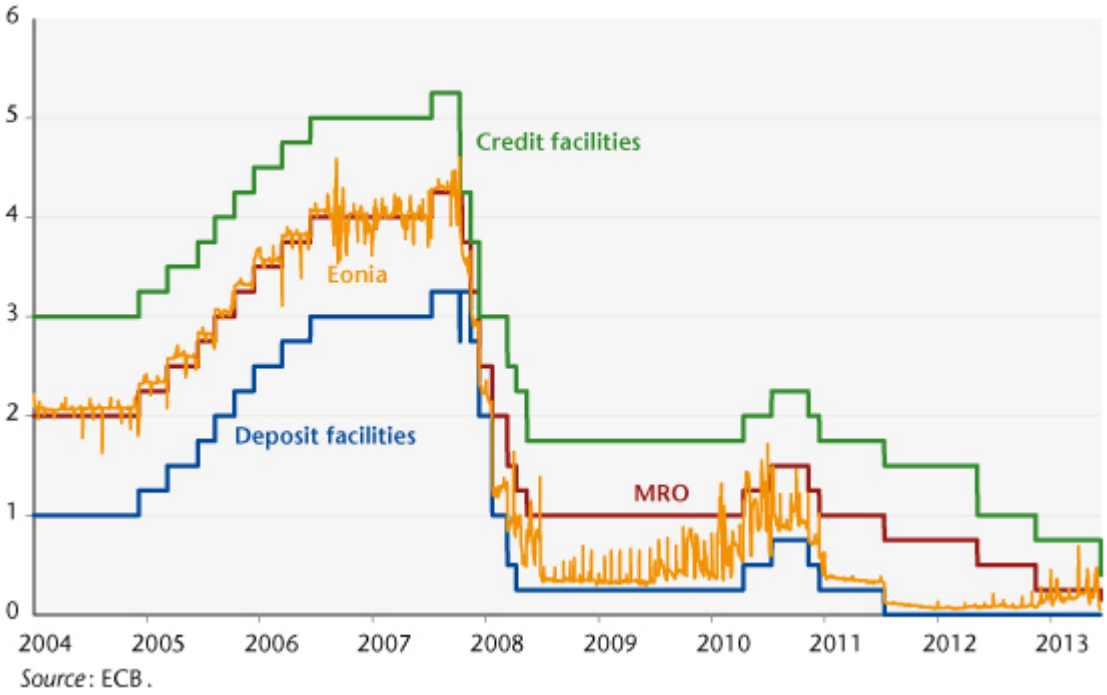
Christophe Blot and Fabien Labondance

As expected, on 5 June 2014 the European Central Bank (ECB) unleashed an arsenal of new unconventional measures. The aim is to curb deflationary tendencies in the euro zone. Among the measures announced, the ECB decided in particular to apply a negative interest rate to deposit facilities. This unprecedented step deserves an explanation.

Note that since July 2012, the rate on deposit facilities has been 0%. It now falls to -0.10%, meaning that a bank depositing cash at the ECB will have its deposit reduced by that rate. Before considering the repercussions of this measure, it is worth clarifying the role of deposit facilities. The ECB's activity is baed on loans to credit institutions in the euro zone through the channel of main refinancing operations (MRO) or long-term refinancing operations (LTRO). Prior to the crisis, these operations were conducted at variable rates based on an auction mechanism, but since October 2008 they have been conducted at fixed rates. The refinancing operation rates must allow the ECB to influence the rate charged by credit institutions for interbank loans (Euro OverNight Index Average rates, or Eonia) and, through this channel, the entire range of bank rates and market rates. To ensure the Eonia is not too volatile, the ECB provides the banks with two facilities: credit facilities, enabling them to borrow from the ECB for a period of 24 hours, and deposit facilities, enabling them to make cash deposits with the ECB for a period of 24 hours. In case of a liquidity crisis, the banks thus have a guarantee of being able to lend or borrow via the ECB, at a higher for credit facilities or a lower rate for deposit facilities. These rates can then be

used to regulate fluctuations in the Eonia, as shown in Figure 1.

