Shifting frames of the expert debate: Quantitative Easing, international Macro-finance and the potential impact of Post-Keynesian Scholarship

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1. Introduction[1]

Given close international linkages via trade and financial markets, domestic monetary policies produce spillovers to foreign countries via effects on macroeconomic variables (real policy spillovers) as well as on financing conditions and capital flows (financial policy spillovers). Whereas the former spillover channel received attention in policy debates and academia over the last decades in the 'currency war' literature (Eichengreen and Sachs 1986; Corsetti et al. 2000), the latter was largely left aside in expert discourses. This changed when volatilities on global financial markets during and after the 'taper tantrum' in May/June 2013 clearly visualized how accommodative policy stances in advanced economies led to the buildup of financial risks domestically but also abroad, primarily in emerging market economies.[2] How do the policy institutions in the field make sense of these adverse developments on the stability of the international monetary and financial system stemming from unconventional and highly accommodative monetary policies?

To tackle this question, this chapter looks at the discursive developments in the debate about international financial policy spillovers among three key policy institutions in the transnational realm (Federal Reserve Board, International Monetary Fund and Bank for International Settlements). We sought to trace the debate, using document analysis and expert interviews to understand the shifting evaluation of unconventional monetary policy in the transnational expert discussion from 2007-2017. In particular we base ourselves on an in-depth analysis of various types of documents that were issued by the three policy institution from 2007 onwards and that were addressing the domestic conduct of monetary policies and its international ramifications.[3] These entail:

- 29 working papers, 85 FOMC minutes, 44 speeches, 5 Staff Reports by the Fed

[1] This paper is produced in the context of the "QE and Financial (In-)Stability" Project at SAFE Research Center Frankfurt, funded by Volkswagen Stiftung.

[2] Due to the low interest rate environment in advanced economies, market actors increasingly made short-term investments in higher-yielding emerging market economies, leading to a boom in short-term dollar-denominated debt and unsustainable currency mismatches. An increase in the policy rate can lead to a disorderly unwinding of these positions, as it happened during the taper tantrum (see Thiemann and Nagel 2018).

[3] The relevance of documents for the analysis was assessed via their titles and abstracts. If these did not give sufficient indication for the content of the document, the introductions, headings and conclusions were analyzed. If keywords that regularly occur in the debate like spillovers, coordination, capital flows, global imbalances, etc. were mentioned, the documents were analyzed in-depth. This analysis was conducted by coding the content and subdividing the coded statements into problem frames and policy resolution frames.
Due to the size of the data set, it set is not attached in the Annex. Instead, it is provided electronically at request.

- 79 working papers, 7 Staff Discussion Notes, 2 Spillover Notes, 3 Spillover Reports, 20 Global Financial Stability Reports, 12 Policy Papers and 6 speeches by the IMF
- 44 working papers, 42 Quarterly Reviews, 7 BIS Papers, 11 Annual Reports and 16 speeches by the BIS

In these papers, these institutions discuss unconventional monetary policies, entailing asset purchase programs („quantitative easing"), negative interest rate policies and forward guidance, which are the main novelty of the conduct of monetary policies after the financial crisis 2007. Whereas the aim, the achievement of domestic macroeconomic objectives, is clearly set out, we show that central bankers increasingly focus on adverse side effects stemming from these policies, particularly regarding their effect on domestic (and global) financial stability as well as on the economy and financial system of other countries. This chapter analyzes developments in the expert debate regarding these effects, focussing on the Federal Reserve, International Monetary Fund and Bank for International Settlements, and identifies central changes in their analytical frames of monetary policy effects. It furthermore relates these findings to the post-Keynesian literature and discusses to what extent post-Keynesians could make use of these changes to increase their leverage in monetary policy debates. Particularly their insistence on the inseparability of macroeconomics and finance and hence about macrofinancial linkages, both domestically and globally, could support changes in monetary policymaking.

