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### Conferences and symposiums 2016

12th Annual Central Bank Conference on microstructure of financial markets, September 29-30

Impact of uncertainty shocks on the global economy, London, May 12-13

Banque de France – Sciences Po – SRC Conference “Monetary policy and financial (in)stability”, March 11

Sciences-Po – Banque de France Research Seminar “Banks and the financial system: what regulation?”, January 20

“Card payments in Europe: latest trends and challenges”, January 18-19

“Financing very small enterprises”, Colloquium, January 15

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## Events

### Seminars second half of 2015

DGEI Seminar, Antonin Bergeaud (Banque de France), “The role of production factor quality and technology diffusion in 20th century productivity growth”, December 23

DGEI Seminar, Rémy Lecat and Carole Ly-Marin (Banque de France), “Long-term growth and productivity projections for advanced economies”, December 22

BDF/TSE Seminar, Steven Davis (University of Chicago Booth School of Business), “Measuring economic policy uncertainty”, December 18

BDF/TSE Seminar, Todd Keister (Rutgers University), “Constructive ambiguity in bailout policy”, December 18

Conference on “Price setting and inflation”, December 17-18

Banque de France – France Stratégie Conference on “French competitiveness”, December 16

DGEI Seminar, Guillaume Roussellet (NYU Stern), “Affine term structure modeling and macroeconomic risks at the zero lower bound”, December 16

BDF/TSE Seminar, Guido Ascari (Oxford University), “Does inflation walk on unstable paths?”, December 15

DGEI Seminar, John Mondragon (Northwestern University), “Household credit and employment in the Great Recession”, December 15

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# Angus Deaton and consumers’ behavior: the almost ideal demand system

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The seminal works of Angus Deaton, the 2015 Nobel Prize winner, have been vastly commented on in the past quarters. However, one area in which he made a very significant contribution, namely the analysis of demand for goods and services, has received less attention. Specifically, Angus Deaton’s contribution was on demand functions, or systems, that allow a share of the total demand of goods or services to be allocated to each demander, taking into account specific constraints – such as budget constraints, availability of goods, complementarity or substitutability among goods and services, etc.

These systems are widely used in empirical demand analysis to model household expenditure for specific goods – such as marketing, meat, grain products or beverages – or even overall household expenditure. They are also applied to the analysis of the portfolio choice of households.<sup>1</sup>

In the recent decades, many demand functions consistent with economic theory have been developed in the literature. One of the most popular is the Almost ideal demand system (AIDS) pioneered by Deaton and Muellbauer (1980 a, b).<sup>2</sup>

To introduce the subject in a simple manner, let us consider a household that sets up its optimal demand in each consumption good taking into account its budget constraint. In other words, this household optimises the allocation of each share of its budget to a specific good. The AIDS model makes it possible to define, for each share of budget, a function that relates it to the prices of the different goods that it may wish to purchase and to its income. More formally, for a representative agent, a utility function can be defined that can be optimised under a budget constraint. To define the AIDS approach, Deaton and Muellbauer (1980) have suggested rebuilding the optimisation programme in order to minimise the associated cost function rather than maximising the expected utility function. This procedure allows us to derive the long-run optimal budget shares which are non-linear functions of the explanatory variables. The model is known as the full nonlinear AIDS. In order to solve AIDS models, some theoretical restrictions need to be introduced (linear homogeneity, symmetry) on the parameters of the models. However, the AIDS models are usually implemented in their linearised forms. In the linear version of the AIDS model, the equations describing the shares of the budget make it possible to define the elasticities of these shares relative to the prices and real income.

The AIDS model and, more generally, the demand functions of this class (see footnote 3) are characterised by the absence of some of the standard *a priori* restrictions on elasticities. In addition, these functions are defined with a relatively small number of unknown parameters which eases the estimation or the calibration of elasticities.

Besides, the original AIDS model was modified in order to circumvent some econometric difficulties. Pesaran and Shin (2002) suggested introducing some dynamics in the framework in order to allow short-run deviations from the long run or structural equilibrium while other experts recommended treating the budget share equations in the form of error correction models.<sup>3</sup> Introducing stochastic trends and stochastic seasonality in the AIDS framework also seems a promising avenue in the implementation of the AIDS model. Taking into account different types of dynamics can make the AIDS model more realistic by making the framework more suited to the data properties.

However, these functional forms have some drawbacks. In particular, they are consistent with microeconomic theory requirements only locally. To circumvent this drawback, some alternative flexible functional forms (or semi- and non-parametric approaches) have been developed in order

1 For an application to financial portfolio choices, see Avouyi-Dovi (S.), Borgy (V.), Pfister (C.), Scharnagl (M.), Sédillot (F.) (2014) “Households’ portfolio choices: A comparison between France and Germany (1978-2009)” in A flow of funds perspective on the financial crisis, editors: Winckler, Bernhard, Van Riet Ad and Bull Peter, Palgrave MacMillan.

2 Deaton (A.), Muellbauer (J.) (1980a) “An almost demand system”, *American Economic Review* 70: 312-326. Deaton (A.), Muellbauer (J.) (1980b) “Economics and consumers behavior”, Cambridge University Press: Cambridge, UK. Also worth mentioning are the generalised Leontief functions, the translog function, the Rotterdam model. See for example, Theil (H.) (1975a, b) “Theory and measurement of consumer demand”, Volume 1 and 2, North-Holland: Amsterdam.

3 Pesaran (H.), Shin (Y.) (2002): “Long-run structural modeling”, *Econometric Review*, 21(1), pp. 49-87.

Conference “Economic history and economic policy”, December 14-15

9th Joint French macro workshop, December 11

DGEI Seminar, Meredith Crowley (University of Cambridge), “Local market conditions and exchange rate pass through: evidence from Chinese exporters”, December 11

DGEI Seminar, Édouard Jousselin (Banque de France), “The behaviour of French firms during the crisis: evidence from the wage dynamics network survey”, December 9

Aix-Marseille School of Economics – Banque de France Conference “Labor markets and institutions”, December 3-4

BDF/TSE Seminar, Stefan Nagel (University of Michigan, NBER, and CEPR), “The liquidity premium of near-money assets”, December 1

DGEI Seminar, Carlos Arteta (World Bank), “The coming U.S. interest rate tightening cycle: Smooth sailing or stormy waters?”, December 1

DGEI Seminar, Vincent Bignon (Banque de France), “Beneath the gold points: European financial market integration, 1844-1870”, November 25

DGEI Seminar, Alessandro Maravalle (Banque de France), “Has the voracity effect lost appetite? Policy reforms, growth and inequality with heterogeneous groups”, November 19

DGEI Seminar, Eliana Viviano (Bank of Italy), “Hiring incentives and/or firing cost reduction? Evaluating the impact of the 2015 policies on the Italian labour market”, November 13

BDF/TSE Seminar, Thomas Philippon (NYU Stern School of Business), “Measuring systemic risk for insurance companies”, November 12

BDF/TSE Seminar, Semyon Malamud (EPFL), “Decentralized exchange”, November 10

DGEI Seminar, Thierry Mayer (Sciences Po, Banque de France, CEPII and CEPR), “Brands in motion: how frictions shape multinational production”, November 5

BDF/TSE Seminar, Xavier Freixas (University Pompeu Fabra), “Public development banks and credit market imperfections”, November 3

BDF/TSE Seminar, Vladimir Asriyan (CREI), “Information spillovers in asset markets with correlated values”, October 29

DGEI Seminar, Gabor Katay (Banque de France), “Currency matching and carry trade by non-financial firms”, October 28

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to replace the functions of the first generation. These more recent approaches aim to enlarge the regions in which these functions are consistent with the theoretical microeconomic framework.

