Macrofinancial linkages and current account imbalances: a synopsis

A joint conference of the CEPR, IMF, Deutsche Bundesbank, JVI and OeNB, July 2 and 3, 2015, Vienna

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External imbalances have been a central theme in the international policy debate and are often deemed culprits in the recent financial crisis in the euro area. Recently, efforts have been made by multilateral institutions to revamp their methodologies of assessing external imbalances. The models that so far have been used in cross-country policy analyses do not prominently feature the role of financial sector linkages – within and across national borders – in shaping national savings and investment dynamics. A conference organized jointly by the CEPR, the IMF, the Deutsche Bundesbank, the JVI and the OeNB on July 2 and 3, 2015, in Vienna brought together researchers from academia, central banks and international institutions to discuss more traditional views on external rebalancing in relation to more recent research on the links between cross-border banking, financial flows, private sector leverage and the current account.

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Current account imbalances have been a concern in macroeconomics and economic policymaking for a long time. These imbalances can be a source of macroeconomic instability: The sudden and abrupt reversal of capital flows causes recessions and harsh and costly adjustments.

Global financial developments over the past ten years have given the current account further prominence as a key indicator of macro imbalances and an early warning signal of impending crisis. Recent research (see Catão and Milesi-Ferretti, 2014) has corroborated, for instance, that current account deficits have held significantly more predictive power vis-à-vis a variety of other early warning indicators of external financial crises, and this has been dramatically illustrated by developments in the euro area since 2007. The prominence of current account imbalances is reinforced by the fact that they have taken the form of persistently large surpluses in a handful of countries and deficits in many others, leading to a massive international redistribution of wealth. To put this into perspective, just consider the fact that creditor countries' net financial claims on debtors amounted to some 40% of creditors' GDP in 1990 and that this ratio had nearly doubled by the early 2010s. Examining the drivers of current account imbalances clearly remains a key issue in international macroeconomics.

Of course, in theory, a pattern of persistent current account imbalances characterized by a small group of surplus countries and a large group of deficit countries could still be an optimal allocation for the world economy as a whole. Large and persistent current account imbalances can arise, for instance, as a consequence of anticipating faster productivity growth leading to higher investment and lower savings in the deficit countries. This could then be reflected – for instance – by large capital flows from euro area core countries to those in the periphery. Yet, there is also a widespread presumption that these imbalances can reflect a globally

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inefficient allocation of resources brought about by policy and institutional frictions rather than desirable market allocation.

Traditional sources of distortions have been fiscal misbehavior, excessive reserve accumulation, labor market legislation and trade restrictions. While these traditional sources of distortions are and will remain of course a key concern in the analysis of imbalances, the experience of the recent financial crisis revealed that focusing on them alone misses an important part of the picture. Factors that have also become important – and arguably more critical than ever – are distortions in the financial sector and the issue of the private sector dimension of financial flows. For instance, large parts of financial flows between the north and the south of Europe that contributed to the emergence of imbalances in the euro area were flows of private sector debt channeled through the banking system. Thus, bank-driven private sector leverage was a key contributor to macroeconomic and financial instability.

Financial frictions and current account imbalances can interact, leading to excessive risk taking and increasing the risk of crisis. In this case, macro policies that induce some rebalancing, including coordinated fiscal action and macroprudential regulation, can be welfare enhancing. The conference entitled "Macro-Financial Linkages and Current Account Imbalances," organized jointly by the Center of Economic Policy Research (CEPR), the International Monetary Fund (IMF), the Joint Vienna Institute (JVI) and the Oesterreichische Nationalbank (OeNB) and hosted by the OeNB in Vienna on July 2 and 3, 2015, provided a forum for presenting and discussing recent advances in research on some of the critical interactions between finance and external macro imbalances. The twelve papers presented at the workshop spanned theoretical and empirical aspects of such interactions. Tobias Adrian from the Federal Reserve Bank of New York and CEPR and Claudia Buch, Vice President of the Deutsche Bundesbank, gave keynote lectures.