To explain (possible) policy changes among central bankers, it is of relevance to understand how central bankers make sense of the effects that monetary policy have on global financial stability and on other countries. Understanding how economics alters the framing of the effects of monetary policy is therefore central to explain conduct of monetary policy and possibility of policy change. Change in economics is thus a possible venue to bring about change of monetary policies.[4] The reduction of uncertainty through new economic models that allow for the framing of unintended consequences can therefore lead to the improvement of monetary policymaking. This points to the question to which extent mainstream economics, which undergirds monetary policymaking, is able to provide analytical frameworks that allow for macroeconomic and financial stability? Its deficiencies in this regard lead us to argue that post-Keynesianism is a particularly qualified alternative. It hence argues that there is a window of opportunity regarding the influence of Post-Keynesians on policymakers, where an increased focus on the interlinkages between price stability and financial stability and the derivation of improved

[4] Evidently, such change is only a necessary, but not sufficient condition (see Hall 1989)

monetary policy frameworks may increase the leverage of Post-Keynesians. This window of opportunity is however rapidly closing, as neoclassical economists increasingly account for the role of financial instabilities, also on the international level (see Korinek 2018).

This paper proceeds as follows: Section 2 presents a brief literature review. Section 3, the analytical part, focusses on our findings concerning how economics shapes analytical frameworks deployed by central banks and therefore the conduct of monetary policy. Implications are derived from this regarding possible alleys through which monetary policy frameworks could become adjusted to the realities that are imposed by an international monetary and financial system. It is doubtful that current analytical frameworks are sufficient to reduce negative externalities to global financial stability and the financial and economic systems of other countries. that are produced by central banks. Since economics is the base on which analytical frameworks are developed, implications regarding alleys for rethinking of economics are derived. Section 4 discusses post-Keynesian contributions and links to the debate among central bankers. Section 5 concludes.

2. Literature review

Although the change of monetary policies after the financial crisis and its real and financial effects continue to be a highly studied topic in both mainstream and heterodox economics in the pursuit of optimal monetary policy frameworks, the developments in the debate among policymakers themselves remain understudied. This is striking, assuming that these economists‘ interventions aim at changing monetary policy frameworks, since the literature on capital controls shows the important influence that changing ideational outlooks of technocrats have on policy evolution (cf. Hall 1993). In particular the literature on changes in capital flows post-crisis received plenty of attention by scholars interested in policy changes (Gabor 2012; Moschella 2015a; Gallagher 2015a; Chwieroth and Sinclair 2013), particularly so with regard to the shift of the IMF in its stance towards capital flows (Moschella 2015b; Gallagher 2015b; Grabel 2015; Chwieroth 2008; Abdelal 2009).

A noteworthy example is the contribution by Jeffrey Chwieroth (2010), in which he traces the ideational processes within the IMF and how they led to discursive and institutional shifts of the IMF’s position towards capital controls. Chwieroth finds that norm entrepreneurs within policy institutions are not completely subject to structural pressures but are endowed with strategic agency, namely the capacity to exert discursive influence by framing problems and problem resolutions in a way that challenges competing framings. While challenging hegemonic frames within the institution, norm entrepreneurs can benefit from outside allies and their economic models, such as was the case for capital controls (Gallagher 2015b).

In contrast to this literature, changes in ideational views on monetary policies in the aftermath of the financial crisis as well as the role of financial stability concerns in driving these changes in monetary policies remain largely unaccounted for.[5] This neglect seems little warranted, as scholars analyzing the interactions among central bankers over the course of the last 30 years argue for the existence of a transnational epistemic community (Kapstein 1989; Haas 1992), increasingly based on the formal language of economics (Marcussen 2006). They show how central bankers debate issues of concern and aim to find policy solutions bilaterally but also via platforms like the BIS and IMF. The analysis of the debate about adverse effects of monetary policies requires therefore the study of these transnational platforms. Particularly Marcussen (2006) shows how only few central bankers make up the core of the transnational epistemic community and have a decisive impact. Their ideational influence is of particular importance to bring about the possibility of cooperation, "as the responses policy-makers formulate to address those challenges cannot be understood without attention to ideational factors, in particular policy-makers shared beliefs about the nature of monetary policy." (McNamara 1999: 56).

