



Ultra-Low Interest Rates: Symptom and Opportunity

Les notes du conseil d'analyse économique, no 36, December 2016

Largely global and European determinants, such as monetary policy, a slowdown in productivity, and excessive demand for “risk-free” assets, have led France to currently experience ultra-low interest rates. These underlying causes are prior to the global crisis, and may be long-lasting. In an economy characterised by weak demand, low interest rates are beneficial to encourage consumption and investment, as well as to limit indebtedness issues. However, this has been insufficient to put the European economy back on the growth path. More importantly, if the situation were to continue, European economies would be subject to financial risks inherent to ultra-low interest rates. Unconventional monetary policies raise asset prices which fuel the risk of speculative bubbles; in addition the financial sector may be weakened due to a reduction in its interest margin. Financial institutions are caught between a low return on assets and, on the liability side, rigid requirements to remunerate client deposits. In France, competition from regulated savings adds further strain to the sector. The situation is not yet alarming, but it should be carefully monitored by supervisors.

French public authorities, followed by non-financial corporations benefited most from the steady fall in interest rates initiated in 2007, both sectors being net debtors. By contrast, financial businesses and households as a whole

have borne the costs, both being net creditors. In particular, the wealth gap has widened among households, even if first-time buyers' ability to access property at the end of 2015 had returned to its level of the end of the 1990s.

Ultra-low interest rates are both the symptom of a European economy stuck in a low growth trap, and an opportunity for France to refocus public expenditure towards a long term horizon and reform savings policies.

At the European level, this Note proposes to simplify the Procedure for macroeconomic imbalances, so that countries with excess savings support more actively aggregate demand, whilst those with a deficit, like France, focus on their competitiveness. The authors also propose to extend the Juncker Plan to investment in human capital, and to boost incentives to invest in energy transition *via* a clear pricing scheme of CO₂ emissions.

Regarding France, the ultra-low interest rates period is an opportunity to finance public administration modernisation plans backed with solid and independent governance in particular for local authorities. The ultra-low interest rates period also highlights the need to adapt public policies on saving, allowing the financial system to offer more adapted solutions, balancing more efficiently yield, liquidity, and security.

This Note is published under the sole responsibility of its authors

^a OFCE, Sciences po, CNRS and Member of the CAE.

^b AXA, Paris School of Economics (PSE) and Associated Member of the CAE.

^c Policy and Strategy Division, EIB and Member of the CAE.

In the autumn of 2016, the French government borrowed at five-year maturity at negative rates on financial markets, and at ultra-low rates for longer maturities. Large French corporations have also been able to borrow at negative rates on markets, whereas households borrow (or renegotiate previous borrowings) at rates below 2%. Can such a situation last? Is it pathological, or does it offer an opportunity for the French economy?

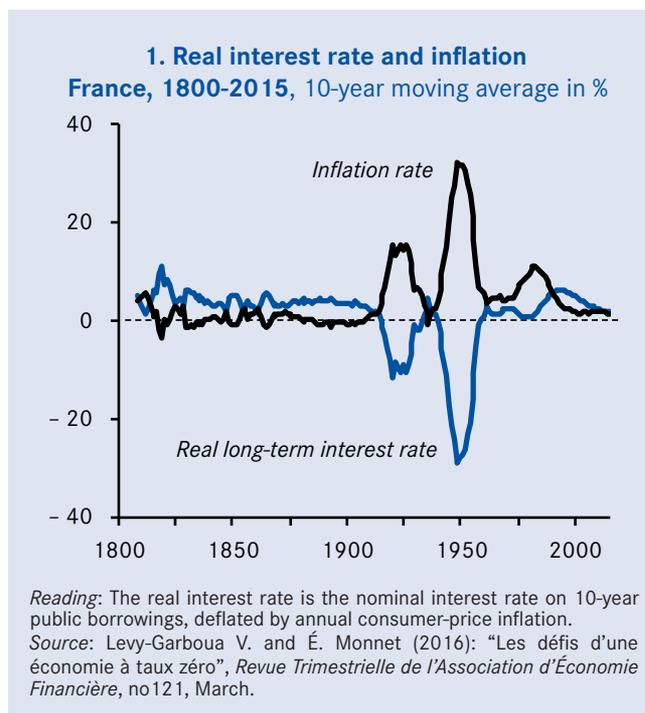
Interest-rate determinants are largely European and global: monetary policies, productivity slowdown, and excess saving. In the short term, French economic policy has little effect on rates, whereas European monetary policy plays a more significant role. In the longer term, public-borrowing rates are of course determined by the creditworthiness of the French government. However, provided that the latter is not called into question, those rates remain essentially determined by global and European factors.¹ In Europe, ultra-low interest rates are the symptom of a depressed economy in several Eurozone countries, whether it is a matter of aggregate short-term demand or long-term growth outlook. However, for France, low interest rates offer a historic opportunity to accelerate the transformation of public administrations and to re-examine public policies regarding household savings.

Low real interest rates: a global and European phenomenon

In the past, France has already experienced episodes of low or even negative real interest rates (graph 1). However, it is the first time in two centuries that low real interest rates are combined with a very weak inflation, and not with an inflationary push. Since the start of the 1990s, the simultaneous fall in nominal interest rates, inflation rates, and real interest rates has not been specific to France or to the Eurozone (graph 2): the roots of that phenomenon are above all global, and are prior to the 2008 crisis.

In theory, the real interest rate equalises the savings offer and the demand for funds for public and private investment. International capital mobility allows striking this balance at the global level. The excess demand for assets deemed “safe” is the key structural phenomenon since the 1990s and especially since the 2008 crisis, that lead to an ultra-low or even negative “neutral” real interest in the Eurozone (box 1).²

To avoid deflation and to anchor short- and long-term nominal interest rates at ultra-low (or even negative) levels, central banks reacted by means of highly expansionary monetary



policies. First by lowering their interest rates, then by implementing various unconventional policies whose effects will outlast the duration of a traditional economic cycle (box 2). These bold actions contributed to lower nominal interest

The authors would like to thank Aurélien Eyquem and, in particular, Kevin Beaubrun-Diant, scientific advisers at the CAE, for their valuable help in drafting this Note. They would also like to thank Amélie Schurich-Rey, research assistant at the CAE, for her documentation contribution and Jean Boissinot for his opinions, as well as Vivien Levy-Garboua and Éric Monnet for providing historical series.

¹ In this note, we do not look at the various risk-based rates applied to businesses, since these risks follow a different logic.

² The “neutral” real interest rate is the one that equalises funds supply and demand at the level corresponding to full employment. Holston *et al.* (2016) consider that it has been negative for the eurozone as a whole since 2012, whereas it is about 0.5% in the USA and 1.5% in the United Kingdom, *cf.* Holston K., T. Laubach, and J. Williams (2016): “Measuring the Natural Rate of Interest: International Trends and Determinants” in *NBER International Seminar on Macroeconomics 2016*.