These approaches of the new generation are conceptually attractive but also more complex, especially in terms of estimation. Not only does the issue of tractability with these approaches hamper their empirical use but, in addition, assessing the gains linked to their empirical implementation is not an easy task.<sup>4</sup>

In the literature, the AIDS models are often compared with the Rotterdam models which are one of the most popular demand functions.<sup>5</sup> Both the AIDS and Rotterdam models are founded on a first-order approximation to the demand functions. However, the AIDS models are based on a specific class of preferences which allow aggregation over consumers while the Rotterdam models are linked to some arbitrary preference. Moreover, it is worth highlighting that under some theoretical constraints, both the AIDS and Rotterdam models are consistent with consumer theory but the AIDS approaches are more general.

Hence, recourse to the linearised form of some functions, obtained under some acceptable theoretical restrictions, accounts for how the issue of tractability is often solved from a practical point of view. Examples of the linearised functional forms regularly estimated in empirical studies, both in applied microeconomic and macroeconomic studies, are the linear AIDS models (Deaton and Muellbauer, 1980 a and b) and the Rotterdam models which are linear by construction (Theil, 1975). In their seminal work, Deaton and Muellbauer stress that the AIDS model, especially its linearised versions, and Rotterdam models, display some similarities. In addition, both the AIDS and Rotterdam models use theoretical restrictions that are statistically testable, rather than imposing them on the functional form.

Barnett and Seck (2008) show that there is no definite evidence on the predominance of the performances of the almost ideal demand system relative to or compared with those of the Rotterdam models. For example, both models perform well when substitution between goods is low. Also, according to their findings, the nonlinear AIDS models by Deaton and Muellbauer perform better than the original Rotterdam models in certain cases, whereas the Rotterdam ones clearly dominate the AIDS models in other cases. Unfortunately, to the best of our knowledge, the comparisons made in Barnett and Seck (2008) were not extended to more general approaches or to the new generation functional forms.

To sum up, it is not possible to disentangle the performances of the two classes (AIDS and Rotterdam) of demand functions. As a result, the choice between both approaches is a practical issue. The framework selected should be clearly related to the economic theory of demand in order to avoid spurious relations. Finally, the framework should be empirically traceable and intuitively understandable. The Deaton and Muellbauer AIDS structure fulfils these properties and is therefore a relevant choice among the different classes of demand systems.

<sup>4</sup> However, although there are many papers which discuss the properties of some specific and complete demand systems, only a few studies have been devoted to a systematic and thorough comparison of demand systems.

<sup>5</sup> Barnett (W. A.), Seck (O.) (2008) “Rotterdam model versus almost ideal demand system: Will the best specification please stand up?”, *Journal of Applied Econometrics*, 23,795-824.

Banque de France – Toulouse School of Economics Conference on “Securitisation: the way forward?”, October 23

BDF/Foundation France-Japan Seminar, Yuko Ueno (Hitotsubashi University), “Measuring inflation expectations: consumers’ heterogeneity and nonlinearity”, October 22

DGEI/ACPR Seminar, Ib Hansen (Central Bank of Denmark), “Towards macroprudential models – Integrating macroeconomic – and stress test model (How to incorporate feedback loops between the banking sector and the real economy and to get a more systemic/macro prudential focus when performing top down stress tests.)”, October 21

BDF/TSE Seminar, Sushant Acharya (Federal Reserve Bank of New York), “Liquidity traps, capital flows”, October 20

Banque de France – Bank of England International macroeconomics workshop, Paris, October 19

BDF/TSE Seminar, Ariel Zetlin-Jones (Carnegie Mellon University) “Screening and adverse selection in frictional markets”, October 13

DGEI Seminar, Klodiana Istrefi (Banque de France), “Delayed overshooting puzzle in structural vector autoregression models”, October 9

BDF/TSE Seminar, Facundo Piguillem (EIEF), “Retirement in the shadow (Banking)”, October 6

DGO/DSF Seminar, Douglas Breeden (Duke University), “Central Bank policy impacts on the distribution of future interest rates”, October 6

BDF/TSE Seminar, Stefania D’Amico (Federal Reserve Bank of Chicago), “What does anticipated monetary policy do?”, September 29

Banque de France – ACPR Conference “Financial regulation – Stability versus uniformity. A focus on non-bank actors”, September 28

Banque de France – Association d’économie financière Conference, September 28

BDF/TSE Seminar, Bo Becker (Stockholm School of Economics), “Bad times, good credit”, September 22

DGEI Seminar, Beata Javorcik (Oxford University), “Grin and bear it: producer-financed exports from an emerging market”, September 18

BDF/TSE Seminar, Jean-Pierre Zigrand (London School of Economics), “Market resilience”, September 17

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## The Eurosystem’s securities market programme under the microscope

In May 2010, the European central bank (ECB) and the national central banks of the euro area (Eurosystem) launched the Securities market programme (SMP) to address the malfunctioning of certain markets playing a key role in the transmission of monetary policy. The Eurosystem decided to intervene in the secondary sovereign markets for Greek, Irish and Portuguese bonds, with the aim of ensuring “depth and liquidity” and restoring “an appropriate monetary policy transmission”. After this first wave of interventions, the programme entered a second phase in August 2011 when it was extended to the Italian and Spanish markets.

The announcement of these programmes had a strong and immediate effect on the relevant markets by significantly reducing the observed spreads between the targeted yields and the German bund, which is often taken as a reference. For example, the spread between Greek and German yields declined by an average of 400 basis points on the day of the announcement of the programme, i.e. 10 May 2010; Italian and Spanish spreads relative to the bund fell by 100 basis points on 8 August, 2011, following the publication of the press release indicating the extension of the SMP.

While communication at the time of the introduction of these programmes is a powerful tool for central banks in general, it is more difficult to assess the lasting effectiveness of these programmes. In the case of the SMP in particular, which aims to ensure the proper functioning of the market, a serious problem of endogeneity arises: if the interventions are triggered by a sudden deterioration in market conditions (i.e. an increase in yields due to market liquidity problems) and the central bank reacts within minutes to correct these dynamics, a daily assessment may well reveal a non-significant effect of central bank interventions (or even a counterproductive effect). In other words, a zero correlation between yields and intervention volumes observed at a daily frequency is perfectly compatible with a strong and negative correlation at a higher frequency of observation. It is therefore necessary to observe under the microscope the dynamics of rates and the volumes committed by the central bank, in order to assess accurately the effectiveness of the programme.