1 High foreign exchange reserve accumulation by emerging markets and higher corporate leverage

Vincenzo Quadrini, University of Southern California and CEPR, presented a model allowing a systematic analysis of a question that has been widely discussed in the policy community over the past decade: Why do emerging market economies accumulate safe assets issued by industrial countries? Can this development be understood as emerging countries' exchange rate policy that keeps their currencies undervalued? Or is it a consequence of heterogeneity in financial systems and the inability of emerging markets' financial systems to produce viable financial instruments for saving and insurance purposes? Or is there an institutional dimension, with the rudimentary safety nets provided by the public sector in emerging economies resulting in higher idiosyncratic uncertainty for households and firms? According to Quadrini's theory, the key mechanism how growth in emerging economies affects macroeconomic stability works through financial intermediation: The increasing share of emerging markets in the world economy leads to an increased demand for safe financial assets issued by industrialized countries because agents in these countries face higher idiosyncratic risk, requiring an asset that delivers stable returns. This in turn drives down interest rates on the "safe" asset, giving financial intermediaries (global banks in his model) an incentive to increase leverage, thus heightening the probability of a macroeconomic crisis. If a liquidity crisis occurs, financial intermediation will shrink, asset prices will fall and economic activity will slow down.

Discussant Paul Pichler, OeNB, made two comments: His first observation was that in Quadrini's theory there is no link between growth and financial development in emerging markets, while the data suggest the existence of a clear link. This link could in a quantitatively important way influence the global demand for bank liabilities issued in industrialized countries. His second comment related to the details of how the entrepreneurial sector is modeled in Quadrini's theory. Pichler pointed out that he would have liked to see a technically more precise discussion of the assumptions because they have an important influence on the simple aggregation properties of the model.

Adam Gulan, Bank of Finland, presented a paper jointly written with Roberto Chang, Rutgers University, and Andrés Fernández, Inter-American Development Bank. In this paper the authors look at the fact that low interest rate environments not only increase leverage incentives for intermediaries – as in Quadrini's theory – but also for corporations. What determines the share between bank credit and bond financing in emerging markets and what are the dynamics of these shares over the business cycle? This question is important because the corporate sector in emerging economies has considerably increased its reliance on foreign finance. Is this a signal of increased risks of financial instability or rather a signal of favorable prospects combined with a natural reaction to a low interest rate environment? The paper looks at this issue from the perspective of a theoretical model in which the share of bank and market finance is determined endogenously. In particular, the authors are interested in the question of how these shares would endogenously adjust following an exogenous drop in world interest rates. A key mechanism underlying the theory is the evolution of net worth: As net worth builds up, firms are able to access cheaper direct finance. But also access to more costly indirect finance increases, because some firms that were previously absent from the market due to their low net worth now have enough equity to participate in credit markets. In a calibration exercise the authors make an attempt to quantify these effects.

Discussant Andrea Ferrero, Oxford University, said he liked the model and the way it explains the coexistence of bank and market finance in equilibrium, but that he missed a discussion of valuation effects in the model and the quantitative exercise. Ferrero also showed reservations about the quantitative relevance of both the shocks and the key mechanism driving the results in the model.

2 The sensitivity of national asset prices to monetary policy in core economies and the global financial cycle

The sensitivity of national asset prices to monetary policy in what is often termed "core" countries of the world economy is already an old topic of international macroeconomics; what is new in the more recent debate is the more heated controversy about exchange rates' ability to shield national economies from global financial cycles. Has the famous Mundellian trilemma, according to which policymakers face a tradeoff between monetary autonomy, exchange rate stability and financial openness morphed into a mechanism working mainly through capital flows, credit growth and bank leverage, with exchange rate regimes being irrelevant as pointed out by Rey (2013)?