Figure 1. Main ECB rates and EONIA rate

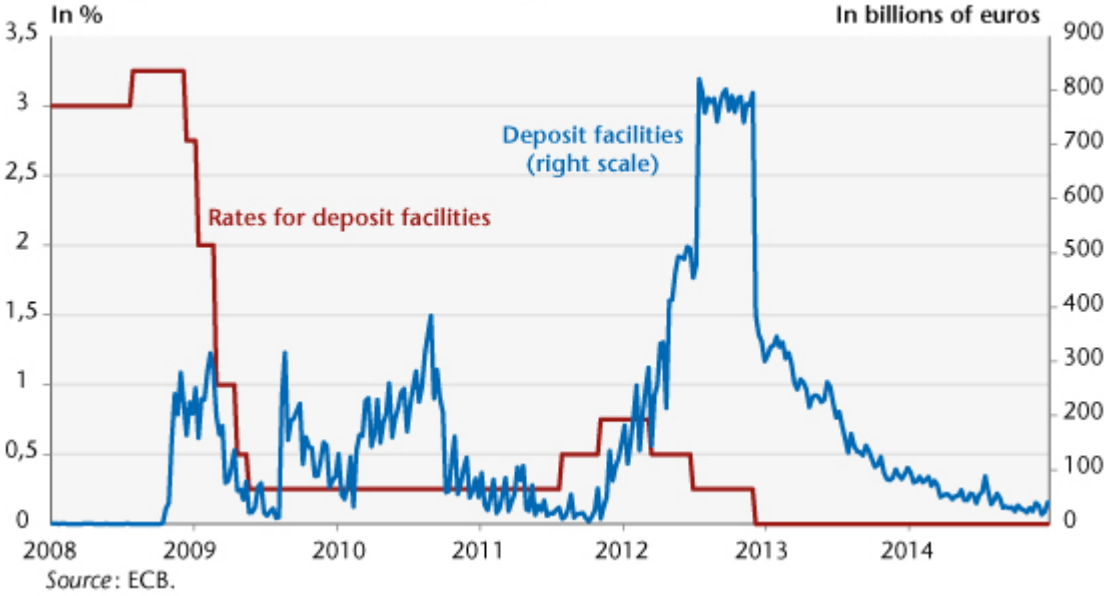


Source: ECB.

In practice, until the collapse of Lehman Brothers in September 2008, banks made little use of deposit facilities, indicating that the interbank market was functioning normally. The situation has radically changed since then, and the amount of deposits left with the ECB has fluctuated to a greater or lesser extent, depending on concerns over the sovereign bond crisis (Figure 2). The height of the crisis in spring 2012 coincided with a peak in the amounts deposited by the banks, which had excess liquidity. Over a period of three months, around 800 billion euros (equivalent to just under 10% of euro zone GDP), paid at 0.25%, were deposited by Europe's banks. In the context of fear of a euro zone collapse and uncertainty about the financial situation of financial and non-financial agents, the banks have been depositing poorly compensated sums with the ECB. They chose to do this rather than to exchange the excess liquidity in the money market or support activity by lending to companies or buying shares. It was not until

Mario Draghi's statement in July 2012 that the ECB would do "whatever it takes" to support the euro zone that confidence returned and these sums fell. It was also then that the rate went down to 0%, further reducing the incentive to use the deposit facilities. The level of deposits fell by half, from 795.2 billion euros to 386.8 billion. Since then, they have declined gradually, but are still high, especially given that they receive no interest. In the last week of May 2014, there were still 40 billion euros in deposits (Figure 2).

Figure 2. Rates and levels of deposit facilities with the ECB



Source: ECB.

This situation prompted the ECB to set a negative rate in order to encourage commercial banks to reallocate this money. We can be sure that once the negative rate applies, the level of deposits will quickly drop to zero. Even so, this will mean an impulse of only 40 billion euros, and further action will be needed to support the real economy. On its own, this step by the ECB has certainly not convinced the markets that it has dealt with the situation.

The ECB has thus once again demonstrated its proactive approach to curbing the risks facing the euro area. Its reaction can be compared to the response of Europe's other institutions, which have struggled to fully take on board the

depth of the crisis. Looking outside the euro zone, it is noteworthy that the US Federal Reserve and the Bank of England moved with greater speed, even though the risk of deflation was lower in the United States and the United Kingdom. This active approach is perhaps no stranger to the renewed growth seen in these countries. The ECB's action is therefore welcome. Now we need to hope that it will stave off the risk of deflation hanging over the euro zone, a risk that could have been avoided if the euro zone's governments had not generally adopted austerity policies, and if the ECB had taken less of a wait-and-see attitude.

The French fiscal devaluation, or the French Achilles strives to catch the German tortoise

By Sarah Guillou

In the 1980s, under the European Monetary System (EMS), France repeatedly carried out currency realignments – in 1981, 1982, 1983 and 1986 – that were tantamount to devaluations. For its part, Germany had – already! – adopted a rigorous strategy of competitive disinflation, which, it was said at the time, led to disciplining its companies, which could not rely on the temporary advantages gained by currency devaluations rendering its exports more competitive. They were compelled instead to make investments so as to build up their future non-price competitiveness. Which they did…

During this same period France's devaluations left it with

imported inflation and companies that had less incentive to invest in non-price competitiveness. The peg to the deutsche mark and then the Monetary Union were presented as ways to break out of this endless strategy of inflationary devaluations. France belatedly wound up adopting Germany's strategy of competitive disinflation and renouncing currency devaluations, with a strong franc strategy characterizing the 1990s.