Eric Ghysels, Julien Idier, Simone Manganelli and Olivier Vergote had access to the confidential database comprising all transactions undertaken by the Eurosystem under the SMP. This database allowed them to study the intraday strategies of the Eurosystem and compare transaction timings and volumes with the evolution of targeted rates.

The authors provide us with an analytical framework to quantify the impact of institutional interventions in the markets, especially the “surgical” intervention programmes aimed at targeting the malfunctioning of certain key markets suffering from inefficiencies.

They show that the SMP, although often criticized, has been effective in all countries at reducing both the volatility and the levels of rates. With the usual caveats associated with such an exercise, we estimate that in Italy and Spain, the SMP decreased the yields on 2 year bonds by 320 and 180 basis points respectively, and in both cases decreased the yields on 10-year bonds by 230 basis points. These impacts are measured in addition to the announcement effect. To sum up, central bank intervention is effective and should not be underestimated.

**Ghysels (E.) (University of North Carolina), Idier (J.) (Banque de France), Manganelli (S.) and Vergote (O.) (European central bank) (2015) “The Eurosystem’s securities market programme under the microscope”, *Journal of European Economic Association*, forthcoming.**

Julien Idier is currently deputy head of the Macroprudential Policy Division which is part of the General Directorate Financial Stability and Operations. After joining the Banque de France’s Economics and Finance Research Division in 2005, he obtained a PhD in economics in 2009 from the Université Paris 1 Panthéon-Sorbonne. From 2011 to 2013, he was an economist with the Monetary Policy Directorate of the European central bank (Capital Markets Division). He has published articles in *Journal of Banking and Finance*, *International Journal of Finance and Economics*, *The European Journal of Finance*, *International Journal of Forecasting* and *Journal of the European Economic Association*.



BDF/TSE Seminar, Olivier Accominotti (London School of Economics), “Global banking and the international transmission of the 1931 financial crisis”, September 15

Foundation Banque de France’s 20th Anniversary Conference Paris, September 14

Foundation Seminar, Ramon Marimon (European University Institute), “Breaking the spell with credit easing. Self-confirming credit crises in competitive search economies”, September 11

BDF/TSE Seminar, Fabio Trojani (Geneva University and SFI), “The price of the smile and variance risk premia”, September 8

DGO/DSF Seminar, Philip Davis (NIESR and Brunel University), “Exploring the short- and long-run links from bank competition to risk – reconciling conflicting hypotheses?”, September 3

DGEI Seminar, Thomas Bourany (Banque de France), “Fiscal policy and imperfect tax compliance over the business cycle”, July 23

DGEI Seminar, Xuguang Simon Sheng (American University, Washington), “Measuring global and country-specific macroeconomic uncertainty”, July 21

DGEI Seminar, Juliana Milovich (Banque de France), “Explaining the recent slump in investment: The role of expected demand and uncertainty”, July 21

BDF/TSE Seminar, Andrew Jalil (Occidental College, Los Angeles), “Inflation expectations and recovery from the depression in 1933: evidence from the narrative record”, July 20

Conference on “Endogenous financial networks and equilibrium dynamics: addressing challenges of financial stability and monetary policy”, July 9-10

Foundation Seminar, Saki Bigio (New York University), “Banks, liquidity management and monetary policy”, July 6

Foundation Seminar, Yacine Aït-Sahalia (Princeton University), “Mutual excitation in Eurozone sovereign CDS”, July 2

DGEI Seminar, Jae Bin Ahn (IMF), “Understanding trade finance: theory and evidence from transaction-level data”, July 1

DGEI Seminar, Mario Di Filippo (Banque de France), “The information contained in money market interactions: unsecured vs. collateralized lending”, July 1

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## Financial fragility in small open economies: firm balance sheets and the sectoral structure

In the last three decades, both developing and developed economies have experienced boom-and-bust cycles ending with severe financial crises. These events share a common pattern. The boom typically follows financial or capital account liberalisation: capital flows in financing growing current account deficits and a domestic credit boom. The bust features both a sudden reversal of capital flows and a banking crisis: a twin crisis. Examples of such episodes include the Nordic crises in the late eighties, the Asian crisis in 1997, and the crises in Latin America in the late nineties. More recently, similar boom-and-bust cycles took place in the periphery countries of the euro area as they joined the currency union and fully integrated their interbank markets.

An important task for researchers is to identify what factors of fragility build up during the boom. In this article, Yannick Kalantzis argues that sectoral dynamics play an important role. Large capital inflows trigger a re-allocation of resources from sectors producing tradable goods (exporting and import-competing sectors) to sectors producing non-tradable goods (sectors sheltered from international competition, such as construction and a large part of services); and such a change in the sectoral structure makes the economy more likely to experience a twin crisis.

Yannick Kalantzis first documents how the N-to-T ratio i.e. the size of non-tradable sectors relative to that of the tradable sectors, increases during episodes of large capital inflows. These dynamics, which hold in a sample of 40 countries starting in 1970, are especially striking for the periphery countries of the euro area in the 2000s. Second, he shows how a large N-to-T ratio is a good leading indicator of twin crises. The author then builds a model to account for these two facts. In the model, an increase in financial openness leads to a persistent increase in the N-to-T ratio. Intuitively, financial openness decreases the cost of capital and leads to a higher level of production. This implies a higher demand for inputs. While inputs from tradable sectors can be imported, inputs from non-tradable sectors can only be produced domestically: a higher demand for the latter leads to an increase in their relative price, which is a form of real appreciation. This attracts resources into non-tradable sectors, increasing the N-to-T ratio.

In economies where private debt contracts are denominated in foreign currency (or, as in the case of the euro area, in members of currency unions) and in the presence of borrowing constraints, this higher N-to-T ratio can lead to self-fulfilling crises. In a crisis, borrowing constraints prevent firms from buying inputs. The demand for non-tradable goods and services then drops suddenly. However, the supply of these goods has increased because of the sectoral reallocation, so their relative price has to decline substantially (a real depreciation). Since foreign currency debt does not react, this hurts the balance sheets of firms in non-tradable sectors, leading to widespread defaults and a financial crisis.

A richer version of the model shows that this mechanism was quantitatively important in several well-known episodes of booms and busts, including the recent euro area crisis.

**Kalantzis (Y.) (2015) “Financial fragility in small open economies: firm balance sheets and the sectoral structure”, *Review of Economic Studies*, Volume 82(3), pp. 1194-1222, July.**

Yannick Kalantzis is Head of the Euro Area Outlook Division. His research covers various topics in macroeconomics. He has published articles in journals such as the *Review of Economic Studies* and the *American Economic Journal: Macroeconomics*.