Nevertheless, change with respect to monetary policy is unlikely to occur from inside of the epistemic community alone. On the one hand, central bankers across the globe are sharing a common mindset, on the other hand central bank mandates have a clear domestic scope. Emanating from this is a potentially destabilizing impact within the epistemic community of central bankers when policy spillovers affect foreign peers. A question that arises is in how far common ties that make up the epistemic community can cope with tensions that arise due to negative policy spillovers due to the domestic macroeconomic scope of monetary policies. The abundance of literature regarding monetary policy frameworks with domestic macroeconomic objectives and their international ramifications (Haberis and Lipinska 2012; Ahmed and Zlate 2013; Clark et al. 2016) as well as ongoing international debates among technocrats within a homogeneous policy field (Bernanke 2005; Rajan 2014) indicate discursive tensions between the twofold embeddedness of central bankers, simultaneously embedded in a transnational epistemic community ubased on economics and in their domestic mandates. This chapter

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[5] Manuela Moschella's analysis of the Swiss National Bank's change of its exchange rate policy due to discursive shifts within the central bank community towards taking financial stability more seriously (Moschella 2015a) presents an outlier.

investigates in how far discursive dynamics, emanating from the debate on the effects of quantitative easing lead or do not lead to discursive repositioning by central banks, in this case by the Federal Reserve.

In our analysis, we have taken our cues from Actor Network Theory (ANT) and its insistence on the social construction of analytical frames to evaluate policy spillovers – focusing in particular on the possible channels which are left out and the ones that are included in these frames (Callon 2014). Particularly the relevance of the problem framing is highlighted in ANT, as it requires for the exclusion of various entities that could also be entailed in the frame (Callon 2006: 61-62). This conceptualization of problem framing therefore emphasizes its political character of framing actions on the micro level (see also Latour 2006: 120-121, 131).[6] Importantly for the construction of frames and the internalization of spillovers, it is required to identify source, target and the overflowing itself. In the field of economics, "spaces of calculability" (ibid.: 256) are hence to be produced by economists to allow for target-oriented policy actions.[7] Economic models are an important factor in the construction of frames. For the case of 'monetary policy spillovers', the discourse thus needs to identify which monetary policy causes what type of spillover to which countries and through which channels so that the assessment costs and benefits as well as the deduction of policy implications become possible. In the central bank policy field, these identifications are still debated, an issue which we turn to now.

3. Analysis

It emerges from the analysis that, until the taper tantrum 2013, the analytical frames deployed by Fed, IMF and BIS to guide monetary policies were structured by a clear division between macroeconomics and finance. Adverse effects of domestic monetary policies on domestic and global financial stability and on economies abroad were not part of the analytical frames that guide the setting of optimal monetary policy. The separation between macroeconomics and finance has a decisive impact on financial and monetary policymaking as it underpins the division of labor between financial regulation and monetary policies: Whereas the latter is

[6] Framing is hence the foundation through which meanings are ascribed to the entities (actors, mechanisms, outcomes), by which institutions can position themselves as 'obligatory passage points' and the policy field itself is constructed. Framing actions, in this sense, are the internalization of spillovers, resulting in the equilibration of costs and benefits among actors and the renewed closure of the frame (see Callon 2014).

[7]

supposed to target macroeconomic variables, the former should safeguard the stability of the financial system and offset possible risks emerging from monetary policies. In how far macro-financial linkages are accounted for in analyses of monetary policies affects whether the division of labor can be upheld or whether the case for the integration of financial stability concerns in monetary policy frameworks is strengthened.

After the 'taper tantrum', the three institutions increasingly accounted for financial variables in monetary policymaking, albeit to varying degree. Particularly the BIS switched from an analytical frame underpinned by pure macroeconomics to one undergirded by international macro-finance. This led to a significant change in the identification of problems in the conduct of monetary policies, from too low inflation rates to too loose financing conditions, and the policy advice derived from them, from deploying new policy instruments for reaching inflation target to integrating (global) financial stability objectives.[8]

3.1. Concepts

In the following, in order to facilitate the better understanding of our results we present the **discursive concepts, which structure the two predominant frames we found in our analysis regarding the possible effects of Quantitative Easing, one which is based on a neoclassical view and can be described as neoclassical macroeconomics and one based on a new view that has been called "international macro-finance" (Obstfeld and Taylor 2017).**