Hiro Ito, Portland State University, and coauthors Joshua Aizenman, University of Southern California, and Menzie Chinn, University of Wisconsin, address some of the issues in this debate in an empirical paper: Why are spillover effects of financial conditions in major advanced economies and financial market conditions in developing and emerging economies so large? How did cross-market linkages change over time? What factors explain the sensitivity of emerging economies' financial systems to economic conditions in the U.S.A., Japan and the euro area? Looking into these questions is particularly interesting at the current moment, as the U.S.A. is expected to raise interest rates. The authors find that for the past two decades, the link of emerging economies with the advanced economies has been dominant for most financial variables, with a heightened sensitivity observable around the crises in the early 1990s, 2000s and in 2008. While the influence of China has clearly increased the data, for now there is no evidence that the country exerts a substantial influence in financial markets compared to other center economies. The authors find that exchange rate regimes as well as financial openness do not show a direct influence on the sensitivity of center economies. However these factors do matter for the level of sensitivity when they are interacted with other variables such as current account imbalances, gross national debt, trade demand and financial development. This evidence is interpreted as showing that it might be premature to conclude that the old trilemma of open economies' macroeconomic policy has turned into a dilemma, with the global financial cycle as the main spillover mechanism.

Discussant Sandra Eickmeier, Deutsche Bundesbank, pointed out to the authors alternative econometric techniques, such as Global Vars or factor models that would lead to an econometrically improved modelling of the spillover mechanisms at the heart of the paper.

Eric Wong, Hong Kong Monetary Authority, presented a joint paper with Dong He, IMF, Andrew Tsang and Kelvin Ho, both also from the Hong Kong Monetary Authority, entitled "Asynchronous Monetary Policies and International Dollar Credit." Using two unique confidential datasets, the authors look empirically into the spillover effects of unconventional monetary policies through the bank lending channel. Specifically, the authors are interested in their effect on the amount of U.S. dollar credit. This focus has been chosen because of the fact that 40% of international bank claims are in U.S. dollars and there is a strong link between U.S. dollar credit and international economic activity. The authors find that a contractionary effect stemming from a monetary policy normalization in the U.S.A. would have a contractionary effect on global liquidity but this contractionary effect would partially be offset by the expansionary effect of unconventional monetary policies in the euro area and in Japan. If the normalization led to a disruption in the foreign exchange swap market, the provision of global liquidity would be seriously impaired. In line with the general theme of the conference, the authors show the importance of risk-taking attitudes, credit risk exposure and the funding and business models of global banks and their overseas offices for the supply of international dollar credit.

The discussant, Sylvia Kaufmann, Study Center Gerzensee, pointed out the difficulties in comparing the two datasets the authors use in their analysis and also those in interpreting the quantitative results, such as the likelihood of the stress scenario used by the authors.

3 Valuation effects in external adjustment, persistence of carry trade

Since the work of Lane and Milesi-Ferretti (2007) and Gourinchas and Rey (2005) the importance of valuation effects to sustain external positions has been increasingly recognized. Differences in currency exposure of countries' balance sheets combined with large swings in exchange rates of late can make these valuation effects very large.

In his paper "Cross country exposure to the Swiss franc," coauthored with Philip Lane, Trinity College Dublin, Augustin Benetrix, Trinity College Dublin, looks at the empirical significance of such valuation effects in a classic "safe haven" currency, the Swiss franc. The authors attempt to empirically assess the foreign currency position of Switzerland in the years 2002–2012 and the valuation effect on these exposures that result from exchange rate fluctuations. The paper also examines the Swiss franc holdings in the rest of the world. The data show that Switzerland has become increasingly long in foreign currencies. The adverse valuation effect following the appreciation of the Swiss franc has been large given the scale of the Swiss international balance sheet. The positions in the rest of the world show that advanced economies hold long Swiss franc positions as far as the whole international balance sheet is concerned. However, with respect to debt, these countries hold short positions. This pattern can also be seen, on average, across emerging and developing countries. As far as the determinants of cross-country Swiss franc exposures are concerned, the authors find that bilateral trade, GDP volatility and capital controls are important determinants of the exposure in advanced countries. The exposure of the whole international balance sheet is determined by exchange rate risk, country size and the covariance between exchange rate appreciation and GDP growth. This does not, however, hold for the debt component. Finally, the authors show that the exchange rate regime matters for the overall exposure while domestic inflation and EMU membership is relevant for the debt-only exposure in emerging markets and developing countries.