1. The global determinants of real interest rates

Beyond the effects of monetary policies, structural factors that may have affected the global supply and demand of funds since the 1990s, as well as their effect on real interest rates, are summarised here. The productivity slowdown in advanced economies since the 1990s has mechanically reduced the yield of productive investment and thus its volume. However, the long-lasting nature of that change remains controversial.^a The fall in investment in advanced economies has been balanced out by a rise in emerging and developing economies, such that global investment has remained relatively stable at about 25% of world GDP.^b For their part, world savings have been supported by the rise of the share of world population in age to save, the insertion into the world economy of an emerging area with strong savings (especially after the Asian crisis of 1997), the rise of inequality in the world, and the increase of uncertainty in the face of which savers adjust their behaviour (especially following the crisis). However, world indebtedness (across all sectors and countries) has not decreased.^c Thus, the scenario of long-lasting savings excess around the world seems fragile.

The long-term determinants of the real interest rates on “risk-free” assets

Demand for funds (from borrowers)	Effect on the interest rates	Supply of funds (from savers)	Effect on the interest rates
Productivity slowdown	↓	Growing uncertainty	↓
Private deleveraging	↓	Ageing	↓
Rise in public debts	↑	Financial integration of emerging countries	↓
Fewer “safe” debtors	↓	Rising inequality	↓
		Financial re-regulation	↓

Source: Authors.

However, recent years have seen a rise in the demand for “safe” assets (first from central banks, then from the financial sector, following the introduction of new regulations), even as the offer of these assets was decreasing.^d

^a Between the proponents of a “secular stagnation”, like the economist Robert Gordon, and those for whom the digital revolution will be a source of productivity.

^b See IMF (2016): *World Economic Outlook*, October.

^c Buttiglione L., P.R. Lane, L. Reichlin and V. Reinhart (2015): *Deleveraging? What Deleveraging?*, ICMB Report.

^d See Caballero G. and E. Farhi (2016): *The Safety Trap*, Mimeo, Harvard. A “safe” asset is one whose value does not fall (or rise) in the event of a crisis. Except in case of obvious indebtedness, the public debts of advanced economies are “safe” assets. Following the 2008 financial crisis, the volume of “safe” assets appears to have declined from 37% of world GDP in 2007 to 18% in 2011. See Gavin M., P. Ghezzi, S. Brown and A. Gregory (2012): “The Equity Risk Premium: Cheap Equities or Expensive Bonds”, Chapter 1, in *Equity Gilt Study*, Barclays.

rates for all maturities. It is currently difficult to evaluate the duration for which interest rates may remain weak as structural causes and European monetary policy will have long-lasting effects, whilst a rise in US interest rates could partially and gradually be passed on to Europe, especially for long-term rates.³

Have central banks done too much? To understand their decisions, one must be reminded their mandate to keep inflation low but positive. For the European Central Bank (ECB), price stability is clearly the main objective. Price stability is set in the European Treaty, and interpreted by the ECB as being “annual inflation below but close to 2% in the medium term”. The Japanese experience shows that when inflation falls, it is not easy to bring it up again, especially because debt-deflation mechanisms are put in place.⁴ Since November 2013, the aggregate inflation rate of the Eurozone has fallen below 1%.

Low interest rates are beneficial to a depressed economy given that the interest rate is both the annual return on savings and the annual cost of indebtedness. The lower the interest rate, the lower the return on savings, and the easier it is for borrowers to meet their commitments or contract new loans. In principle, those two phenomena should stimulate demand for consumer and investment goods and services –both real-estate and production.

However, several elements can impede that virtuous mechanism. The first is the lack of inflation, which keeps the real interest rate positive despite ultralow nominal rates. In some sectors (e.g. industry), prices fall, which increases the real interest rate for businesses. Structural obstacles preventing an increase in investment despite favourable rates are a second element. Thirdly, the stimulating effect of a ultra-low interest rates can be neutralised by uncertainties over the future,

³ Obstfeld M. (2015): “Trilemma and Trade-Offs: Living with Financial Globalization”, *BIS Working Paper*, no 480, January.

⁴ Zero, or negative, inflation raises the weight of existing debt relative to income, if real interest rates are positive. Debtors are then forced to deleverage of debt and, thus, to save more. The result is a fall in demand for goods and services, which in turn applies downward pressure on prices. See Fisher I. (1933): “The Debt-Deflation Theory of Great Depressions”, *Econometrica*, vol. 1, no 4, pp. 337-57.

2. The ECB's easing policies since 2008

Since 2008, the European Central Bank (ECB) has rolled out a range of monetary-easing instruments. It lowered its main refinancing rate from 4% at the start of 2008 to 0% in March 2016 (except for a short-lived rise at the beginning of 2011). The deposit-facilities rate became negative in June 2014 (– 0.4% in November 2016). In December 2011 and February 2012, the ECB granted three-year loans totalling 1,100 billion euros at near-zero rates to European commercial banks (Long-Term Refinancing Operations, LTROs). Subsequently, it made four-year targeted loans to commercial banks at negative rates (Targeted Longer-Term Refinancing Operations, TLTROs). TLTROs were introduced in 2014 and have been renewed until March 2017, in order to boost the activity of bank loans (except mortgages) to the non-financial private sector of the Eurozone. Finally, in March 2015, the ECB launched a vast programme of quantitative easing (Asset-Purchase Programmes, APPs), extended until March 2017. The programme includes the Eurozone's sovereign bonds, bond securities issued by European non-financial businesses, and those issued by European institutions as well as by multilateral development banks. The amount of monthly purchases currently stands at 80 billion euros. If the programme ends as planned in March 2017, the ECB will have bought 1,700 billion euros of essentially public bonds, i.e. 16% of Eurozone's GDP or 77% of ECB's consolidated balance sheet at the end of 2014. The average residual maturity of bonds purchased is eight years, and the ECB has announced that it would hold securities until maturity, so that the down-sizing of the ECB's balance sheet can be expected only very gradually.

for example if households react to low rates by saving more (to accumulate an income stream in case of job loss, e.g. unemployment or retirement). Finally, there is the risk that unconventional policies impact less consumer prices than the price of assets, especially property, or that those policies weaken the financial system (see below). The speculative-bubble risk has not yet been ascertained for residential property in France, but the *Haut Conseil de stabilité financière* (HCSF, High Council for Financial Stability) raised concerns over the price of office property.⁵ The ultra-accommodating policy of the ECB has made necessary attentive macro-prudential policy especially aimed at curbing credit and limiting excessive yield-seeking behaviour when required.

Observation 1. In the Eurozone, the combination of low nominal and real interest rates could be long-lasting, given the structural rise in demand for “safe” assets and the monetary policy of the ECB.

Consequences of low interest rates for the various actors of the economy

A fall in interest rates leads mechanically to an income transfer from creditors to debtors, a revaluation of fixed-rate assets, and a fall in banks' interest margins. The first two channels are sought after, as they stimulate demand, but they can raise questions (for funded pensions or inequalities between households). The third channel is an undesirable side effect that can cause a problem in the long term.