## Rue de la Banque Issues

Rue de la Banque No 15: Euro area external adjustment and real exchange rate movements: the role of firm productivity distribution  
Francesco Pappadà, December 2015

Rue de la Banque No 14: Land prices, lending to companies and job creations  
Leo Kaas, Patrick Pintus and Simon Ray, November 2015

Rue de la Banque No 13: How fiscal policy affects the price level: lessons from a not so distant past  
Pamfili Antipa, November 2015

Rue de la Banque No 12: The fall in oil prices in 2014 : the role of supply and demand components  
Simona Delle Chiaie, October 2015

Rue de la Banque No 11: Gross domestic product per capita in France and in advanced economies: the role of productivity and employment  
Antonin Bergeaud, Gilbert Cette, Rémy Lecat, October 2015

Rue de la Banque No 10: Did the Eurosystem's LTROs of 2011 and 2012 help to avert a credit crunch in the euro area?  
Philippe Andrade, Jean-Stéphane Mésonnier, Christophe Cahn and Henri Fraise, September 2015

Rue de la Banque No 9: How can the rise in the French household saving ratio since the start of the crisis be explained?  
Violaine Faubert and Virginia Olivella Moppett, September 2015

Rue de la Banque No 8: Heightened bank capital requirements and bank credit in a crisis : the case of the 2011 EBA Capital Exercise in the euro area  
Jean-Stéphane Mésonnier and Allen Monks, July 2015

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## Banque de France Working Papers

### Second half of 2015

580 "Offshoring and skill-upgrading in French manufacturing: A Heckscher-Ohlin-Melitz view", Carluccio (J.), Cuñat (A.), Fadinger (H.) and Fons-Rosen (C.), December

579 "Institutional distance and foreign direct investment", Cezar (R.) and Escobar (O.R.), December

578 "Approximating time varying structural models with time invariant structures", Canova (F.), Ferroni (F.) and Matthes (C.), December

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## Global versus local shocks in micro price dynamics

How prices adjust to macroeconomic conditions is crucial to understanding business cycle fluctuations and to assess the impact of macro shocks such as monetary policy shocks. The existing literature provides us with conflicting answers to this question. On the one hand, aggregate inflation is typically found to be very persistent, implying that prices adjust very sluggishly and that monetary policy has powerful real effects. On the other hand, disaggregated price data reveal that they adjust frequently suggesting much less effective monetary policy. Several recent studies attempt to resolve this micro-macro puzzle while retaining the importance of monetary policy by distinguishing between the (sluggish) response of individual prices to macroeconomic shocks common to every sector or product, and their (rapid) response to microeconomic shocks specific to a sector or product.

Philippe Andrade and Marios Zachariadis show that the distinction between global shocks and local shocks is more striking than the macro-micro split considered in previous work. They exploit a unique panel of 276 micro price levels collected at a semi-annual frequency over two decades in 59 countries around the world by the Economist intelligence unit. The three dimensions of their dataset (time, location and individual product) allow them to decompose the dynamics of micro prices into four different components: (1) a global macro component common to every good in every location; (2) a global micro component specific to a good and common to every location; (3) a local macro component specific to a location and common to every good; and (4) a local micro or idiosyncratic component specific to a good and a location.

Philippe Andrade and Marios Zachariadis underline that global macro and micro shocks are associated with a slower response of prices than the respective local shocks. In fact, the speed of price adjustment in response to local macro shocks or local micro shocks is relatively fast. These differences in the persistence of the global and local components may stem from differences in the response of prices to the various shocks underlying them or from differences in the nature of these underlying shocks. They therefore go one step further and identify the response of prices to unpredictable global and local structural monetary shocks, through structural vector autoregressive (SVAR) models. The results show that the previous differences are related to prices reacting much more slowly to global than to local shocks.

According to Philippe Andrade and Marios Zachariadis, these results have three main policy implications. First, global shocks cannot be ignored when analysing international price dynamics. This is reminiscent of the recent literature emphasising the importance of a global component in domestic inflation rates. One difference is that the evidence provided here is based on disaggregated micro price data. Second, global macro shocks have a different macro impact than local macro shocks. In particular, global demand shocks have a much more persistent impact on prices and output than local ones. Conversely, prices adjust more rapidly to domestic monetary policy which therefore has less traction on output when it is disconnected from the global monetary policy cycle. The decomposition between global and local shocks is therefore important since considering only one type of macro shock would hide these differences and lead to misleading inferences about their effects on prices and the macroeconomy. Third, the decomposition of shocks provides us with new evidence which can be challenging for price-setting models. Given the importance of the global dimension of inflation, it would be useful to develop theoretical setups that can rationalise these new facts.

**Andrade (P.) and Zachariadis (M.) (2016), "Global versus local shocks in micro price dynamics", *Journal of International Economics*, Volume 98, pp. 78-92.**

Philippe Andrade is head of the Monetary Policy Division. His work focuses on the formation of expectations, the dynamics of inflation and the assessment of unconventional monetary policies. He has published articles in journals such as: *The Journal of Monetary Economics*, *the Journal of Econometrics*, *the International Journal of Forecasting* and *the Oxford Bulletin of Economics and Statistics*.



577 “On the sources of macroeconomic stability in the euro area”, Avouyi-Dovi (S.) and Sahuc (J.-G.), November

576 “Delayed overshooting puzzle in structural vector autoregression models”, Istrefi (K.) and Vonnak (B.), October

575 “Financial incentives and labor market duality”, Berson (C.) and Ferrari (N.), October

574 “The behaviour of French firms during the crisis: evidence from the wage dynamics network survey”, Jadeau (C.), Jouselin (E.), Roux (S.) and Verdugo (G.), October

573 “Forward guidance and heterogeneous beliefs”, Andrade (P.), Gaballo (G.), Mengus (E.) and Mojon (B.), October

572 “The long landing scenario: rebalancing from overinvestment and excessive credit growth. Implications for potential growth in China”, Albert (M.), Jude (C.) and Rebillard (C.), October

571 “Explaining the recent slump in investment: the role of expected demand and uncertainty”, Bussière (M.), Ferrara (L.) and Milovich (J.), September

570 “Real wage cyclicity in the Eurozone before and during the Great Recession: evidence from micro data”, Verdugo (G.), September

569 “Mega-deals: what consequences for sub-Saharan Africa?”, Guimbard (H.) and Le Goff (M.), September

568 “Credible wage bargaining and the joint dynamics of unemployment and inflation”, Clerc (P.), August

567 “On the coherence and the predictive content of the French Bank Lending Survey’s indicators”, Levieuge (G.), August

566 “Explaining and forecasting bank loans. Good times and crisis”, Levieuge (G.), August

565 “Structural and atheoretic approaches to micro-econometrics of public policy evaluation”, Roux (S.), August

564 “Civic capital and the vertical integration of service provision: evidence from Italy”, Bürker (M.) and Alfredo Minerva (G.), July

563 “Aid and growth: evidence from firm-level data”, Chauvet (L.) and Ehrhart (H.), July

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## More facts about prices: France before and during the Great Recession

The way prices are set and adjusted has crucial macroeconomic implications, especially for the real effects of monetary policy and the welfare consequences of business cycles. Over the past decade, several empirical studies have provided evidence on micro price rigidity in many countries. However, some questions remain (at least partly) unanswered. How does the degree of price rigidity compare between France and the United States? What is the role played by sales and product substitutions in the transmission of macroeconomic fluctuations to prices? And what was the impact of the Great Recession on price setting behavior?