The discussant, Raphael Auer from the Swiss National Bank (SNB), pointed out that quantifying cross-country exposures is the most important issue when analyzing capital flows, especially for safe haven currencies like the Swiss franc. He expressed concerns that the valuation effects are perhaps treated too mechanically in the paper and asked for a more extensive analysis of the cross-sectional results. He pointed out some weaknesses of the BIS banking statistics and encouraged the stronger use of national data sources. He encouraged the authors to look into financial stability issues in a next step.

Quite aside from their role as an investment strategy, carry trades also play a non-negligible role in the financing of current account positions in some countries and deficits in high interest rates-high spending countries. The reasons for this persistence were discussed in the paper "Currency Premia and Global Imbalances" by Pasquale Della Corte, Imperial College Business School and CEPR, coauthored by Steven J. Riddiough, Warwick Business School, and Lucio Sarno, Cass Business School. The paper presents a detailed analysis of the relationship between exchange rates, external imbalances and risk-bearing capacity. The paper finds that a risk factor of global imbalances capturing both the spread in countries' external imbalances and their propensity to issue liabilities in foreign currency explains the cross-sectional variation in currency excess returns. This finding corroborates recent exchange rate theories based on capital flows in imperfect financial markets.

The analysis shows that the global imbalances factor is priced in the cross sections of other major asset markets.

The discussant, Alejandro Cuñjat, University of Vienna, raised some issues about the analyzed portfolio composition, the partial equilibrium nature of the analysis of imbalances without regard to how the funding is used, the nature of shocks as well as the role of central banks in the foreign exchange market.

4 Global pricing of risk, systemic risk and economic policies

Tobias Adrian, Federal Reserve Bank of New York, was the keynote speaker of the first workshop day. He presented a recent joint paper with Daniel Stackman and Eric Vogt, titled "Global Pricing of Risk and Stabilization Policies." The paper studies the impact of global financial institutions on the global pricing of risk. The key trade-off found in the analysis of this impact is that a higher global price of risk exposure goes hand in hand with higher growth and higher volatility. The policy part of the talk was about the question how countries can mitigate this shift of the risk-return trade-off through monetary, fiscal and macroprudential policies.

According to the paper, volatility in risk pricing arises as a consequence of how individual institutions manage their risks by imposing value-at-risk constraints on their exposures. On the empirical side, this volatility seems to be best captured by the volatility index VIX. The data show that at the country level, there is a macro risk-return trade-off: Higher exposure to the global pricing of risk corresponds to higher growth and higher volatility. Monetary, fiscal and macroprudential policies can mitigate the impact of the global pricing of risk on the domestic risk-return trade-off, but their estimates suggest a steep trade-off frontier.

5 Exchange rates, international borrowing costs and current account imbalances

Sara Eugeni, Durham Business School, presented her paper "Nominal Exchange Rates and Net Foreign Asset Dynamics: The Stabilization Role of Valuation Effects," taking up again the valuation issues that were already addressed in the paper by Benetrix and Lane on the first workshop day. In her paper, Eugeni presents and analyzes a theoretical framework which allows a deeper understanding of valuation effects of exchange rate fluctuations and their economic impact on the net foreign asset position of a country. In the model, countries with a decreasing share in world GDP run current account deficits. The valuation effect that results from exchange rate depreciation has a stabilizing impact on the net external position of the country. The analysis shows that this valuation effect is quantitatively relevant as it accounts for more than half of the cumulated U.S. current account deficit.

The discussant, Michael Reiter, IHS Vienna, started his analysis by looking into the deeper reasons behind the attractive simplicity and tractability of the model. Reiter pointed out that 1) the key result of the model is too dependent on the assumptions of non-tradability between the home and the foreign good in the final period (by the old generation) and that 2) model calibration results can explain only a part of the observed valuation effects.

Daniele Siena, Banque de France, presented a paper with the title "The European Monetary Union and Imbalances: Is it an Anticipation Story?" In this study, he investigates the role of anticipated shocks as a source of current account imbalances within EMU before the Great Recession. Using a DSGE model with a variety of possible unanticipated and anticipated shocks, he attempts to explain the fact that since 1996, countries in the euro area periphery running the largest current account deficits have been the ones with real exchange rates appreciating and output growing faster than trend. He finds that anticipated reductions in international borrowing costs are the most important source of current account imbalances. Siena also finds that anticipated shocks account for almost two-thirds of the fluctuations in the current account and for one-half of those of the real exchange rate.