Today, the terms of the debate seem reversed, even though France is still in the position of Achilles chasing the German tortoise. A new form of competitive devaluation is in favour: not based on the exchange rate, since the euro is part of a market mechanism that determines its value, but one that involves a reduction of the labour costs borne by business, funded in part by an increase in Value Added Tax (VAT). This is called a fiscal devaluation. In an article entitled "Changer de Modèle", P. Aghion, G. Cette and E. Cohen defend this on the grounds that it is necessary to "think differently"[1]. The government is also implementing this through the Competitiveness and employment tax credit (CICE) and its plans in the 2015-2017 Stability Pact to cut social security charges.

How is a reduction in the cost of labour comparable to a "fiscal" devaluation? A devaluation, it should be recalled, leads to lowering domestic prices relative to foreign prices as the value of the domestic currency is decreased relative to a unit of foreign currency. A devaluation of the euro, if it were possible, would mean a higher amount of euros to buy a dollar; consequently, a European car at 10,000 euros would go for fewer dollars and thus become more attractive to an American buyer who would still be holding the same amount in dollars in his wallet. More generally, a devaluation ensures that the production cost of domestic firms becomes cheaper relative to their foreign competitors, so that the former have a cost advantage and become more competitive. Hence the term

“competitive devaluation”.

By lowering companies’ labour costs, it is assumed that the prices of exported products (and the goods and services included) will be lowered – despite the fact that labour costs do not cover the full cost of production. By increasing VAT on all products, the price of imported products increases as well. The devaluation effect – that is to say, the reduction in domestic prices relative to foreign prices – will take place only if the competitors’ prices remain constant – in other words, only so long as the competitor does not implement the same policy at the same time! Furthermore, this will really have an impact on competitiveness if the price differential existing prior to the fiscal devaluation is more than offset by the reduction in labour costs.

Two further questions arise. First, we do not know the price elasticity of the labour costs. In other words, we do not know the extent to which firms pass lower employer costs onto prices. Second, labour market studies show that wages have a positive elasticity to labour costs. In other words, in the medium term and especially for higher wages, cutting payroll taxes on wages will result in increases in pay.

The medium-term effects are then drawn on to defend the fiscal devaluation policy. The reduction in employer contributions initially gives some manoeuvring room, or rather a cash flow, that then leads companies to invest, precisely because of the recovery in their margins. Incidentally, this excludes the previous effect, *i.e.* a reduction in prices, or in any case will have a maximum impact if the price drop does not occur. It is possible however that higher margins are a side effect of a reduction in prices, which pushes up sales, while increasing the profit per unit in a cost structure with increasing returns to scale, even if this affects only a few companies. Now suppose that the margins generated translate into investments. This could improve the companies’ non-price competitiveness (the intrinsic product quality) in the future.

This second aspect of fiscal devaluation is often put forward in parallel with the observation that French companies, in particular manufacturers, suffer both from crippling tax and regulatory conditions that handicap their international competitiveness and from a lack of product quality. But here macroeconomic analysis can no longer be invoked, and with respect to non-price competitiveness we know much less about the microeconomic dynamics due to the reduction of charges.

Let's conclude by considering the effects expected over the longer term. As pointed out by Aghion *et al.* in a footnote on page 58, the effects of a fiscal devaluation are temporary. Indeed, as with a currency devaluation, a fiscal devaluation will lead to an increase in wages due to the dynamics described above. Moreover, if the financing of the reduction in charges results in reducing households' purchasing power due to the VAT hike, then the latter could also demand an increase in their nominal wages. The initial reduction in relative prices will be wiped out over the longer-term by the rise in wages. The authors could draw on the quasi-deflation in Europe to deal with this side effect of a devaluation. They argue instead that the interval will give a new impetus to business. In fact, what the authors defend is not the direct effect of the devaluation but its indirect effect on the level of investment due to the increase in margins.

However, this is also undoubtedly the aim of the CICE tax credit, as it targets taxes and not employer charges directly, unlike the Responsibility Pact which is aimed primarily at employment. By granting a tax credit, the CICE seeks to generate margins for investment in order to develop non-price competitiveness. The problem is that an improvement in competitiveness is far from guaranteed (see Guillou and Treibich, *Note de l'OFCE, no. 41 of 19 June 2014* [in French] on the CICE and competitiveness), while the dual objective of this tax credit (employment and competitiveness) will complicate companies' decision-making.

To pick up on the suggestion by Aghion *et al*., the memory of the French competitive devaluations of the 1980s could lead us to "really think differently", that is to say, to stop applying policies that others have already applied. To think otherwise would mean to anticipate future competition rather than to replicate a policy that other countries have already implemented, which is obviously not so simple. And the interest of the work of Aghion *et al*. is in embracing a set of reforms that, taken **simultaneously**, could put France on a **different** trajectory.