Public administrations favoured by falling interest rates

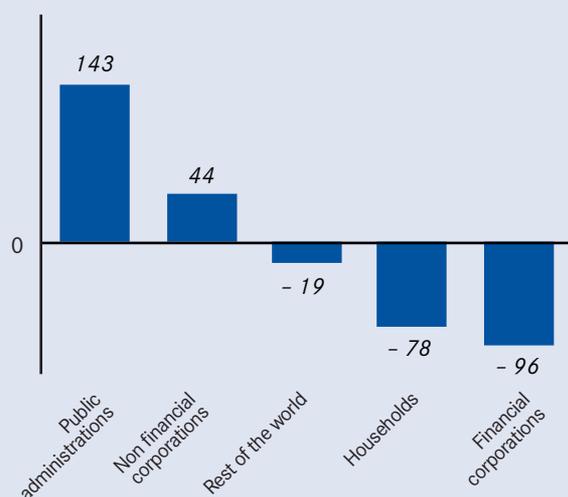
Graph 3 presents the redistributive effects linked to the fall in interest rates, by adding up the gains/losses in net interest income (or equivalent) between 2007 and 2014 by broad institutional sector. It suggests that the fall in rates recorded over the period “displaced” almost 190 billion euros from net-creditor sectors (financial businesses, households, and the rest of the world) towards net-debtor sectors (public administrations and non-financial businesses). These calculations, which do only provide orders of magnitude, can be considered reliable to the extent that they are based on changes in apparent rates (interest actually paid and received, related to the relevant liabilities and assets). They reflect not only the new operations contracted during the year but the overall changes in average financial conditions that apply to agents' assets and liabilities.⁶

The apparent rate of public debt was halved between 2007 and 2014. Over the same period, the outstanding debt, evaluated at 2,000 billion euros in 2014, increased by over 60%. The estimated “gain” for public administrations relates to interests actually paid in 2014, compared with the amount that should have been paid if interest rates had remained at 2007 levels. All in all, the “gain” for French public administrations is about 7 percent of GDP, when cumulated over seven years.

⁵ *Haut Conseil de Stabilité Financière* (HCSF) (2016): *Résultats de la consultation sur le marché de l'immobilier commercial en France*, Annual Report.

⁶ The apparent rate for year N depends on the rates of all loans issued up to year N (partly renegotiated as regards household property loans) and that have not yet been repaid in full. Thus, the fall in interest rates for new loans is gradually passed on to the apparent rate that covers all loans. Comparable results have been obtained by McKinsey. See Dobbs R., S. Lund, T. Koller and A. Shwayder (2013): *QE and Ultra-Low Interest Rates: Distributional Effects and Risks*, McKinsey Global Institute Report, November.

3. Cumulative estimated gains/losses over the 2007 to 2014 period, in euro billions



Sources: INSEE (2016) : *Comptes financiers et non financiers annuels* and authors's calculations.

Observation 2. The fall in interest rates mainly benefited to public administrations and non-financial businesses, at the expense of households, financial businesses, and the rest of the world.

Redistributive effects between households

In France, the wealthiest 10% hold almost half the total wealth of households, whereas household debt (mainly related to the acquisition of the main residence) largely affects the middle class.⁷ The impact of low interest rates on households is therefore mixed: low rates loosen financial constraints of highly indebted households. By contrast, households holding wealth witness a fall in income from property, but benefit from a potentially significant asset revaluation.⁸

Between 2011 and 2014, the French residential property market experienced a moderate and gradual phase of adjustment, followed in 2015 by a rise in volume and prices. In total, the purchasing power of first-time buyers, largely eroded by the strong increase in property prices prior to the crisis, retur-

ned at the end of 2015 to its levels at the end of the 1990s.⁹ Thus, the fall in real interest rates over the last twenty years appears to have increased net-wealth inequalities without a significant effect on the ability to access ownership, even if the findings should be refined by geographical area. Capital gains arising from a revaluation of assets naturally remain virtual for as long as households do not sell them, which is generally the case for the principal residence. In addition, those latent capital gains can be transitory, to the extent that a subsequent reversal of monetary policy may lower asset prices.

As regards income inequalities, the analysis has to acknowledge that low rates support activity, thus limiting losses of work income. Based on US data for the 1980 to 2008 period, Coibion *et al.* (2012) conclude that monetary expansion reduces income inequalities, a conclusion that is corroborated by Claeys *et al.* (2015) in the case of the ultra-loose policies of recent years.¹⁰

Observation 3. Low interest rates have mixed effects on households. Overall, low rates reduce income inequalities, but increase net-wealth inequalities.

Financial sector: clouds on the horizon

The fall in interest rates and the flattening of the yield curve, together with the rise of prudential requirements,¹¹ lead to a tightening of banks' interest margins. The phenomenon is cumulative to the extent that old assets are gradually replaced in portfolios by assets with lower yields. It affects banks as well as the life-insurance sector of which the contracts labelled "in euros", since the guarantees offered cannot be invested in assets that are riskier or less liquid, thus offering a better yield. According to the *Haut Conseil de stabilité financière*,¹² the net brokerage margin of large French banks rose by 0.5 point between 2007 and 2011, and fell by 0.2 between 2011 and 2015. From 2007 to 2015, the average return on assets (net profit/total assets) did not show a downward trend, whereas beyond economic developments, the fall in return in equity (net profit/equity) is explained mainly by new prudential capital requirements. Thus, until 2015, low interest rates have been well absorbed by banks, which increased their fees based income in response.¹³

⁷ See Lamarche P. and L. Salembier (2012): "Les déterminants du patrimoine: facteurs personnels et conjoncturels", *INSEE Références*.

⁸ Adams K. and P. Tzamourani (2015): "Distributional Consequences of Asset Price Inflation in the Euro Area", *CEPR Discussion Paper*, no 10897.

⁹ Purchasing capacity is measured by the rate of effort for a standardised purchase of an asset financed by a loan, at market prices and conditions (purchasing a property covering 50 m², without any own contribution and a constant maturity of 25 years), *cf.* the HCSF's annual report (2016), *op. cit.*

¹⁰ Coibion O., Y. Gorodnichenko, L. Kueng, and J. Silvia (2012): "Innocent Bystanders: Monetary Policy and Inequality in the US", *NBER Working Paper*, no 18170. Claeys G., Z. Darvas, A. Leandro and T. Walsh (2015): "The Effect of Ultra-Loose Monetary Policies on Inequality", *Bruegel Policy Contribution*, no 2015/09, June.

¹¹ CRD4 (Capital Requirement Directive) for banks, Solvency 2 (amended by the Omnibus II directive) for insurance companies. These new regulations lead the financial sector to hold more sovereign bonds with diminishing yields.

¹² HCSF (2016) *op. cit.*, pp. 24-26.

¹³ The net fees of French banks are, on average, higher than that of other European banks, whereas net interest margins are lower. See ACPR (2016): "La situation des grands groupes bancaires français à fin 2015", *Analyses et Synthèses*, no 63, May.

However, the cost of equity (the income required by shareholders) stopped decreasing in 2015, and is clearly higher than return on equity,¹⁴ which indicates shareholder's concern over the sustainability of current business models, in the light of the current financial environment and upcoming regulatory developments.