Nicoletta Berardi, Erwan Gautier and Hervé Le Bihan answer these questions based on more than 11 million monthly price quotes collected by the national statistical office in order to compute the French consumer price index (CPI), spanning from April 2003 to April 2011. Regarding the comparison between price rigidity in France and the United States, they find that price changes are less frequent and smaller in France, but this difference tends to fade once sales are excluded. About 20% of prices change each month in France versus 24% but, disregarding sales, the frequency of price changes is in both countries about 17%. Similarly, the average size of price changes is larger in the United States than in France (15% versus 10% for price increases and -18% versus -13% for price decreases), but, when sales are excluded, the average magnitude of price changes diminishes by 9 percentage points in France and only 1 in the United States.

Although in France, on average, only 2% of price records are tagged as sales (versus about 10% in the United States), a substantial fraction of monthly inflation volatility can be attributed to sales. Indeed, the size of price changes substantially contributes to inflation variations at the monthly frequency, mostly due to large movements in the size of price changes due to seasonal sales. However, when sales are excluded, inflation variations are mostly explained by variations in the frequencies of price increases and decreases. Conversely, product substitutions have a positive impact on the average monthly inflation rate, but they only slightly contribute to the fluctuations of inflation. Finally, price changes related to sales and product replacements are found to play a smaller role than regular price changes in the transmission of cost or business cycle conditions to inflation.

Little is known about whether and how the micro price setting was modified during the Great Recession. This is especially true for European countries, as most empirical results on price rigidity were obtained using data collected in the 1990s or in the early 2000s. Nicoletta Berardi, Erwan Gautier and Hervé Le Bihan investigate the effect of inflation and business cycle conditions on price changes at the microeconomic level. They find a small but significant effect of the Great Recession: there were more and larger (in absolute value) price decreases during the Great Recession. More generally, business cycle conditions appear to affect regular price dynamics mainly through variations in the probability of price changes (the extensive margin) rather than through variations in their size (the intensive margin).

***Berardi (N.), Le Bihan (H.), Gautier (E.) (2015) “More facts about prices: France before and during the Great Recession”, Journal of Money, Credit & Banking, Volume 47(8), pp. 1465-1502, December.***

Nicoletta Berardi has been a Research Economist in the Microeconomic Analysis Division since 2010. Her main research interests are the determinants of price setting and price dynamics. She has published articles in the *Journal of Money, Credit & Banking*, *Applied Economics* and the *Review of Income and Wealth* among others. She holds a PhD at Toulouse School of Economics; before joining the Banque de France, she worked as a consultant for the World Bank and the OECD.



## Credit frictions and the cleansing effect of recessions

Recessions are conventionally considered as times when the least productive firms are driven out of the market. How do credit frictions affect this cleansing effect of recessions? We build and calibrate a model of firm dynamics with credit frictions and endogenous entry and exit in order to investigate this question. We find that there is a cleansing effect of recessions in the presence of credit frictions, despite their effect on the selection of exiting and entering firms. This result holds true regardless of the nature of the recession: average firm-level productivity rises following a negative aggregate productivity shock, as well as following a negative financial shock. The intensity of the cleansing effect of recessions is lower in the presence of credit frictions, especially when the recession is driven by a financial shock.

Recessions are times of rising bankruptcies and business closures. During the Great Recession, the US annual establishment exit rate increased from 11.8% to 13.5% between March 2008 and March 2009. The increase in the firm exit rate during periods of economic downturn has led to the view that recessions cleanse the economy: as they do not become profitable enough, less efficient firms are scrapped, thus allowing resources to be reallocated towards more productive firms.

This conventional view of recessions is based on the implicit assumption that markets select the most productive firms. However, the probability that firms will exit depends not only on their productivity but also on their access to credit. In the presence of credit frictions, highly productive but financially vulnerable firms may be forced to exit the market. Credit frictions may therefore alter the productivity-enhancing effect of recessions.

We study the impact of credit frictions on the cleansing effect of recessions in a model of firm dynamics with credit frictions and endogenous exit. We calibrate the model to match the observed exit rate, the productivity distribution and the level of credit frictions in the US economy, and analyze the consequences of credit frictions on the cleansing effect. We find that there is a cleansing effect of recessions even in the presence of credit frictions. The average productivity increases following an adverse aggregate productivity shock as the shock predominantly raises the net exit rate of low productivity firms. We show that low productivity firms are more vulnerable to the aggregate productivity shock than high productivity firms despite facing less credit frictions.

We then study the response of the economy to a financial shock and investigate how the nature of the shock shapes the response of average productivity. We find that the decline in total net worth, calibrated to match the decline observed in the 2008 recession, mainly affects low productivity firms and leads to an increase in average productivity. As the financial shock leads to an increase in the net exit rate that is more similar across productivity levels, the intensity of the cleansing effect is weaker than in the case of a negative aggregate productivity shock.

**Osotimehin (S.) and Pappadà (F.), "Credit frictions and the cleansing effect of recessions", *Economic Journal*, forthcoming.**

Francesco Pappadà has been an economist in the International Macroeconomics Division since December 2014. His research interests include international macroeconomics, credit frictions and firm dynamics, and fiscal policy. He has published articles in the *IMF Economic Review*, *Journal of International Money and Finance* and *Economic Journal*.





## How do firms adjust production factors to the cycle?

Firms continuously face demand or supply shocks that should lead them to adjust regularly their production factors, i.e. their capital stock (equipment, building, etc.) and their employment. This adjustment process is a key element of a well-functioning economy: it allows firms to maintain their performances at their best levels thanks to an optimal allocation of the factors of production at all times. However, firms adjust production factors, and especially capital, with a lag, due to adjustment costs. These costs may be technical (cost of hiring and training employees, installation costs of new capital goods, etc.) as well as regulatory (severance pay, regulation of depreciation in tax schedules, etc.). Hence, firms have to adjust the utilisation of labour and capital before their volume.

Gilbert Cette, Rémy Lecat and Ahmed Ould Ahmed Jiddou analyse the production factor adjustment taking into account all aspects of factor utilisation: labour and capital working time, capital capacity utilisation through a unique survey among French manufacturing firms, etc. This survey also allows us to examine the impact of obstacles to increasing capital operating time on this adjustment path.

They show that factor utilisation adjusts the most rapidly, first through capital capacity utilisation and the capital workweek and then labour working time. The adjustment is slow for the number of employees and even slower for the capital stock. In the case of a change in the capital stock target, the three factor utilisation degrees, and, in a lesser proportion, employment, adjust to offset the very slow reaction of the capital stock. Similarly, in the case of a change in the employment target, the three factor utilisation degrees offset the slow adjustment of this factor. Among the three factor utilisation degrees, these balancing reactions are higher for the capital utilisation rate than for the capital operating time, and higher for the capital operating time than for labour working time. These results confirm and build on those of previous analysis, such as those of Nadiri and Rosen (1969, 1973). But to the best of our knowledge, it is the first time that this role of the adjustment of the degrees of factor utilisation to offset the slow adjustment of factor volumes, and mainly of capital volume, has been estimated using firm-level data. The obstacles to increasing the capital operating time lead to a slower adjustment of capital operating time, as the short-term adjustment relies more on the capital utilisation rate.