But to undertake a fiscal devaluation while all the countries of Europe potentially will do or actually have done the same would generally be insufficient and even dangerous if it leads to a race to social dumping. It would be justified only because European integration requires a certain alignment of companies' cost conditions, and thus due to fiscal competition. Repeatedly lagging behind fiscally in an integrated European market is very costly, it is true, but the French Achilles will not catch the German tortoise that has set off early in the field of competitiveness by using the weapon of a fiscal devaluation.

A better strategy would be to get ahead of the game. In the absence of being able to harmonize companies' fiscal conditions, it is necessary to anticipate. Germany anticipated competition from the emerging countries and implemented social VAT, or a fiscal devaluation. A policy that would change the "model" should anticipate future competition in Europe and around the world. However, this competition will not be over the cost of labour. Proof of this lies in the approach of countries with a low relative cost of labour that are more and more replacing labour with capital. China for instance has already become the world's largest purchaser of industrial robots (*Financial Times,* 1 June 2014). Future competition will be structured around the pursuit of two trends already taking place: the division of the production process as it is being

accelerated by technological possibilities, and the replacement of labour by technology. Most value added will be focused upstream of production in design and / or downstream in related services. In other words, the government also needs to take an interest in the cost of capital, particularly in terms of the opportunity cost of investment.

The question of labour costs concerns the employment of less-skilled workers (obviously of great importance *per se*), but it is not at the heart of the problem of competitiveness. In attempting to solve the problem of the day, the cost of labour, there is a risk of not making the investments that ensure the future. Could France stop being the Achilles that chases the German tortoise? One way to resolve Zeno's paradox would be to invent a government that maintains continuity. Otherwise, we need to do away with a strategy of catching-up and opt for a more winning "model".

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[1] This is in fact the title of the first chapter of the book by P. Aghion, G. Cette and E. Cohen, *Changer de modèle*, Ed. Odile Jacob, 2014.

What do we know about the end of monetary unions?

By Christophe Blot and Francesco Saraceno

The European elections were marked by low turnouts and

increasing support for Eurosceptic parties. These two elements reflect a wave of mistrust vis-à-vis European institutions, which can also be seen in confidence surveys and in the increasingly loud debate about a return to national currencies. The controversy over a country leaving the euro zone or even the breakup of the monetary union itself started with the Greek crisis in 2010. It then grew more strident as the euro zone sank into crisis. The issue of leaving the euro is no longer taboo. If the creation of the euro was unprecedented in monetary history, its collapse would be none the less so. Indeed, an analysis of historical precedents in this field shows that they cannot serve as a point of comparison for the euro zone.

Although there seem to be a number of cases where monetary unions split apart, few are comparable to the European Monetary Union. Between 1865 and 1927, the Latin Monetary Union laid the foundations for closer monetary cooperation among its member states. This monetary arrangement involved a gold standard regime that established a principle of monetary uniformity with a guarantee that the currencies set up by each member state could move freely within the area. Given the absence of a single currency created *ex nihilo* as is the case today with the euro, the dissolution of the Union that occurred in 1927 holds little interest for the current debate. In fact, experts in monetary unions instead characterise this type of experience as “areas of common standards”. A study in 2007 by Andrew Rose (see here) assesses 69 cases of exits from a currency union since the Second World War, which would indicate that there is nothing unique about the break-up of the euro zone. However, this sample of countries that have left a currency union cannot really be used to draw meaningful lessons. A large number of these cases involve countries that gained their political independence in the process of decolonization. These were also small developing economies whose macroeconomic and financial situations are very different from those of France or Greece in 2014. The most

recent experience was the break-up of the rouble zone, following the collapse of the USSR, and of Yugoslavia, both of which involved economies that were not very open commercially or financially to the rest of the world. In these circumstances, the impact on a country's competitiveness or financial stability of a return to the national currency and any subsequent exchange rate adjustments are not commensurate with what would happen in the case of a return to the franc, the peseta or the lira. The relatively untroubled separation of the Czech Republic and Slovakia in 1993 also involved economies that were not very open. Finally, the experience most like that of the EMU undoubtedly involves the Austro-Hungarian Union, which lasted from 1867 to 1918. It had a common central bank in charge of monetary control but no fiscal union [1], with each State enjoying full budgetary prerogatives except with regard to expenditure on defence and foreign policy. It should be added that this Union as such could not go into debt, as the common budget had to be balanced. While the Union established trade and financial relations with many other countries, it is important to note that its break-up occurred in the very specific context of the First World War. It was thus on the ruins of the Austro-Hungarian Empire that new nations and new currencies were formed.