Until 2012, the life-insurance sector fully passed on the fall in interest rates to yields from contracts “in euros”. However, since then, yields have not been fully adjusted, and insurance companies have drawn on their reserves to support yield levels. By way of illustration, in 2015, the yield from euro funds was 2.3% on average, as against less than 1% for 10-year *Obligations assimilables du Trésor* (OAT, Treasury-issued Government Bonds) (HCSF, *op. cit.*). The “euro” contracts still constitute around 85% of outstanding life-insurance products, so the sector has exposed itself to an outflow risk when their remuneration rate will eventually decline (if interest rates remain low in the long term). If interest rates were to rise sharply, the risk is to find oneself unable to raise yields, with a parallel accumulation of unrealised capital losses on the balance sheets of insurance companies.¹⁵

To limit these risks and protect savers, the “Sapin 2” Law¹⁶ allows the HCSF to implement sector-wide macro-prudential measures, either preventive (contra-cyclical provisioning) or corrective (funds or dividends being temporarily blocked if the sector becomes unstable). In general, the low-rate environment calls for particularly attentive micro- and macro-prudential policies in France and in other European countries.¹⁷ It also requires a dialogue between financial institutions and regulators on the necessary adaptations to be made. Financial institutions are indeed currently encouraged to invest in riskier assets and to lengthen their investment horizon in order to seek for yields. This results in the loosening of loan granting conditions to households and businesses, and significant direct and indirect exposure to some sectors like property, corporate bonds, infrastructures, and private equity. At this stage, there does not seem to be any proven risk amongst financial intermediaries in France, but it will rise if the period of low rates is to continue.

A French particularity is the existence of liquid savings that are risk-free, regulated, and with administered yield rates. In July

2016, those savings represented a total of 613 billion euros, i.e. about twice the amount of households' overnight deposits (373 billion). As of 1 August 2016, the rates for *Livret A* (tax-free savings account) and the *Livret de développement durable* (sustainable-development savings account), which taken together represent the majority of liquid regulated savings, were held at 0.75% (the rate in effect since 1 August 2015), whereas a strict application of the rate-setting rule should have led to 0.50%.¹⁸ In light of market rates, a 0.75% yield is high for liquid savings that moreover are tax-free. Under these conditions, banks' financing costs are only very imperfectly in line with the monetary policy of the ECB, and more generally with the low-rate environment.¹⁹ In addition, the *Caisse des Dépôts et Consignations*, which finances social housing using regulated savings, is paradoxically penalised since it could currently borrow from the markets at lower rates.

Observation 4. The context of low interest rates, combined with the rigidities impeding a downward trend of deposit yields, place financial institutions in a situation that is not currently alarming, but that should be carefully monitored.

Implications for public policies

We have seen that low interest rates are the result of current and anticipated monetary policy, but the macroeconomic situation is the root cause: the “neutral” interest rate is weak or even negative due to depressed aggregate demand, which is itself linked in part to mediocre long-term growth prospects. This global phenomenon has been accentuated in the Eurozone since the crisis. The output gap remains negative, whilst the current external balance is increasingly in aggregate surplus.²⁰ Monetary policy can hardly do more, so it is up to governments to improve long-term growth prospects by means of adequate reforms, in order to increase productivity and stimulate investment, as well as to stimulate aggregate demand in the short term in Eurozone countries where that demand appears insufficient.²¹

¹⁴ According to the ACPR (*op. cit.*), the median equity yield was 6.2% in 2015, whereas the cost of equity was about 10%.

¹⁵ The life-insurance tax regime (in particular the exemption from inheritance tax) is an obstacle to premature exits, but it offers no protection against possible disaffection of new subscribers.

¹⁶ The law on transparency, the fight against corruption, and modernising economic life, passed on November 8th 2016.

¹⁷ See the report by the German Council of Economic Experts, 2015-2016 report, chapter 5.

¹⁸ The calculation rule is based on two formulas that combine inflation rates and interbank rates (with the higher result being selected). The 0.75% rate will remain in force until February 2017. A new rule will be applied after that point, bringing the *Livret A* rate into line with average inflation over the last six months, when the latter differs by more than 0.25% from the money-market rate.

¹⁹ With exceptions (i.e. some large accounts), French banks have not passed on the negative rates of liquid assets to their depositors. Article 1932 of the Civil Code stipulates that “the deposit of sums monetised must be paid back to the same amount, whether for an increase or a decrease in their value” (Civil Code, Book III, Title XI, Chapter II, Article 1932).

²⁰ The current surplus of the Eurozone is equal, in accounting terms, to the savings surplus in relation to investment across all states and sectors.

²¹ The current account surpluses of Germany and the Netherlands reached 8.8 and 9.2% of their respective GDPs in 2015, i.e. 2.5 and 0.6% of Eurozone's aggregate GDP (*cf.* AMECO). Conversely, the external deficit that persists in France (-1.5% of GDP in 2015) suggests that the weakness of the French economy is mainly due to a mismatched supply rather than lack of demand.

In Europe, macroeconomic policies increasingly focused on growth

Eurozone member states retain responsibility for fiscal and structural policies. Since 2011, co-ordination has been strengthened by the introduction of the “European semester”, during which national policies are discussed with the European Commission and within the European Council. In particular, the Macroeconomic Imbalance Procedure enables the Commission to identify imbalances other than budgetary ones, and to make recommendations to Member States, whether for correcting market distortions, encouraging investment, or restoring competitiveness.

However, recommendations are not often implemented.²² One reason for that is the excessive complexity of the procedure and its “catch-all” nature; recommendations are both poorly related to the overall diagnosis on the Eurozone, and spread across a wide variety of challenges. To give fresh meaning and strength to the Macroeconomic Imbalance Procedure, it must be simplified, better related to the overall Eurozone diagnosis, and, finally, given equal importance with the Stability and Growth Pact (SGP).²³ For Member States, contributing to the overall Eurozone macroeconomic balance is just as necessary as the sustainability of public finances. Supporting aggregate demand in countries with a high external surplus involves using margins for manoeuvre left by the Stability Growth Pact, and suppressing economic distortions that hurt demand.²⁴ As for countries that are in deficit, their contribution essentially involves improving long-term growth prospects by adequate reforms and investments.²⁵

Recommendation 1. In order to escape the low-rate trap, make the Macroeconomic Imbalance Procedure more effective by simplifying it, by linking it to the aggregate situation of the Eurozone; and by giving it an equal importance to that of the Stability and Growth Pact.