Macroeconomics versus international macro-finance

Two main frames emerged since the financial crisis, one that is informed by macroeconomics with a focus on current accounts and one that is informed by international macro-finance with a focus on capital accounts (**Obstfeld and Taylor 2017)**. Based on these frames, different policy implications are derived. This emphasizes the role of economics in the formulation of monetary policy. Only the separation between macroeconomics and finance allows for neatly dividing policy instruments and policy objectives in the sense that monetary policies should solely focus on domestic macroeconomic objectives, while financial stability is to be safeguarded by prudential regulation. If the separation collapses, it depends on the specific framing of the linkages between macroeconomics and finance as well as on the effectiveness of prudential tools to what degree monetary policy needs to take into account financial stability

[8] We do not imply that the taper tantrum was the main causal driver for the changes in the debate. Instead, it functioned as a catalyst for ideas that were present already before, allowing existing, but neglected ideas to become prominent.

concerns. This ‘leaning-against-the-wind’ debate gained significant traction after the financial crisis and is still unresolved (see Svensson 2017).

On the international dimension, the specific framing of the linkages determine to what extent international coordination of monetary policies becomes necessary to produce globally efficient outcomes. Coordination as suggested by a purely macroeconomic framework in form of monetary policies focus solely on domestic inflation targets does not suffice when an international macrofinance framework is adopted. As the international scope of financial regulation implies, the framing of the interaction between monetary policy and financial stability does not halt at jurisdictional borders. Therefore, macro-financial frameworks come with international implications.The extent to which international macro-financial frames destabilize central bank mandates with domestic macroeconomic objectives is affected by their specific framing. In any case, the externalization of unintended effects from monetary policies on financial stability would be difficult to be upheld in monetary policy discourses.

Capital accounts versus current accounts

Focusing on the macroeconomic side in analyses of monetary policies makes the adoption of a current account perspective a logical step when it comes to the implications of monetary policies for the stability of the international monetary and financial system. The focus on transactions that stem from the exchange of goods, which materialize in net capital flows, results in a focus on variables that affect the free trade of goods, particularly exchange rate interventions to strengthen a country’s international competitiveness. Focusing on international macro-finance, in contrast, makes capital accounts the prime indicator for tracing global imbalances. Purely financial transactions are accounted for, increasing the dimension of complexity in the assessment of global imbalances. Financial risks may not only stem from exchange rate interventions, but also from global push factors like monetary policies in advanced economies.

The current account, however, entails only net financial flows caused by the exchange of real goods and services. Against this backdrop, financial imbalances build up due to differentials in global savings and consumption. Countries that have higher saving ratios export demand to other countries that receive capital from these surplus countries to finance the imports of their goods. A ‘global saving glut’ (Bernanke 2005), according to the current account perspective, can therefore cause asset price bubbles and credit booms as capital inflows finance the deficits of other countries. The main risks to domestic financial and macroeconomic stability as well as the international monetary and financial system stem from exchange rate interventions by countries that resist upward pressure of their currencies to defend the international competitiveness of their export industry. These exports are in turn financed by net capital inflows to deficit countries and become possible since surplus countries have higher savings-to-investment ratios.

If surplus countries flexibilize their exchange rates, their appreciating currencies would reduce net capital outflows. On the other hand, currencies of deficit countries would depreciate and their exports would increase, leading to reduced net capital inflows. When exchange rates of all countries are flexibilized and savings-to-investment ratios adjust, the international financial and monetary system will be stabilized by equilibrating market forces. This perspective is adopted by the Fed, which argues that monetary policies should solely be focused on domestic macroeconomic objectives, identifying exchange rate interventions as currency manipulation to promote growth at the expense of other countries. The scope of coordination and the guarantee of global financial stability therefore hinges on the idea that every country abstains from exchange rate interventions. From this current account perspective, the international risk-taking channel is infeasible to observe as net capital flows are driven by fundamentals, manipulative exchange rate interventions and savings-to-investment differentials.

The self-stabilization of the international monetary and financial system through flexible exchange rate regimes does not get to the core of the problem when a capital account perspective is adopted. The current account perspective misses out core features of the buildup of financial imbalances in the context of 'excess financial elasticity'. This is related to the confounding of saving and financing by the current account perspective since it frames investments as financed solely via savings (Borio 2012: 12).[9] Given the relevance of international financial markets in the financing of investments, this is an odd conceptualization. Bracketing out 'finance' from the current account perspective leads to the veiling of financial imbalances that materialize in gross capital flows and stocks of debt and can produce financial risks. By taking finance seriously, the capital account perspective acknowledges the interactions of monetary policies and financial conditions across countries, as framed by the 'excess financial elasticity' concept.