It must therefore be concluded that monetary history does not tell us much about what happens at the end of a monetary union. Given this, attempts to evaluate a scenario involving an exit from the euro are subject to a level of uncertainty that we would call "radical". While it might be possible to identify certain positive or negative results of exiting the euro, going beyond this to give specific calculations of the costs and benefits of a break-up comes closer to writing fiction than to robust scientific analysis. As for the positive side, it can always be argued that the effects on competitiveness of a devaluation can be quantified. Eric Heyer and Bruno Ducoudré have performed such an exercise for a

possible fall in the euro. But who can say how much the franc would depreciate in the case of an exit from the euro zone? How would other countries react if France left the euro zone? Would Spain leave too? In which case, how much would the peseta fall in value□□? The number of these variables and their potential interactions lead to such a multiplicity of scenarios that no economist can foresee the result in good faith, let alone calculate it. The exchange rates between the new European currencies would once again be determined by the markets. This could result in a panic comparable to the currency crisis experienced by the countries in the European Monetary System (EMS) in 1992.

And what about the debt of the private and public agents of the country (or countries) pulling out? The legal experts are divided about what share would be converted by force of law into the new currency (or currencies) and what would remain denominated in euros, which would add to agents' debt burden. So it is likely that an exit would be followed by a proliferation of litigation, with unpredictable outcomes. After the Mexican crisis in 1994, and again during the Asian crisis in 1998, both of which were followed by devaluations, there was an increase in agents' debt, including government debt. Devaluation could therefore increase the problems facing the public finances while also creating difficulties for the banking system, as a significant share of the debt of private agents is held abroad (see Anne-Laure Delatte). The risk of numerous private defaults could therefore be added to the risk of default on the public debt. How would one measure the magnitude of such impacts? Or the increase in the default rate? What about the risk that all or part of the banking system might collapse? How would depositors respond to a bank panic? What if they seek to prop up the value of their assets by keeping deposits in euros and opening accounts in countries that they consider safer? A wave of runs on deposits would follow, threatening the very stability of the banking system. It might be argued that, upon regaining autonomy for our

monetary policy, the central bank would implement an ultra-expansionary policy, the State would gain some financial leeway, put an end to austerity and protect the banking system and French industry, and capital controls would be re-established in order to avoid a bank run … But once again, predicting how such a complex process would unfold amounts to astrology … And if the example of Argentina [2] in late 2001 is cited to argue that it is possible to recover from a currency crisis, the context in which the end of the "currency board" took place there should not be forgotten[3]: a deep financial, social and political crisis that does not really have a point of comparison, except perhaps Greece.

In these circumstances, we believe that attempting to assess the cost and benefits of leaving the euro leads to a sterile debate. The only question worth asking concerns the political and economic European project. The creation of the euro was a political choice – as would be its end. We must break with a sclerotic vision of a European debate that opposes proponents of leaving the euro to those who endlessly tout the success of European integration. There are many avenues open for reform, as has been demonstrated by some recent initiatives (Manifesto for a euro political union) as well as by the contributions collected in issue 134 of the *Revue de l'OFCE* entitled "Réformer l'Europe". It is urgent that all European institutions (the new European Commission, the European Council, the European Parliament, but also the Eurogroup) take up these questions and rekindle the debate about the European project.

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[1] For a more detailed analysis of comparisons that can be drawn between the European Monetary Union and Austro-Hungary, see Christophe Blot and Fabien Labondance (2013): "Réformer la zone euro: un retour d'expériences", *Revue du Marché Commun et de l'Union européenne*, no. 566.

[2] Note that Argentina was not in a monetary union but rather under what was called a "currency board". See here for a classification and description of various exchange rate regimes.

[3] See Jérôme Sgard (2002): "L'Argentine un an après: de la crise monétaire à la crise financière", *Lettre du Cepii*, no. 218.

What options for the European Central Bank?

By Paul Hubert

All eyes are now on the ECB, whose recent statements indicate that it is concerned about the risk of deflation in the euro zone. The further downturn in inflation in May to 0.5% year on year is a reminder that this risk is increasing. This could lead the ECB to take action at the monthly meeting of the Board of Governors being held today, or in the months to come. This post provides a brief summary of the possible options available to the ECB.

1. To lower the key interest rate (main refinancing operations rate, the MRO rate), which is currently 0.25%. The consensus in the financial markets is for a reduction of around 10 to 15 percentage points, which would further cut financing costs for banks that are still dependent on ECB liquidity. However, this would have a marginal impact on the rates of refinancing operations (MRO and long-term refinancing operations, or LTRO), which would not have much influence on financing

conditions and thus not much benefit for Spanish and Italian banks (the main users of this option).

2. To lower the deposit facility rate from zero to a negative rate (again by 10 to 15 percentage points). This option has been largely anticipated by the financial markets. A negative interest rate on deposits should also be accompanied by a change in the policy on the ECB's excess reserves by capping the amount of commercial banks' excess reserves on the ECB's balance sheet or by applying the same negative rate to excess reserves. Otherwise the banks would simply transfer their funds from deposit accounts to excess reserves. A combination of these two policies should lead to a lower Euro OverNight Index Average (EONIA) rate of between zero and 0.05%. The incentive for banks to keep their cash at the ECB would thus be reduced, thereby stimulating the distribution of credit to the non-financial sector.