Faced with a lack of support for potential future growth due to low long-term investment in Europe, a European response has been provided through the investment plan for the European Union, the so-called “Juncker Plan”. It plans for 60 billion euros’ worth of financing to be provided over three years (2015–2017) under the European Fund for Strategic Investments (EFSI), part of the European Investment Bank (EIB). Through a knock-on effect on private investment, the objective is to generate investments of at least 315 billion euros. In September 2016, a doubling of the plan was announced during the State of the Union speech given by the President of the European Commission.²⁶

The initial idea was to finance riskier projects than those usually financed by the EIB, by taking a position on the riskiest *tranche* of projects and letting the private sector finance the rest.²⁷ In July 2016, the total amount of investments linked to projects approved under the EFSI was almost 116 billion euros. The added value and the macroeconomic impact of the plan will only be measurable after several years. In order to get a first idea, one can examine the impact of the EIB’s 2012 increase in capital: between 2012 and 2015, the EIB contributed additional 60 billion euros (the equivalent of the Juncker Plan) to investments of which the total (including the private sector) is valued at 372 billion.²⁸ In the case of the Juncker Plan, the projects financed are riskier, which may increase the macroeconomic impact. Thus, the EFSI has enabled the EIB to almost quadruple its volume of so-called “special” transactions, which were previously limited to about 4 billion euros per year. The additivity of those new investments and their impact on activity are currently being assessed.²⁹ The approach followed so far – financing of projects presented in a decentralised manner – may prove insufficient. It would gain from being supplemented by a more strategic approach based on key objectives, like energy transition or investments in human capital.

According to the European Commission, investments of at least 200 billion euros each year until 2030 would be necessary in the fields of energy efficiency, renewable energies,

²² See Gros D. and C. Alcidi (2015): “Economic Policy Coordination in the Euro Area under the European Semester”, *CEPS Special Report*, no 123, December.

²³ See Bénassy-Quéré A. (2015): “Economic Policy Coordination in the Euro Area under the European Semester”, *Report for the European Parliament (ECON)*, no PE 542.676, November.

²⁴ For example, rebalancing the financing of energy transition in Germany to the benefit of households. See Girardé M., P. Musseau and C. Schramm (2014): “La transition énergétique allemande”, *Terra Nova*, June, p. 7. In the Netherlands, better incentives to develop permanent contracts of employment and better social protection for independent workers (see recommendation 2 of the European Council to the Netherlands, 12 July 2016, 2016/C 299/10).

²⁵ See Thimann C. (2015): “The Microeconomic Dimension of the Eurozone Crisis”, *Journal of Economic Perspectives*, vol. 29, no 3.

²⁶ *Débat sur l'état de l'Union 2016*, Plenary Session, 14 September 2016, press release available at www.europarl.europa.eu/pdfs/news/expert/infopress/20160909IPR41712/20160909IPR41712_fr.pdf

²⁷ However, this approach is subject to criticisms that mention the potential crowding out of private investment from the risky *tranche*.

²⁸ Simulations suggest that about 830,000 jobs will be created by 2017 and 1.4 million by 2030, as well as a 0.8% impact on EU GDP in 2017 and 1.1% by 2030. See Rees M. (2016): “EIB Impact: The Story of a Simple Answer on GDP and Jobs”, *cf. blog www.eib.org*.

²⁹ The European Commission brought about an increase of 410 billion euros of EU’s GDP through the creation of 1.3 million jobs; Oxford Analytica, 1.4% of GDP; and the International Labour Office, 1.8 million jobs (www.oxan.com). However, these various figures are the outcome of model simulations and not of *ex post* assessments.

and other green energies, to meet climate-related objectives.³⁰ Parts of these investments replacing non-“green” investments such as building coal-fired power stations), the additional investment is valued at about 38 billion euros per year.³¹ The ultra-low level of long-term interest rates in the long term should be propitious for green investments, since their profitability is spread over the long term. However, incentives are at their lowest, with a low oil price, excess power supply in Europe, and CO₂ priced at about 5 euros/ton on the emission-permits market.³² In addition to favourable financing conditions, it is essential to have a consistent and foreseeable price signal to mobilise green investments.³³

In 2014, France introduced a carbon component to the *Taxe intérieure de consommation sur les produits énergétiques* (TICPE, Domestic Tax on the Consumption of Energy Products). Initially set at 7 euros/ton, the objective is to rise to 56 euros in 2020 and 100 euros in 2030. Rather than a dispersed action, European co-ordination would prove the most effective route in this domain, with the Juncker Plan providing support to the gradual rise of the price signal. This may involve setting up price corridors for the ETS market (ETS, Emission Trading Scheme, European Union system for exchanging emission quotas), and, for other sectors, taxes and/or an adjustment of standards enabling a convergence of the implicit emission price (both between countries as well as between the various sources of emissions within each country).³⁴ The initiative could be launched in the framework of enhanced co-operation, or even initially as an *ad hoc* co-operation between voluntary governments. Such a policy, if gradual, will minimise the short-term negative impact on competitiveness whilst encouraging actors to make the investments needed to attain objectives relating to emission reductions.³⁵

In addition, it would be useful to encourage the emergence of financing instruments that are adapted to these investments, such as the “green” bonds market for strengthener standards must be promoted. While market actors have

themselves started to lay down best practices, standardisation remains lacking in some areas (eligible investments), and impact assessments could be improved. Public intervention may become necessary when investment yields occur over the very long term.³⁶ However, these issues seem secondary to us in relation to the carbon price.

Recommendation 2. Foster “green” investments at the European level by gradually strengthening the market price signal in accordance with a predefined timetable, the Juncker Plan providing support for the transition.

The second source of investment that remains insufficiently exploited is investment in human capital. The European Union suffers from a recurring skills deficit in some professions, whilst its universities (especially without the United Kingdom) hardly compete with the USA, and, increasingly Asia. The increasing mobility of human capital within the EU, and between the EU and the rest of the world, calls for a European response.³⁷ The Juncker Plan could be extended to the financing of human capital in two complementary ways. On the one hand, it could fund programmes in universities of excellence and in specialised schools for professions experiencing shortages, with establishments being financed by calls for tender and assessed on their results. Establishments would present financing plans that provide for loans to be repaid by contributions from businesses and/or graduates. It would also be possible to consider a flat-rate grant component per graduate in a restrictive and evolving list of areas experiencing shortages. The second mode of intervention would be a more standard one: guaranteeing student loans. European students’ access to loans to finance their studies varies considerably between Northern Europe and Southern Europe, and it does not encourage international mobility.³⁸

³⁰ European Commission (2015): *A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy*. European objectives for reducing CO₂ emissions will have to be strengthened if the COP21 objective of limiting global warming to 2 °C is confirmed. See Auverlot D. and E. Beeker (2016): “Climat: comment agir maintenant?”, *France Stratégie*, Collection 17-27, April.

³¹ http://europa.eu/rapid/press-release_MEMO-14-40_en.htm

³² As a reminder, in 2009, the “Quinet Report” placed the reference value of carbon at 100 euro/ton by 2030 (and 32 euro/ton from 2010). See Quinet A. (2009): “La valeur tutélaire du carbone”, Report by the Commission chaired by Alain Quinet, *Centre d’analyse stratégique*, Coll. *Rapports et documents*, no 16.