[9] "Financing is a gross cash-flow concept, and denotes access to purchasing power in the form of an accepted settlement medium (money), including through borrowing. Saving, as defined in the national accounts, is simply income (output) not consumed. Expenditures require financing, not saving" (Borio 2012: 12).

Accounting for interdependencies between monetary policies and between monetary policies and global financing conditions in monetary policy frameworks is therefore inevitable to prevent the buildup of global financial risks. Financial imbalances in the capital account perspectives build up not as a result of exchange rate interventions and differentials in savings and consumption. Instead, they are affected by the complex interconnections between monetary policies and between monetary policies and financing conditions. Looking at net capital flows does not entail information about what kind of financing is occurring in which country. Only by focusing on capital accounts and balance sheets of economic entities, it becomes possible to comprehensibly assess global imbalances and financial risks. In contrast to the current account perspective, policy implications from a capital account perspective become more complex.

Imbalances stemming from net capital flows are only one indicator for a possible buildup of financial risks. Financial risks can furthermore stem from various factors, for example different types of currency or maturity mismatches. The origin of the problem lies therefore not in savings-to-investment ratios and currency manipulations, but can emerge from various entities in the web of central banks and financial markets, which are interdependent and interconnected via the current international monetary and financial system. For the post-crisis period, U.S. monetary policy was identified as a main driver of global liquidity that leads to the buildup of financial risks on the balance sheets of corporates in emerging market economies, traced in the BIS Quarterly Reviews. Based on the identification of problems and origins via the capital account perspective, policy implications aim for a more comprehensible account for entities that may be source and targets of risks. While some entities like banks and nonbanks can be regulated, central banks are unconstrained in their pursuit of domestic inflation targets and solely need to legitimize their actions according to their domestic mandate. Central banks that pursue only domestic macroeconomic objectives are therefore a potential risk to the stability of the international monetary and financial system. Only if central banks acknowledge their interdependent position in the complex system and internalize the potential damaging effect of their monetary policies, the global system can be stabilized.

The case for integrating financial stability objectives in monetary policy is therefore much more compelling given an analytical framework informed by macro-finance. Financial stability in this perspective hinges fundamentally on global finance conditions that are significantly affected by loose monetary policy stances of central banks in advanced economies after 2007. Taking into account the international linkages between monetary policies and global financing conditions means that the integration of financial stability in monetary policy frameworks will entail an international dimension. For the current account perspective, the case is much stronger for keeping monetary policy and financial stability separated, with the latter being safeguarded by financial regulation.

The international risk-taking channel and capital flows

The concept of the risk-taking channel is decisive for understanding the separation between macroeconomics and finance. This channel plays literally no role in the Fed's analytical framework but is central to the ones of the BIS and the IMF post-2010, as they identify capital flows that are not driven by fundamentals and exchange rate interventions which are aimed to strengthen the competitiveness of surplus countries. The risk-taking channel transmits yield-searching activities of banks and nonbanks which are not fundamentals-based but purely driven by the need to produce profit. Whether this channel is analyzed from a domestic or an international scope generates different implications. Domestically the channel comes with implications for domestic financial stability concerns. Yield-searching activities on the international level materialize in capital flows to countries that offer favorable returns to investors. Particularly emerging market economies were targets of these speculative flows in the post-crisis period due to higher interest rate environments they offered.

This in turn leads to the buildup of financial risks in emerging market economies. Due to the speculative nature of these flows, they are considered as particularly volatile. As soon as policy rates in advanced economies will be increased again, financial imbalances will unravel and international investors will return to safer investments. Since these capital flows can cause significant market volatilities, like experienced during the 'taper tantrum', financial stability concerns are inevitably entailed in the framing of the international risk-taking channel. Lacking the international risk-taking channel in its analytical framework, the Fed frames capital flows as driven by pull factors in emerging market economies. The IMF notes that the risk-taking channel has some influence, which is indicated in the identification of both fundamentals-driven pull factors and speculation-driven push factors in driving capital flows. The BIS fully embraced the risk-taking channel in its analytical framework and argues that capital flows in the post-crisis era are driven mainly by push factors, particularly unconventional monetary policies in advanced economies. The size of the impact of the international risk-taking channel on capital flows is determining in how far monetary policy can be held responsible for creating risks in the international monetary and financial system.