3. An extension of the policy of providing liquidity in unlimited amounts at a fixed rate (fixed-rate full allotment) from mid-2015 to late 2015 or even mid-2016 is considered by most to be an easy and quick option that would provide additional assurance on the markets before the LTRO deadlines in early 2015. This kind of measure would ensure the liquidity of the banking system but its impact on activity and inflation could be limited, in so far as the banks would prefer to place their cash with the central bank.

4. An ECB announcement of the end of sterilization through the Securities Markets Programme (SMP), a programme for purchasing the sovereign bonds of euro zone countries in difficulty. The markets seem divided on this issue. The ECB has not managed to attract sufficient demand to completely sterilize this operation in the last eight weeks. This would add 164.5 bn euros (the SMP target amount) of liquidity to the system and take the EONIA rate to zero or even into negative territory, and could reduce the volatility that has appeared in recent months. This measure would therefore also cut the interbank

refinancing rate, which would more or less amount to the first option.

5. A conditional and targeted LTRO programme could see the light of day. This would consist of copying the Funding for Lending Scheme (FLS) set up by the Bank of England, in which cheap financing is arranged for banks in exchange for granting new loans to the real economy. However, it would take time to implement this, and even more before there is any real impact on the economy. It would nevertheless probably be the most effective way to stimulate activity, because it would go beyond interbank operations in influencing refinancing conditions.

In any event, the economic situation in the euro zone for both the business outlook as well as for the situation on the labour market calls for a strong response from the ECB so as to ensure that the euro zone does not incur deflation. The effect of the signal may be just as important as the measure actually implemented by the ECB. By demonstrating in today's meeting that it is active, the ECB would show its determination to fight against the risk of deflation, which could at least change agents' expectations. While any action by the ECB would be welcome, it is still the case that the current economic situation is also the result of the restrictive fiscal policies that have hit activity (see here).

Why read Piketty?

By Jean-Luc Gaffard

Thomas Piketty's book *Capital in the twenty-first century* has met with an extraordinary reception, one that is commensurate with both the empirical work performed and the political issue

addressed, that is to say, the spectacular increase in inequality in the United States. Paul Krugman and Joseph Stiglitz, both of whom are concerned about current trends in American society that they consider are threatening democracy, believe Piketty's work confirms their fears.

Armed with an impressive mass of data and a solid historical knowledge reinforced by a reading of the great novels of French and English literature, Piketty foresees the advent of a second *Belle Epoque*, the decades-long period preceding the First World War. This would mean a return to a patrimonial capitalism based on inheritance, when income and capital are concentrated in the hands of the top percentile of the population and the ratio of capital to income rises significantly. More fundamentally, Piketty highlights the existence of a longstanding trend towards stagnation and rising inequality, which is reflected in a rate of return on capital that is sustainably higher than the economy's rate of growth, a little like Marx insisted on the existence of a tendency for the rate of profit to fall. The twentieth century, and in particular the period following the Second World War, was characterized by strong growth associated with decreases in inequality and in the importance of capital relative to income – but this period was merely a parenthesis that is now closed. The thesis defended is that capitalist society has returned to low growth and rising inequalities fuelled more by the transmission of wealth than by the remuneration of individual talent.

The book is nevertheless ambivalent. There is a gap between the wealth of data collected and the simplicity of the theory that is supposed to account for it. On the one hand, an overly simple, essentially a-institutional model adopts a growth rate that is ultimately exogenous and ignores the heterogeneity of capital, making distribution a technical given that does not feed back into growth. On the other hand, the wealth of the data and the insights associated with it encourage reflection

about the ins and outs of the distribution of income and wealth, returning it to its central place in economic theory and restoring its social dimension.

A belief runs through the book: that, regardless of what economic policies are implemented, growth is again returning to a low level because there is no longer any catch-up going on and potential productivity gains are largely exhausted. Inheritance then begins to play a key role in the distribution of wealth and feeds the rise of inequality. This fundamental pessimism justifies the simplicity claimed for the theoretical explanation. If this pessimism is to be shared, however, the foundation needs to be improved by examining the causes and effects in the formation of rent and by breaking with a neo-classical analysis of growth that is without any real relevance to the subject at hand. There is nothing natural about the evolution of the distribution of income and wealth, which depend on political choices and social norms. The question, then, is whether the choices and norms of the years of the *Belle Epoque* still have any meaning, and whether policy can still counteract the forces of what must be called decline that threaten modern capitalist societies.

Reading Piketty thus gives rise to an implicit challenge: to develop an analysis that, following an intuition that we owe to the classical economists, is based on the idea that the growing importance of rent, as distinguished from profit, would fuel an increase in the purchase of nonperforming assets or luxury goods at the expense of the accumulation of capital, and would thereby constitute an obstacle to growth.