These results lead to several policy conclusions. Flexible factor utilisation degrees are essential to offset the inertia of factor volumes, and mostly capital. Obstacles to this flexibility could prevent output adjustment, which could lead to higher production costs (if factor volumes or inventories are too large) or inflationary pressures (if firms are unable to adapt their production to demand fluctuations). A number of ways to ease this flexibility have to be considered. For example, regulatory obstacles should, whenever possible, be replaced by collective agreements between social partners. Thanks to a better adaptation to each firm specificities and needs, collective bargaining is more appropriate than regulations to allow firms to achieve the most appropriate factor adjustments to external shocks such as demand ones.

**Cette (G.), Lecat (R.), Ould Ahmed Jiddou (A.), "How do firms adjust production factors to the cycle?", *The B.E. Journal of Macroeconomics*, forthcoming.**

Rémy Lecat is head of the Trade and Structural Policy Analysis Division. He graduated from Sciences Po, Cambridge University and Paris-X-Nanterre University and has a PhD from EHESS-Paris School of Economics. His research focuses on production function, productivity and the housing market. He has published articles in *The Review of Economics and Statistics*, *The Review of Income and Wealth*, *The Review of Economics and Institutions*, *The B.E. Journal of Macroeconomics* and *Economics Letters*.



## Big push or big grab? Railways, government activism, and export growth in Latin America, 1865-1913

*Investment in infrastructure is believed to have a positive impact on economic growth. Yet, some countries fail to develop enough infrastructure, due to lack of government support. Others ride the waves of innovation in infrastructure, triggering a virtuous cycle in which such investment, boosted and guaranteed by the State, feeds economic growth. According to Vincent Bignon, Rui Esteves and Alfonso Herranz-Loncán, a causal effect of infrastructure on export growth can be identified when considering the uneven spread of railways in Latin America during the first period of globalisation (1865-1913).*

During the second half of the 19th century most – but not all – Latin American countries adopted an export-led growth model based on trade in commodities and sometimes processed products with Europe and the United States. On a continent where rivers are not always navigable and mountains are sometimes very steep, the lack of transport infrastructure considerably slowed down economic growth in the countries where governments refused to subsidise or guarantee the development of the railway lines necessary to foster the development of exports. At the same time, some countries managed to develop their railway networks by guaranteeing the repayment of railway company bonds purchased by investors in London, Paris, Berlin and, later on, in New York.

In Latin America, the involvement of the government in the construction and operation of infrastructures is and always has been a contentious issue. Some underlined the need to coordinate private actions (of which a modern version is the “big push” theory) while others insisted on the ineffectiveness of the government involvement, stressing the corruption involved in the political process or the inefficiencies triggered by the choice of some private promoters by the public authorities. This explains why Argentina built a lot of railways while Colombia built very few.

Vincent Bignon, Rui Esteves and Alfonso Herranz-Loncán show that discussions on the motives for public involvement should not conceal the benefits that this involvement has brought. To provide a quantitative assessment of this issue, the authors built a database comprising data on around 20 countries from 1865 to 1913. The technical difficulty associated with identifying the impact of public involvement is that, even if it can foster infrastructure development and hence boost exports, the opposite may also be possible: an increase in exports can generate an increase in the demand for infrastructure financed by the market. In the latter case, this would also boost government revenues, therefore creating a spurious correlation. To correctly identify the causal effect of government involvement in infrastructure building on economic development, the co-authors use an instrumental variables strategy for the government’s capacity to subsidize infrastructure building and for the export potential of the country. The results are consistent with the view that infrastructure development was explained by the ability of the governments to subsidise railway companies, irrespective of whether the former’s involvement was motivated by a big push or a big grab.

***Bignon (V.), Esteves (R. P.), Herranz-Loncán (A.), (2015) “Big push or big grab? Railways, government activism, and export growth in Latin America, 1865-1913”, Economic History Review, Volume 68(4), pp. 1277-1305.***

Vincent Bignon is an economist working in the division that studies and advises on monetary policy (since 2011), and more recently he has been temporarily seconded to the Payment Systems and Market Infrastructure Directorate. A graduate of École Normale Supérieure de Cachan and École Polytechnique, he has held positions in Paris East, Sciences Po and Geneva. His recent research in the areas of economic history, dealing with analyses of crises or implementation of monetary policy, have been published in the *Economic Journal*, the *Journal of Economic History* and *Macroeconomic Dynamics*.



## A Quadratic Kalman Filter

In statistics and economics, a filter is an algorithm that allows the recursive estimation of unobserved variables. A typical case where filtering is employed is as follows: assume that an economist has developed a theoretical model. In order to calibrate that model, he needs to use data; however, he may not have available data to proxy some of the model variables. These variables are then said to be unobserved, or latent. Now, if his model constitutes a proper representation of the joint dynamics of the unobserved and observed variables, the information contained in the latter may help him to estimate the former. A filter is an algorithm that carries out this task. In economics, they are routinely used to obtain estimates of variables such as the non-accelerating inflation rate of unemployment (NAIRU), of potential GDP or of the equilibrium exchange rate.

Alain Monfort, Jean-Paul Renne and Guillaume Roussellet propose a filter-type econometric tool. The Kalman filter is a celebrated filtering algorithm, dating back to the 60s, which was initially used for the guidance, navigation and control of vehicles and missiles. Nowadays, it is also widely used in macro-financial literature. If the observed and unobserved variables have joint linear dynamics and are affected by Gaussian shocks, the Kalman filter is optimal, in the sense that it provides the most precise estimates of the latent variables. However, the fact that the interactions between observed and unobserved variables have to be linear constitutes a strong limitation in many applications.

The filter proposed by Monfort, Renne and Roussellet, called the Quadratic Kalman Filter (QKF), operates in a more general context than the standard – linear – one. Indeed, in this framework, the observed variables can depend on quadratic functions of the latent variables. The algorithm underlying the QKF stems from the dynamic statistical properties of the outer-product of a vector following a Gaussian vector autoregressive (VAR) model.

The potential applications for this filter are broad. In particular, since a quadratic function can be forced never to cross the zero line, the framework can be used to model the dynamics of non-negative variables such as probabilities of default, asset prices, exchange rates or mortality rates.

In order to assess the performance of the QKF, Monte Carlo experiments are conducted. In these experiments, some bivariate processes are simulated. The realisations of one of the two variables are then removed from the dataset and the filter is applied to try and recover these “unobserved” data. The results are compared to those obtained with other existing non-linear filters (the first- and second-order extended Kalman filters as well as the unscented Kalman filter). The results provide evidence of the superiority of QKF filtering over its competitors in most of the cases considered.