Based on the respective analytical framework, different policy implications are proposed. When the international risk-taking channel is not taken into account, the burden of adjustment is externalized to countries that face speculative capital inflows. They are called to improve their fundamentals and regulatory frameworks if they cannot cope with these capital flows. When the risk-taking channel is integrated in the analytical framework, the burden of adjustment shifts towards source countries, i.e. advanced economies, which endanger the stability of the international financial and monetary system by recklessly focusing their monetary policies on domestic macroeconomic objectives.

Spillovers

Adopting either a perspective informed by macroeconomics or one informed by international macro-finance gives different meanings to what is meant by 'policy spillovers'. In the current account perspective, which is adopted by the Fed, spillovers are located on the macroeconomic side, where demand is shifted abroad and net capital flows are the indicator for the buildup of global imbalances. Since, according to this view, the objective of monetary policy is to achieve domestic macroeconomic stability, policy spillovers are identified as inevitable byproduct. Spillovers, from this perspective, occur on macroeconomic variables, e.g. reduced output due to increased demand of imports that are driven by exchange rate manipulations in other countries. In that sense, monetary policy spillovers are negative if the demand-shifting effect is bigger than the combined effect of increasing demand in the country that employs accommodative policies and the easier access to credit which will increase investment and output. If international capital flows are causing problems in emerging market economies, they have to adjust their fundamentals and prudential frameworks.

By adopting a capital account perspective, the focus shifts towards financial policy spillovers. Due to the abstraction from domestic macroeconomic objectives, the accommodative policy stances in advanced economies may be identified as unjustified given the costs that are caused by real and financial policy spillovers. This is particularly the case if these financial spillovers cannot be sufficiently targeted by prudential frameworks and capital controls in capital-receiving countries. While the current account perspective frames the financial policy spillover channel as the ease of access to credit that is used for growth-enhancing investments, the capital account perspective is more granular and zeroes in on how financial risks begin to materialize on balance sheets of financial and non-financial entities. The stock of debt or currency and maturity mismatches may indicate risks that fundamentally stem from yield-searching flows through the international risk-taking channel which are triggered by unconventional monetary policies in advanced economies. Only to the extent that easy financing conditions are used for productive investments, these spillovers can be positive. Given the significant increase of dollar-denominated debt that circulates in emerging market economies in the post-crisis period, monetary policy spillovers may have led to a buildup of financial imbalances that are prone for a disorderly unwinding when policy rates in advanced economies are normalized.

3.2. **Discourse Trajectories: Fed - IMF – BIS** 2007-2012

In the time between the financial crisis 2007 and the taper tantrum in 2013, the analytical frameworks deployed by Fed, IMF and BIS were all underpinned by a purely macroeconomic perspective. They therefore converged regarding the identification of policy problems and the implications for improving monetary policies. According to these frameworks, monetary policies do not affect financial systems and they do not have a negative impact on other economies when all central banks target their monetary policies exclusively on domestic inflation targets. Capital flows therefore are simply reflect the global exchange of goods. Only when countries intervene in foreign exchange markets to foster competitiveness and deploy monetary policies for this purpose, global imbalances may build up due to the shifting of demand abroad. These deficits are financed by capital inflows from surplus countries. This is why the shared problem resolution frames contained advices to flexibilize exchange rate regimes, deploy monetary policies exclusively for achieving domestic macroeconomic objectives and to improve fundamentals and regulatory frameworks. The latter should further safeguard the financial stability of each country, underpinning the separation between macroeconomics and financial stability. If every country follows this recipe, there would be no buildup of global imbalances and global output can be maximized.