These various issues are examined in the *Note de l'OFCE*, no. 40 of 2 June 2014, *"Le capital au XXI^{e} siècle : un défi pour l'analyse"* [*Capital in the twenty-first century : a challenge for analysis*], which follows on from the previously published working document by Guillaume Allègre and Xavier Timbeau (see the blog here).

What is a weaker euro likely to mean for the French economy?

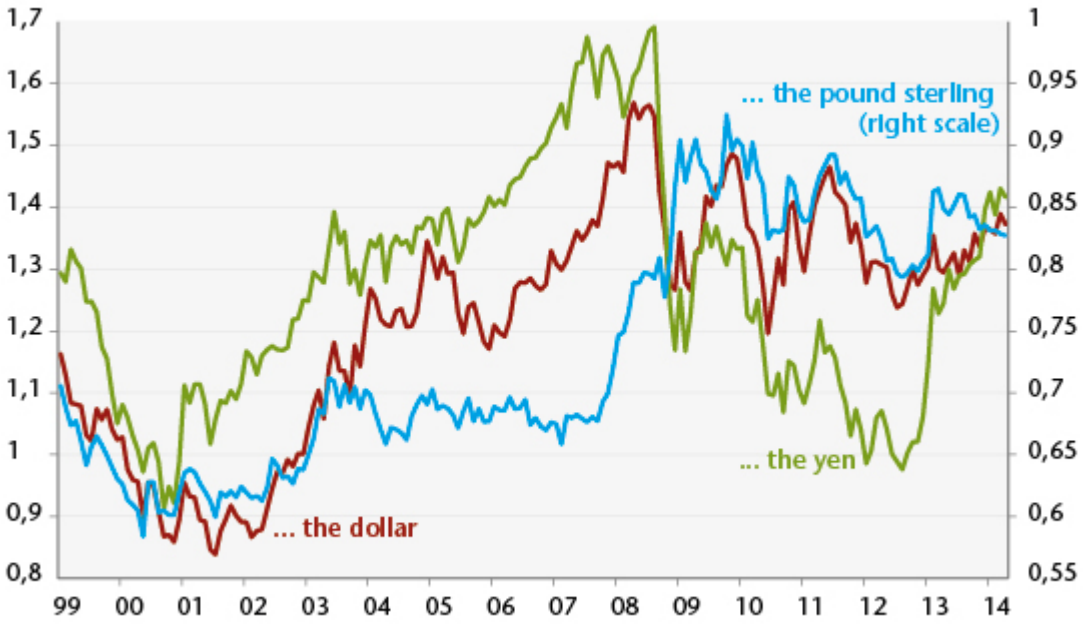
By Bruno Ducoudré and Eric Heyer

Faced with the rising risk of deflation in the euro zone, which has been reinforced since mid-2012 by the continued appreciation of the euro against other currencies, the heads of the European Central Bank have begun to change their tone in their communications with the financial markets: they are now evoking the possibility of conducting a new round of quantitative easing. These measures are likely to lower the exchange rate of the euro. This would provide valuable support for the euro zone economies by shoring up their price competitiveness vis-à-vis competitors outside the zone, in a context where fiscal consolidation policies will continue to dampen the growth expected in the zone in 2014 and 2015. What are the likely consequences for the French economy from reducing the euro's value against other currencies? We briefly review past episodes of exchange rate changes, and then present the impact expected from a 10% depreciation of the euro against other currencies using the *emod.fr* model. These effects are more moderate than those projected by the government.

Quantitative easing measures have been used extensively by the US Federal Reserve, the Bank of England and the Bank of Japan. Since mid-2012, the balance sheets of these three banks has continually increased, by respectively 6.5 percentage points of GDP, 1.3 GDP points and 15.3 GDP points. During this same period, the ECB balance has on the contrary declined by 8.4

GDP points. This difference in strategy has led to a continued rise in the strength of the euro: now at 1.38 dollars, the euro has seen its value against the dollar increase by 12% since June 2012. During the same period, the single currency has appreciated 49% against the yen and about 3% against the pound sterling (Figure 1).