Discussant Stefan Niemann went through a couple of issues in the quantitative analysis of the model, in particular the treatment of elasticities in product and labor markets. He criticized that in the estimation, yield spreads are not exploited as observables. He raised issues in the out-of-sample performance of the model and asked for a more elaborate welfare analysis.

6 Internal adjustments to sudden stops: a cross-country comparison

Claudia Buch, Vice President of the Deutsche Bundesbank, was the keynote speaker on the second conference day. She presented an empirical analysis of private capital flow reversal episodes after the 2008 crisis for the country groups Bulgaria, Estonia, Latvia and Lithuania on the one hand and Greece, Ireland, Italy, Portugal and Spain on the other hand. Specifically, Buch and her coauthors, Manuel Buchholz (IWH Halle), Alexander Lipponer (Deutsche Bundesbank) and Esteban Prieto (Deutsche Bundesbank), look into two particular questions: Did enhanced liquidity provision of the Eurosystem affect adjustment patterns after the sudden stop? If yes, what are the channels through which liquidity provision affects adjustment dynamics?

The authors find heterogeneities in the effects of enhanced liquidity provision on sectoral adjustment dynamics. In financially dependent sectors, enhanced liquidity provision by the Eurosystem reduces the adjustment in real unit labor costs, reduces the adjustment in real wages and reduces producer price pressure rather than increasing it.

Buch stressed the fact that the empirical results show that key implications of (monetary) policy cannot be uncovered using aggregate data: Without taking cross-sectoral, cross-country heterogeneity into account, the channels through which monetary policy affects prices cannot be empirically established.

She took this observation to spend some time of her keynote lecture to point out how central banks can increase their efforts to develop tools for using their existing micro datasets for improved policy evaluation. She highlighted the significant efforts that the Bundesbank has recently been undertaking to achieve this goal and explained its recent initiatives to establish a modern research data and service center as well as an integrated micro data-based information and analysis system.

7 The tight nexus between sovereign debt and systemic bank risk

The tight nexus between sovereign debt and systemic bank risk has been a major source of policy concerns in the euro area lately. With much of external imbalances taking the form of debt flows and having been fueled by large swings in bank credit, two papers in the workshop looked deeper into the issues.

Daniel te Kaat, University of Osnabrück, presented a paper with the title "Global imbalances and bank risk taking." In this study, jointly authored with Valeriya Dinger, University of Osnabrück, the authors aim to identify the channel through which international capital flows affect financial stability. Specifically, they empirically look into the impact of current account imbalances on banks' risk taking. Their main finding is that bank risk taking is positively associated with current account deficits. It is shown that banks in countries with large external deficits substitute new investments in asset markets with risky loans and as a result the average quality of bank loans deteriorates.

Discussant Martin Brown, University of St. Gallen, praised the paper's contribution by linking the literature on international capital flows with the literature on the risk-taking channel of monetary policy. He expressed some skepticism concerning the policy messages, pointing out that current account deficits are not in general bad for financial stability and the fact that different types of capital inflows have different consequences for financial stability.

Giulia Rivolta, University of Brescia, presented a paper coauthored with Luca Dedola from the ECB and the CEPR and Livio Stracca from the ECB with the title "If the Fed sneezes, who gets a cold?" As the title suggests, the focus of the empirical investigation is the global impact of U.S. monetary policy shocks. Using a structural VAR approach drawing on the identification scheme of Gertler and Karadi (2011), the authors present three main findings: U.S. monetary policy shocks have different effects across advanced and emerging economies. In advanced economies, mainly macro variables are affected, whereas in emerging markets, the impact is both on macro and on financial variables. Finally, exchange rate regimes and the degree of financial openness hardly make a difference in the effect on emerging economies. U.S. monetary policy shocks affect advanced and emerging economies very differently.