**Monfort (A.) (CREST), Renne (J.-P.) (HEC Lausanne), Roussellet (G.) (NYU Stern Business School), “A Quadratic Kalman Filter”, *Journal of Econometrics*, Volume 181, issue 1, pp. 43-56.**

Jean-Paul Renne graduated in engineering from the École Polytechnique de Paris and École nationale des Ponts et Chaussées (ENPC) in France. He subsequently obtained a Masters in Public Actions from the ENPC and a PhD in Applied Mathematics from Paris-Dauphine University. Before joining the Faculty of Business and Economics (HEC) at the University of Lausanne, he worked as an economist and researcher at the Banque de France. He has also worked at the French Treasury and at the French Ministry of Economy and Finance. As part of his research, Jean-Paul Renne applies and develops econometric tools for the modelling of time series, which are then used to study monetary and budgetary policies. Several of his articles also examine the effect of such policies on the risk premiums included in interest rates. He has notably published in the *Journal of Econometrics*, the *Review of Finance*, the *Journal of Banking and Finance* and the *European Economic Review*.



## Publications second half of 2015

"Employment effects of foreign direct investment. New evidence from Central and Eastern Europe", Jude (C.), Pop Silaghi (M.), *International Economics*, forthcoming

"Service deregulation, competition and the performance of French and Italian firms", Daveri (F.), Lecat (R.), Parisi (M.-L.), *Scottish Journal of Political Economy*, forthcoming

"Remittances and the changing composition of migration", Le Goff (M.), Salomone (S.), *World Economy*, forthcoming

"Rational inattention to news: the perils of forward guidance", Gaballo (G.), *American Economic Journal: Macroeconomics*, forthcoming

"The size and evolution of the Government spending multiplier in France", Cléaud (G.), Lemoine (M.), Pionner (P.-A.), *Annales d'économie et de statistique*, forthcoming

"Margin rate and the cycle: the role of trade openness", Cette (G.), Lecat (R.), Ould Ahmed Jiddou (A.), *Applied Economics*, forthcoming

"The impact of a 'soda tax' on prices: evidence from French micro data", Berardi (N.), Sevestre (P.), Tépaut (M.), Vigneron (A.), *Applied Economics*, forthcoming

"How do firms adjust production factors to the cycle?", Cette (G.), Lecat (R.), Ould Ahmed Jiddou (A.), *B.E Journal of Macroeconomics*, forthcoming

"Sentiment de sécurité de l'emploi : l'effet des indemnités chômage et de la justice prud'homale", Fraisse (H.), Prost (C.), Rioux (L.), *Économie et prévision*, forthcoming

"Stealing to survive? Crime and income shocks in 19th century France", Bignon (V.), Caroli (E.), Galbiati (R.), *Economic Journal*, forthcoming

"Credit frictions and the cleansing effect of recessions", Osotimehin (S.), Pappadà (F.), *Economic Journal*, forthcoming

"A stylized applied energy-economy model for France", Maggiar (N.), Schubert (K.), *Energy Journal*, forthcoming

"Land collateral and labor market dynamics in France", Kaas (L.), Pintus (P.), Ray (S.), *European Economic Review*, forthcoming

"On the sources of macroeconomic stability in the euro area", Avouyi-Dovi (S.) and Sahuc (J.-G.), *European Economic Review*, forthcoming

"Has Europe been catching up? An industry level analysis of venture capital success over 1985-2009", Krause (S.), Kräussl (R.), *European Financial Management*, forthcoming

"Labor court inputs, judicial cases outcomes and labor flows: identifying real EPL", Fraisse (H.), Kramarz (F.), Prost (C.), *Industrial and Labor Relations Review*, forthcoming

"How do households allocate their assets? Stylised facts from the Eurosystem household finance and consumption survey", Arrondel (L.), Savignac (F.), *International Journal of Central Banking*, forthcoming

"In search of the transmission mechanism of fiscal policy in the euro area", Fève (P.), Sahuc (J.-G.), *Journal of Applied Econometrics*, forthcoming

"Commonality in hedge fund returns: a determinant of systemic risk?", Bussière (M.), Hoerova (M.), Klaus (B.), *Journal of Banking and Finance*, forthcoming

"The stability of short-term interest rates pass-through in the euro area during the financial market and sovereign debt", Avouyi-Dovi (S.), Horny (G.), Sevestre (P.), *Journal of Banking and Finance*, forthcoming

- "The impact of urban enterprise zones on establishment location decisions and labor market outcomes: evidence from France", Py (L.), Mayer (T.), Mayneris (F.), *Journal of Economic Geography*, forthcoming
- "Pricing default events: surprise, exogeneity and contagion", Gourieroux (C.), Monfort (A.), Renne (J.-P.), *Journal of Econometrics*, forthcoming
- "Export dynamics and sales at home", Berman (N.), Berthou (A.), Héricourt (J.), *Journal of International Economics*, forthcoming
- "Global vs. local shocks in micro price dynamics", Andrade (P.), Zachariadis (M.), *Journal of International Economics*, forthcoming
- "The dynamics of gasoline prices: evidence from daily French micro data", Gautier (E.), Le Saout (R.), *Journal of Money, Credit and Banking*, forthcoming
- "Coin assaying and commodity money", Bignon (V.), Dutu (R.), *Macroeconomic Dynamics*, forthcoming
- "Private vs. public sector wage gap: does origin matter?", Berson (C.), *Metroeconomica*, forthcoming
- "Does ICT remain a powerful engine of growth?", Cette (G.), *Revue d'économie politique*, forthcoming
- "The elasticity of poverty with respect to sectoral growth in Africa", Berardi (N.), Marzo (F.), *Review of Income and Wealth*, forthcoming
- "Productivity trends from 1890 to 2012 in advanced countries", Bergeaud (A.), Cette (G.), Lecat (R.), *Review of Income and Wealth*, forthcoming
- "Upstream product market regulations, ICT, R&D and productivity", Cette (G.), Lopez (J.), Mairesse (J.), *Review of Income and Wealth*, forthcoming
- "Do firms provide wage insurance against shocks?", Katay (G.), *Scandinavian Journal of Economics*, forthcoming
- "Variable trade costs, composition effects, and the intensive margin of trade", Berthou (A.), Fontagné (L.), *World Economy*, forthcoming
- "A Quadratic Kalman Filter", Monfort (A.), Renne (J.-P.), Roussellet (G.), *Journal of Econometrics*, Vol. 181(1), pp. 43-56, July
- "Bank risks, monetary shocks and the credit channel in Brazil: identification and evidence from panel data", Ramos-Tallada (J.), *Journal of International Money and Finance*, Vol. 55, pp. 135-161, July
- "Assimilation in multilingual cities", Ortega (J.), Verdugo (G.), *Journal of Population Economics*, Vol. 28(3), pp. 785-815, July
- "On the size of the Government spending multiplier in the euro area", Fève (P.), Sahuc (J.-G.), *Oxford Economic Paper*, Vol. 67(3), pp. 531-552, July
- "Firm's export dynamics: experience vs. size", Berthou (A.), Vicard (V.), *World Economy*, Vol. 38(7), pp. 1130-1158, July
- "Financial fragility in small open economies: firm balance sheets and the sectoral structure", Kalantzis (Y.), *Review of Economic Studies*, Vol. 82(3), pp. 1194-1122, July
- "Approches structurelles et non structurelles en micro-économétrie de l'évaluation des politiques publiques", Roux (S.), *Revue française d'économie*, Vol. 30(1), pp. 13-65, July
- "Pourquoi les frictions nominales amplifient-elles les fluctuations du chômage ?", Pizzo (A.), *Revue française d'économie*, Vol. 30(1), pp. 183-211, July
- "Euro Area business cycles in turbulent times: convergence or decoupling?", Benjamin (K.), Ferroni (F.), *Applied Economics*, Vol. 47(34-35), pp. 3791-3815, July