³³ Eyraud *et al.* (2011) identify five main factors that influence “green” investment in a country: real GDP, the real long-term interest rate, the relative price of crude oil in international markets, adopting guaranteed buyback rates for electricity, and carbon pricing. See Eyraud L., A. Wane, Changchang Zhang and B. Clements (2011): *Who’s Going Green and Why? Trends and Determinants of Green Investment*, *IMF Working Paper*, no 11/296. The various European countries (the Irish Republic, the United Kingdom, and the Scandinavian countries) that have adopted carbon taxes appear to have been successful in stimulating investments for energy transition without any negative impact on activity, in particular when the income from taxes has been redistributed on a lump-sum basis or on the basis of employment. See Elbeze J. and C. de Perthuis (2011): “Vingt ans de taxation du carbone en Europe: les leçons de l’expérience”, *Les Cahiers de la Chaire Économie du Climat*, no 9.

³⁴ See Canfin P., A. Grandjean and G. Mestrallet (2016): *Propositions pour des prix carbone alignés avec les accords de Paris*, Report for the President of COP21, 12 July.

³⁵ See Bureau D., L. Fontagné and P. Martin (2013): “Energy and Competitiveness”, *Note du CAE*, no 6, May.

³⁶ See Aglietta M. and N. Valla (2016): “Taux d’intérêt négatifs: décryptage d’une anomalie”, *L’Économie Politique*, no 2, pp. 8-26, and Boissinot J., D. Huber and G. Lame (2016): “Finance and Climate: The Transition to a Low-Carbon and Climate-Resilient Economy from a Financial Sector Perspective”, *OECD Journal: Financial Market Trends*, vol. 2015, no 1, pp. 7-23.

³⁷ See García-Peñalosa C. and É. Wasmer (2016): “Preparing France for the Increasing International Mobility of Talents”, *Note du CAE* no 31, May.

³⁸ See Guille M. (2002): “Student Loans: A Solution for Europe?”, *European Journal of Education*, vol. 37, no 4, December.

The Juncker Plan could play a role in reducing rationing in the student-loans market, especially for cross-border loans.³⁹

Recommendation 3. Extend the Juncker Plan to the financing of investment in human capital, especially in a proactive form through calls for tender.

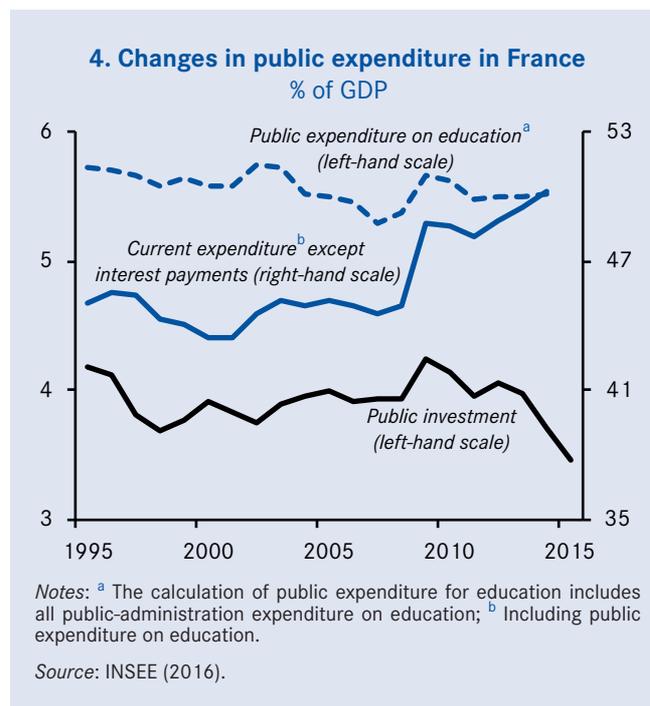
Public finances: more investment, less current expenditure

In the environment of ultra-low interest rates, two main budgetary-policy options can be envisaged: financing new investments with yields (in terms of future growth) that exceed interest payments, or, on the contrary, take advantage of the fall in interest charges to reduce debt. These two options refer implicitly to the question of a “sound” level of debt, which must be analysed in the light of three criteria: fiscal sustainability (and the risk of a sovereign crisis), the impact of public investment on growth in the short and long term, and compliance with European commitments (see box 3).

In the context of European commitments, unless there is a marked slowdown in growth in the quarters and years to come, fiscal adjustment should be sustained. In that context, ultra-low interest rates offer an opportunity to make that adjustment by modernising public action.

Since 2008, public investment has fallen in proportion to GDP in France, whereas current expenditure (except debt interest) has increased sharply (graph 4). If one extends the idea of investment to education (investment in human capital), changes are not fundamentally different. Current expenditure (except debt interest) reached 50% of GDP in 2015, compared with 42% on average in the Eurozone. Of that difference of 8 percentage points, just one point can be attributed to comparative education budgets, which suggests that in the years to come, public deleveraging should be based on a lowering of current expenditure and not of investment.

In a period of interest rates almost equal to zero, it is of little importance that savings be made today or at a defined future time. The main point is that savings are made. Thus, ultra-low interest rates open a window of opportunity for reorganising public administrations to make them more effective, and for reducing future current expenditure without eroding the quality of public service. Whilst capital expenditure *stricto sensu* often involves recurring expenditure, expenditure to



transform the administration can be directly linked to a cost-reduction plan, which is easier to check than an effect on GDP. Thus, low interest rates raise the “profitability” of administrative-transformation expenditure, whilst the nature of that expenditure guarantees the “verifiability” of that return. In 2017, France is due to leave the corrective arm of the SGP totalling a budget deficit below 3% of GDP. It could then take advantage of the Pact’s flexibility to undertake “structural reforms”.⁴⁰

To illustrate this point, let us have a look at the case of local authorities. Faced with the recurrent risk of seeing local investment serving as a budgetary-adjustment variable, a *Fonds de soutien à l’investissement local* (FSIL, Local-Investment Support Fund) of one billion euros was set up in 2016 and renewed for 2017.⁴¹ Dedicated to the financing of infrastructure expenditure, the fund could not, under its current status, cover expenses relating to administrative transformation or reorganisation. For example, mergers of regions should go hand in hand with mergers of services, relocations, adaptations of information systems, trainings of officers, etc., so that in the long term, genuine operational savings can be made. Similarly, rolling out digital technology in the administration offers considerable opportunities, but it requires initial investment, training, and reorganisation.⁴² Thus, financial support for such expenditure could facilitate and accelerate the transformation of the public administration, as the various *Programmes d’investissement*

³⁹ On the usefulness of developing cross-border financing of higher studies in Europe, see Poutvaara P. (2004): “Educating Europe: Should Public Education be Financed with Graduate Taxes or Income-Contingent Loans?”, *CESifo Economic Studies*, vol. 50, no 4/2004, pp. 663-684.

⁴⁰ See European Commission (2015): “Making the Best Use of the Flexibility Within Existing Rules of the Stability and Growth Pact”, COM (2015) 12 provisional final, 13 January.

⁴¹ The aim of the FSIL is to support investment by municipalities and by intermunicipal authorities (thermal renewal, developing renewable energies, new facilities, etc.). Regional prefects are tasked with allocating budgets. See www.territoires.gouv.fr/le-fonds-de-soutien-a-l-investissement-local-fsil/

⁴² See Algan Y., M. Bacache and A. Perrot (2016): “Digital Administration”, *Note du CAE*, no 34, September.