Discussant Christian Upper, BIS, suggested that the analysis could perhaps be done using fewer variables and a smaller model either by dropping certain variables or by summarizing some variables through common factors. He critically discussed the identification restrictions and made suggestions on how to better organize the presentation of the huge model output. Upper suggested a more detailed analysis of countries that are particular affected by a normalization of U.S. monetary policy and suggested applying the model more directly to the question of the lifting-off, for instance, whether the lifting-off is the shock or rather the postponing of these measures and whether the effect will be symmetric or not.

8 The role of IMF financing in external adjustment

A distinctive characteristic of international macro policies in the past few years has been the change in the form and direction of IMF assistance. A fresh look at the ability of IMF programs to crowd-in foreign investors in a truly catalytic fashion, and thus to smooth current account reversals and jump-start growth, was provided by Aitor Erce, European Stability Mechanism, in a paper coauthored with Daniel Riera-Crichton from Bates College, titled "Catalytic IMF? A Gross Flows Approach."

In their study, the authors provide evidence that is able to answer the question of whether IMF programs work through their effect on improving confidence in a country subject to an IMF program. In particular, the authors are interested whether they can find an often claimed catalytic effect of IMF programs on gross capital flows. The authors find significant differences in the reaction of resident and foreign investors. While IMF programs do not catalyze flows of foreign capital, there is evidence that they affect the behavior of resident investors, who are less likely to place their savings abroad.

The discussant, Norbert Funke, JVI, pointed out the different purposes of IMF-supported programs, such as those to address short-term balance of payments problems or those to deal with medium- to longer-term external adjustment issues, which may lead to a different response of private capital flows. He encouraged the authors to elaborate more on the story behind the catalytic effects of IMF finance. Funke also suggested several possible extensions of the analysis, such as including a proxy for flight to safety, using an alternative measure for capital controls at a more disaggregated level, extending the time horizon, and analyzing reserve developments.

Malte Rieth, DIW Berlin, presented a joint paper with Marcel Fratzscher, DIW Berlin, titled "Monetary Policy, Bank Bailouts and the Sovereign-Bank Risk Nexus in the Euro Area." In this paper, the authors look empirically into the effectiveness of the recent crisis policy mix of capital injections and monetary policy-driven liquidity injections and sovereign debt market interventions. Specifically, the authors are interested in finding evidence that these policies worked in disentangling the feedback loops between a deteriorating banking sector and a decline in sovereign ratings. The authors provide quantitative evidence on the two-way impact of banks on sovereigns and vice versa: They find that a 100 basis point increase in the sovereign CDS spread raises the CDS spreads of banks by 38 basis points. On the other hand, a deterioration of 100 basis points in bank risk worsens sovereign risk by 28 basis points. The authors provide evidence that the transmission channel works via the risk impact on nonfinancial institutions. There is a high degree of heterogeneity across countries and the spillover effects between sovereign and bank risk are strong. The authors do not find clear evidence that the feedback loop has been effectively disentangled. Overall, the study shows that rescue policies had a significant positive impact on both bank risk and on risks to the real economy. Whether the policy mix was ultimately successful in defusing the feedback loop between banks and sovereigns is less clear.

The discussant, Martin Gächter, OeNB, raised some questions and pointed out possible extensions to the paper. In particular, he encouraged the authors to look deeper into expectations and announcement effects and into the potential endogeneity of bank bailouts and monetary policy measures to CDS spreads. He pointed out that the paper might focus more on policy implications, such as the role of the banking union or other potentially important determinants of the bank-sovereign nexus. Among the other determinants, Gächter specifically pointed out the issue of banks' home bias in their holding of sovereign bonds and the role of bank capitalization in shock absorption capacity.

9 Summary

Current account imbalances in many advanced countries and emerging markets have abated since the 2008–09 financial crisis. Abnormally low global interest rates and pending weaknesses in the banking systems of some advanced countries seem to account for some of this compression. If so, a question of policy interest is whether an eventual return to a new "full" normal will be accompanied by healthier current account imbalances and – in particular – healthier financing of such imbalances. Without engaging in futurology, we hope that the proceedings of this conference contribute to future assessments of countries' external positions.

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