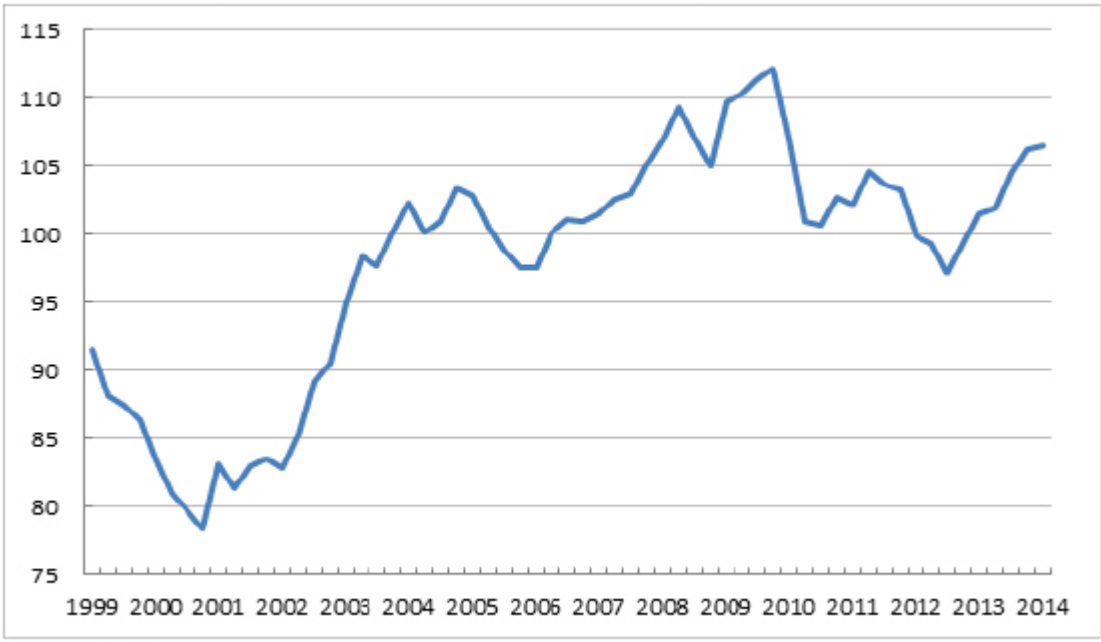
Figure 1. Exchange rate of the euro against...



Source : Datastream.

The nominal effective exchange rate of the euro, which weights the different exchange rates depending on the structure of trade in the euro zone, has thus appreciated by 9.5% since the third quarter of 2012 (Figure 2). This appreciation, combined with austerity policies and the competitive disinflation carried out within the euro zone, has held down GDP growth in the zone, which was negative in 2012 and 2013, as well as inflation. The absence of inflationary pressures and the past appreciation of the euro have now given the ECB leeway to try to influence the course of the euro against other currencies.

Figure 2. Nominal effective exchange rate of the euro



Source : OECD.

What would be the impact of a devaluation of the euro against all currencies?

The depreciation of the euro would have a dual effect:

– **An income effect**: a weak euro would increase the prices of imports. This would result in higher energy costs, a rise in companies' prices of production and a loss of household purchasing power;

– **A substitution effect**: a weak euro would decrease the prices of exports and increase their volume. Depreciation would also decrease the competitiveness of rival manufacturers, causing a decline in imports in favour of domestic production.

These opposite effects would apply only to trade outside the euro zone. Trade with our European partners would not be directly impacted, as the prices of imports and exports to and from this area would remain unchanged. On the other hand, intra euro zone trade would be impacted by a weaker euro. But this involves the channel of addressed demand.

Table 1. Impact on the French economy of a 10% depreciation in the exchange rate of the euro against all currencies combined

(Difference with the reference scenario in %)	n	n+1	n+2	n+8
GDP	0,3	0,4	0,5	0,0
Total waged employment (1000s)	22	53	74	34
Household consumer prices	0,9	1,4	1,9	3,9
Public financing capacity (% of GDP)	0,0	0,2	0,3	0,2

Note: The euro's depreciation would be favourable to short-term activity due to an improvement in France's price competitiveness relative to countries outside the euro zone. The positive impact of the euro's depreciation on the activity of our euro zone partners and the negative impact on our partners outside the zone are taken into account.
Source : emod.fr

As is summarized in Table 1, a 10% depreciation of the euro against all currencies leads to a gain in price competitiveness for French exports vis-à-vis the rest of the world. Other countries in the euro zone would benefit from the same gain in competitiveness across all export markets. In this case, the impact on activity would amount to 0.3% in the first year, 0.5% after three years, and none after nine years. The increase in demand due to this improvement in the activity of our European partners would be broadly offset by a reduction in demand addressed to France from the rest of the world. As for the labour market, this depreciation would create 22,000 jobs in the first year and 74,000 jobs after 3 years. The public deficit would in turn improve by 0.3 GDP point within 3 years.

These results, while more moderate than those published by the DG Treasury[1], are nonetheless significant and are welcome in an economic situation like today's that is marked by sluggish growth and the risk of deflation. A depreciation of the single currency would also undercut the process of competitive deflation engaged in by countries in the euro zone.

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[1] The publication of the DG Treasury argues that a 10% decrease in the effective exchange rate of the euro (against all currencies) would do the following: increase our GDP by

0.6 percentage point of GDP in the first year and 1.2 GDP points after three years; create 30,000 jobs in the first year and 150,000 jobs within three years; and reduce the government deficit by 0.2 GDP point in the first year and 0.6 GDP point after three years.