3. At what level does public debt become dangerous?

In theory, a country's public debt is assessed with regard to its long-term sustainability. All other things being equal, a lower interest rate improves the long-term sustainability of public finances. In that context, additional capital expenditure is justified, especially if it improves the long-term outlook for growth or if it enables future public expenditure to be reduced thanks to productivity gains.

However, sustainability assessments are fragile, for they are based on debatable assumptions over the long term. Furthermore, a government can see its situation deteriorate brutally following an economic crisis or if an off-balance-sheet risk is realised. Finally, a high indebtedness ratio increases the risk of a self-fulfilling crisis, with creditors' panic being validated ex post through the rise in interest rates.

Several empirical works show that the risk of sovereign default and of speculative attacks increases in line with the level of debt relative to GDP, even if public indebtedness is far from being the sole determinant of the risk of sovereign default.^a However, it is difficult to identify the indebtedness threshold that should not be crossed: it depends on the outlook for growth (which is also a function of the rate of indebtedness);^b on the distribution of debt between

residents and non-residents as well as between the banking and non-banking sectors; on the currency in which it is denominated; on the jurisdiction where it was issued; and on its average maturity.^c

Until now, markets have considered French public debt to be relatively "safe. However, the French debt presents three weaknesses: non-residents hold it to a large extent, it is partly the result of unfinanced past current expenditure rather than investments, and it is denominated in euro without a monetisation option. Thus, the fact that French public debt is now close to 100% of GDP – a psychological threshold for the markets – should encourage prudence.

In the framework of the Stability and Growth Pact, France has committed itself to rebalance its public accounts. The debt threshold of 60% of GDP seems far off, whilst pressure on deficit reduction is immediate. Successive extensions obtained by the French government to carry out budget consolidation, justified from an economic perspective, have contributed to weaken France's voice in European debates. The debate on public indebtedness must also acknowledge the cost to France of seeing major subjects such as tax harmonisation, the fiscal union, and the steering of the external balance, escape its sovereign control.

^a See Corsetti G., K. Kuester, A. Meier and G. Müller (2013): "Sovereign Risk, Fiscal Policy, and Macroeconomic Stability", *Economic Journal*, vol. 123, and Hilscher J. and Y. Nosbusch (2010): "Determinants of Sovereign Risk: Macroeconomic Fundamentals and the Pricing of Sovereign Debt", *Review of Finance*, vol. 14, no 2.

^b See Checherita-Westphal C. and P. Rother (2012): "The Impact of High Government Debt on Economic Growth and its Channels: An Empirical Investigation for the Euro Area", *European Economic Review*, vol. 56, no 7, pp. 1392-1405; Romero-Avila D. and R. Strauch (2008): "Public Finances and Long-Term Growth in Europe: Evidence from a Panel Data Analysis", *European Journal of Political Economy*, vol. 24, no 1, pp. 172-191; Panizza U. and A.F. Presbitero (2014): "Public Debt and Economic Growth: Is There a Causal Effect?", *Journal of Macroeconomics*, no 41, pp. 21-41.

^c See Ostry J.D., A.R. Ghosh and R. Espinoza (2015): "When Should Public Debt Be Reduced?", *IMF Staff Discussion Note*, no SDN/14/10.

d'avenir (PIA, Investments for the Future Programmes) already try to do in the field of education and research. That reasoning applied to local authorities could naturally be extended to all administrations in a contractual relationship with the State, or even to the social sphere.

We propose transforming the FSIL to incorporate in its mandate the expenditure relating to the reorganisation and modernisation of local authorities. The latter could submit a programme proposal, quantifying expected gains in line with a precise timetable, to an independent commission. If accepted, the funds would be allocated, possibly in several instalments, followed by an independent accounting and financial evaluation to verify the reality of budget savings. In case of a shortfall on objectives, the operational grant may be temporarily or permanently reduced following the recommendation of the independent commission. The central government being the structural creditor of local administrations offers an opportunity to establish good incentives, thus ensuring the credibility of the facility.

Recommendation 4. Transform the *Fonds de soutien à l'investissement local* into a *Fonds de soutien à l'investissement et à la modernisation* (Investment and Modernisation Support Fund), with sound and independent governance rules. Evaluate the programme before possibly extending it to all public operators.

Beyond the French situation, the question of encouraging the replacement of current expenditure with capital expenditure is raised in Europe. From 2007 to 2015, current expenditure increased on average by 4 GDP points in the Eurozone, whilst capital investments fell by 2 GDP points. One natural solution would be to replace the current SGP with a "golden rule" which would require a balanced budget excluding net public investment. If it is correctly allocated, net investment has no negative effect on the sustainability of public finances.⁴³ The standard objections to the golden rule are as follows:

⁴³ See Blanchard O. and F. Giavazzi (2004): "Improving the SGP Through a Proper Accounting of Public Investment", *CEPR Discussion Paper*, no 4220. The current stability pact could resemble a golden rule if the 3% authorised deficit were to correspond to the net annual investment of public administrations.

- The rule must go hand in hand with an independent **xxxxxxx** of the return of each project, which, in certain cases (e.g. local investment in France) is not legally possible, except possibly if the investment is subsidised by the central government (see recommendation 4);
- The golden rule leads to preference being given to investment in physical capital over investment in human capital (counted as current expenditure), while the return of the latter can, in some cases, exceed that of the former;
- The distinction between current expenditure and investments (research infrastructures versus researchers' salaries, etc.) is difficult, thus causing a risk of abuses.

One way of overcoming these objections would be to draw up a restrictive, evolving, and possibly temporary list of “long-term” incremental expenditure at the European level, related to the growth strategy (e.g. energy transition, digitalisation, higher education, and research).⁴⁴ A proportional reduction would be applied to take account of the depreciation of “capital” and of a ceiling on debt financing. “Net” expenditure would then be removed from the deficit calculation, under the control of national budget councils (and of the European Budget Council), and subject to a ceiling that may possibly change in line with growth.⁴⁵ In return, the deficit rule could be tightened. By proposing concomitantly special processing of long-term expenditure and a strengthening of rules on current expenditure, France would give guarantees of fiscal responsibility whilst stimulating the debate on growth policies.

Recommendation 5. At the European level, propose the creation of a restrictive list of incremental “long-term” expenditure subject to special accounting, balanced by the strengthening of budgetary discipline on remaining expenditure.

Households: saving more efficiently over the long term

Household savings have three main motivations: building up a reserve against an uncertain future, smoothing out con-

sumption over time (especially savings for old age), and transmission between generations. In practice, French savings are based massively on property and liquid investments that are low-risk and enjoy favourable tax treatment (regulated savings products and “euro” life-insurance funds).⁴⁶ Generally speaking, and especially during periods of low interest rates, this allocation in which tax considerations play a preponderant role, does not offer a good response to the retirement-savings motive: due to requirements relating to liquidity and to guarantees on capital and on past capital gains, euro funds have low yields with respect to inflation that remains positive, especially in the field of personal services. For its part, property ownership does not offer the liquidity that may prove necessary towards the end of life,⁴⁷ and its valuation is uncertain.