"Risk management, housing and stockholding", Debbich (M.), Savignac (F.), *Applied Economics*, Vol. 47(39), pp. 4208-4227, August

"Le dollar à l'épreuve de la crise financière", Bussière (M.), Gilliot (M.), Grossmann-Wirth (V.), *Revue d'économie financière*, Vol. 119(3), pp. 35-54, September

"La politique de change chinoise et la place du renminbi dans le système monétaire international", Coudert (V.), *Revue d'économie financière*, Vol. 119(3), pp. 69-96, September

"Penser les politiques macroprudentielles au niveau global", Clerc (L.), *Revue d'économie financière*, Vol. 119(3), pp. 141-156, September

"Macroeconomic forecasting during the Great Recession: the return of non-linearity?", Ferrara (L.), Marcellino (M.), Mogliani (M.), *International Journal of Forecasting*, Vol. 31(3), pp. 664-679, September

"Euro area structural convergence? A multi-criterion cluster analysis", Irac (D.), Lopez (J.), *International Economics*, Vol. 143, pp. 1-22, October

"Big push or big grab? Railways, government activism, and export growth in Latin America, 1865-1913", Bignon (V.), Esteves (R.P.), Herranz-Loncan (A.), *Economic History Review*, Vol. 68(4), pp. 1277-1305, November

"Heterogeneous beliefs, regret, and uncertainty: the role of speculation in energy price dynamics", Joëts (M.), *European Journal of Operational Research*, Vol. 274(1), pp. 204-215, November

"Stockholding in France: the role of financial literacy and information", Arrondel (L.), Debbich (M.), Savignac (F.), *Applied Economics Letters*, Vol. 22(16), pp. 1315-1319, November

"Nowcasting French GDP in real-time with surveys and 'blocked' regressions: combining forecasts or pooling information?", Bec (F.), Mogliani (M.), *International Journal of Forecasting*, Vol. 31(4), pp. 1021-1042, December

"More facts about prices: France before and during the Great Recession", Berardi (N.), Gautier (E.), Le Bihan (H.), *Journal of Money, Credit, and Banking*, Vol. 47(8), pp. 1465-1502, December

"International banking and liquidity risk transmission: evidence from France", Bussière (M.), Camara (B.), Castellani (F.-D.), Schmidt (J.), *IMF Economic Review*, Vol. 63, pp. 479-495, December

"Financial incentives and labour market duality", Berson (C.), Ferrari (N.), *Labour Economics*, Vol. 37, pp. 77-92, December

« La détention par les non-résidents des actions des sociétés françaises du CAC 40 à la fin de l'année 2014 », Bui Quang (P.), *Bulletin de la Banque de France* No 201, pp. 5-13, 3rd quarter

« Situation des PME en France en 2014 », Cahn (C.), Chavy-Martin (A.-C.), Lefilliatre (D.) and Servant (F.), *Bulletin de la Banque de France* No 201, pp. 15-32, 3rd quarter

« Les entreprises dans la crise : premiers résultats d'une enquête européenne », Jadeau (C.), Jousset (É.), Roux (S.) and Verdugo (G.), *Bulletin de la Banque de France* No 201, pp. 33-40, 3rd quarter

« Fonds d'investissement non monétaires français – Faits saillants pour l'année 2014 et le premier trimestre 2015 », Fourel (G.) and Potier (V.), *Bulletin de la Banque de France* No 201, pp. 41-49, 3rd quarter

« Les entreprises d'assurance en France : évolution des placements en 2014 », Darpeix (P.-E.), Hauton (G.), Ferrero (G.) and Potier (V.), *Bulletin de la Banque de France* No 201, pp. 51-66, 3rd quarter

« Séminaire G20 sur les méthodes d'évaluation de l'impact macroéconomique des réformes structurelles (Banque de France, 1<sup>er</sup> juin 2015) », Cabrillac (B.), Haincourt (S.) and Rivaud (S.), *Bulletin de la Banque de France* No 201, pp. 67-75, 3rd quarter

« *Les ajustements de prix à la consommation en France en période d'inflation basse* », Berardi (N.), Gautier (E.), *Bulletin de la Banque de France* No 202, pp. 5-20, November-December

« *Crédits à la consommation : tendances récentes et profil des emprunteurs* », Coffinet (J.) and Jadeau (C.), *Bulletin de la Banque de France* No 202, p. 21-33, November-December

« *Le portefeuille-titres des résidents entre 2008 et 2015* », Bui Quang (P.), *Bulletin de la Banque de France* No 202, pp. 35-42, November-December

« *Les 20 ans de la Fondation Banque de France pour la recherche en économie monétaire, financière et bancaire* », Bê Duc (L.) and Horny (G.), *Bulletin de la Banque de France* No 202, pp. 43-51, November-December

« *Banque, recherche et mécénat* », Pagès (H.), *Bulletin de la Banque de France* No 202, pp. 53-58, November-December

« *La situation financière des principaux groupes français au premier semestre 2015 : une rentabilité en baisse mais une stratégie financière qui prépare l'avenir* », Carlino (L.) and Lafon (A.-S.), *Bulletin de la Banque de France* No 202, pp. 59-69, November-December

## DSGE events

The 11th Dynare Conference took place at the National Bank of Belgium in Brussels on 28-29 September 2015. The conference was jointly organised by the National Bank of Belgium, the Banque de France and the CEPREMAP.

This annual conference was launched as part of the Dynare project. Hosted each year by a different city, it brings together macroeconomists who work with dynamic stochastic general equilibrium (DSGE) models. The 11th edition of the conference was particularly successful, drawing more than 80 participants from around the world. They presented their work in some thirty five different sessions, which covered topics as varied as financial stability and optimal interest rate policy, using adaptive sparse grids to solve high-dimensional dynamic models and yield curve and monetary policy expectations in small open economies.

The plenary lectures were presented by two well-known economists. Harald Uhlig from the University of Chicago gave a talk based on a paper written with Chiara Fratto entitled "Accounting for post-crisis inflation and employment: A retro analysis". Gianni Amisano from the Board of Governors of the Federal Reserve System then presented "Forecasting with large time-varying parameters VARs", written in conjunction with Domenico Gianone and Michele Lenza.



Michel Juillard is coordinator of the DSGE network at the Banque de France.

### Acknowledgement of discussants

The following discussants contributed insightful remarks and suggestions to DGEI's seminars over the second Half of 2015. They are thanked wholeheartedly for their support.

Fabrizio Coricelli (Paris School of Economics), Guillaume Gaulier (Banque de France), John Fernald (Federal Reserve Bank of San Francisco), Ivan Jaccard (ECB), Jan Strasky (OECD), Vincent Vicard (Banque de France).

### Research Newsletter

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