Euro life-insurance funds offer capital guarantees and a guaranteed annual yield.⁴⁸ The latter incorporates a “ratchet effect”, the contract’s past profitability being permanently locked in. The accumulated savings are liquid, and, for durations over eight years, they enjoy tax advantages as well as significant exemption from inheritance taxes when capital is transmitted. For its part, the *Livret A* enjoys a yield that is higher than the market for a product that is fully liquid and tax-free. The two products –euro funds and the *Livret A*– are in reality used for long-term savings, but the liquidity and security requirement attached to those products does not allow to take advantage of the long-run horizon, thus reducing the yields ultimately obtained by households.⁴⁹ For households that save over the long term, the risk-return combination is not optimal, whereas the savings fail to flow to investment projects that are necessarily risky for businesses.⁵⁰

To enable households to optimise their savings decisions, it would first be necessary to reinforce the clarity of future retirement pensions in the pay-as-you-go system, so that they can anticipate their correct requirements in terms of additional income. As proposed by Bozio and Dormont (2016),⁵¹ beyond progress already made, information on future retirement could be improved through a single simulation tool covering all accumulated entitlements, the standardisation of rules on accumulating entitlements from various schemes, and the consolidated steering for schemes with a transparent replacement rate and a demographic-adjustment coefficient.

⁴⁴ One of the authors does not associate himself with this paragraph and with recommendation 5.

⁴⁵ Some capital expenditure is already subject to specific processing under the preventive arm of the SGP, when that expenditure is cofinanced by a European arrangement and when the GDP of the country concerned falls, or if it is at least 1.5% below its potential level. The idea here is to enlarge the “investment clause” of the Pact.

⁴⁶ See Accardo J., R. Coppoletta-Solotareff, A. Ferrante and M. Romani (2016): “La détention d’actifs patrimoniaux début 2015” in *Les revenus et le patrimoine des ménages*, INSEE Références. The last fifteen years have witnessed a recomposition of financial wealth in favour of life-insurance policies (37% in 2015 as against 27% in 2000), in particular euro-funds, presented as multifunction investments.

⁴⁷ See Bozio A., A. Gramain and C. Martin (2016): “What Public Policy for the Dependent Elderly?”, *Note du CAE*, no 35, October.

⁴⁸ The current guarantee is that of a non-negative rate. It has gradually been reduced over the past twenty years.

⁴⁹ See Gollier C. (2015): “Épargne de long terme: le cas de l’assurance-vie en France”, *Revue de Stabilité Financière*, no 19, Bank of France.

⁵⁰ See Garnier O. and D. Thesmar (2009): “Épargner à long terme et maîtriser les risques financiers”, *Rapport du CAE*, no 86, La Documentation française.

⁵¹ Bozio A. and B. Dormont (2016): “Governance of Social Protection: Transparency and Effectiveness”, *Note du CAE*, no 28, January.

In parallel, it would be useful to have a wider range of specialised financial products that offer clear trade-off in the liquidity/yield/security triptych.⁵² Setting up “euro-growth” life-insurance policies, which are slightly less liquid and with a term capital guarantee, is a step in that direction. However, their development prospects remain modest due to yields that are accessible on the market and the balance to be struck with current holders of euro funds. The development of products that are clearly aimed at a long-term horizon (with the saver being committed to a long contractual relationship)⁵³ and that give a choice on exit (in capital or in income) would be a more promising response. The “viscous” liability of the financial broker allows focusing its asset towards the long term, or even setting up mechanisms for intergenerational sharing of risks if it is placed within a specific governance framework.⁵⁴ Under these conditions, if the same risks must be dealt with consistently, the long-term financier/investor brokers should not be subject to the same prudential regime as insurance companies and similar bodies.⁵⁵ The *Plans d'épargne pour la retraite collective* (PERCO, Group Retirement Savings Plans), which are administered by asset management companies, meet that requirement. Nonetheless, they are still underdeveloped, and not all employees have access to them (they are subject to a collective-bargaining agreement).

To enable an improved specialisation of the various financial products, it is important that the tax regime applied to them (taxing yields and capital gains, and inheritance taxes) as well as regulated-savings rates do not induce households to choose certain products.⁵⁶ In a period of ultra-low interest rates, with a flat yield curve, differences in tax treatment like the “boosts” to the *Livret A* are particularly visible to savers and are a source of distortions.

Recommendation 6. Review regulatory and tax policies to refocus savings more effectively on a long-term horizon. Make the setting of the *Livret A* rate fully automatic and transparent.

Ultra low interest rates offer France an opportunity to moderate its public administrations and its policy relative to household savings. In the Eurozone, better articulation of policies would enable each Member State to contribute, on the basis of its own imbalances, to a return to growth, before interest rates can be normalized. ●

⁵² See Thimann C. (2016): “L’assouplissement quantitatif et le défi pour l’épargne à long terme et la sécurité financière des ménages”, *Revue d’Économie Financière*, no 121, March.

⁵³ Funds can be released in case of an exceptional event (long-term unemployment, invalidity, death, etc.). The current *Plan d'épargne en actions* (PEA, Share Savings Plan) does not involve a long commitment: it allows tax-free exits after only five years.

⁵⁴ On risk-sharing and on governance, see, especially, Boeri T., L. Bovenberg, B. Cœuré and A. Roberts (2006): “Dealing with the New Giants: Rethinking the Role of Pensions Funds”, *CEPR/ICMB Geneva Report on the World Economy*, no 8.

⁵⁵ As is confirmed by the European directive on supplementary pensions, IORP 2. In that regard, the draft “Sapin 2” law provides for setting up a new category of bodies dedicated to supplementary professional retirement pensions (article 33).

⁵⁶ See Garnier and Thesmar (2009), *op. cit.*



The French Conseil d'analyse économique (Council of Economic Analysis) is an independent, non partisan advisory body reporting to the French Prime Minister. This Council is meant to shed light upon economic policy issues, especially at an early stage, before government policy is defined.

Chairperson Agnès Bénassy-Quéré

Secretary general Hélène Paris

Scientific Advisors

Kevin Beaubrun-Diant,
Jean Beuve, Clément Carbonnier,
Manon Domingues Dos Santos

Research Assistant

Amélie Schurich-Rey

Members Maya Bacache-Beauvallet,
Agnès Bénassy-Quéré, Antoine Bozio, Pierre Cahuc,
Lionel Fontagné, Cecilia García-Peñalosa,
Élise Huillery, Corinne Prost, Xavier Ragot, Jean Tirole,
Alain Trannoy, Natacha Valla, Reinhilde Veugelers,
Étienne Wasmer, Guntram Wolff

Associated Members

Yann Algan, Anne Perrot, Christian Thimann

Publisher Agnès Bénassy-Quéré

Editor Hélène Paris

Electronic Publishing Christine Carl

Contact Press Christine Carl

Ph: +33(0)1 42 75 77 47
christine.carl@cae-eco.fr