Figure 1 Discourse – pre-2013

	Fed	IMF	BIS
Spillovers	Real	Real	Real
Risk-taking channel	No	No	No

Global imbalances	Current account	Current account	Current account
Scope of analysis	Net capital flows	Net capital flows	Net capital flows
Scope of monetary policy	Domestic macroeconomics	Domestic macroeconomics	Domestic macroeconomics
Adjustment	EMEs	EMEs	EMEs
Coordination	House in order	House in order	House in order

The analytical framework informing the policymaking of the Fed before 2013 was the one with the lowest degree of change after the taper tantrum. The focus of monetary policies on domestic macroeconomic objectives and the need for exchange rate flexibilization to rebalance the international monetary and financial system did not change in the post-crisis period. Emerging market economies are called on to continue to improve the quality of their policy frameworks and their financial systems (Brainard 2016; Fischer 2014). The sole, albeit significant, change is that Yellen's tenure is characterized by a clearer communication of its conduct of monetary policy, particularly to her central bank colleagues in other countries.

The general agreement on this macroeconomic analytical framework slowly weakened when central bankers grew increasingly aware that post-crisis monetary policies do have a (negative) impact on financial stability after all and that these effects are spread globally. The final collapse of the consensus coincided with the taper tantrum in 2013, after which the three institutions adopted analytical frameworks that are, at least partially, mutually inconsistent. While general ideas of the pre-taper tantrum consensus still prevail (focus on inflation targets), there is an growing adoption of macro-financial aspects in the analytical frameworks.

This reflects a shift of a focus from imbalances on the current account to those on the capital account (that take into account speculative financial flows, and not only those used to finance the global exchange of goods). Monetary policies have therefore an impact on financial stability and the focus of central banks on domestic inflation targets is insufficient to safeguard the stability of the international monetary and financial. Particularly the BIS emerged as an institution that adopted and actively promoted their newly adopted analytical framework underpinned by macrofinance. The adoption of financial stability-oriented monetary policy frameworks, the internalization of negative policy spillovers and closer monetary policy coordination are main demands posed by the BIS. The preparation of this framework from the early 2000s onwards allowed for its adoption in 2013, when a window of opportunity emanated due the unexpected events during the taper tantrum. Particularly Claudio Borio and Hyun Shin are names linked to the change of the framework.

The IMF moved from a rigid macroeconomic framework to one that accounts for the existence of macrofinancial linkages, primarily in the form of the international risk-taking channel. Itthereby acknowledges that financial imbalances are not completely identifiable on the current account. Nevertheless, current account imbalances remain central in the IMF framework, invoking policy implications that focus on exchange rate flexibilization and macroeconomic adjustments in emerging market economies. Financial risks from capital flows that are triggered by yield-searching activities are to be reduced by the employment of prudential tools and, in emergency situations, capital controls. In contrast to the BIS, the IMF argues that prudential frameworks allow to sufficiently counter these financial risks. Monetary policies should maintain their focus on domestic macroeconomic variables. The BIS states that prudential frameworks are insufficient to prevent the buildup of financial imbalances so that monetary policy frameworks need to take into account financial stability concerns and policy spillovers to other countries. Particularly this breakdown of the separation between macroeconomics and finance is highly problematic for the hegemonic international monetary policy discourse as it inevitably relativizes the domestic macroeconomic scope of monetary policy frameworks.

Discourse Trajectories after the taper tantrum

	Fed	**IMF**	**BIS**
Spillovers	Real	Real	Financial
Risk-taking channel	No	Yes	Yes
Global imbalances	Current account	mixed	Capital account

Scope of analysis	Net capital flows	mixed	Balance sheets
Scope of monetary policy	Domestic macroeconomics	Domestic macroeconomics	International macro-finance
Adjustment	EMEs	EMEs	AEs
Coordination	House in order	House in order	Monetary policy

There is hence a cacophony in the transnational discourse on the effects of QE, with BIS the most opposed to QE, the Fed firmly defending its policies and the IMF seeking an intermediating position. This lack of clarity is strongly bounded up with a reference to epistemic uncertainty by all agents in the discoursive field.

Epistemic uncertainty

Fed, BIS as well as IMF referred to the epistemic uncertainty revolving around the issue of negative, unintended effects of monetary policies on financial stability and on other countries. Either analytical frameworks do not reach so far to account for some entities and mechanisms, like financial policy spillovers, or they are not yet sufficiently developed to the extent that they can directly inform policy decisions (Interview former U.S. policymaker, 23 May 2017 in Washington D.C.). Uncertainties revolve around the effects of particularly monetary policies on global financing conditions and capital flows as well as the effects of capital flows on emerging market economies. To the present day, it only became consensus among the analyzed institutions that spillovers are affected differently by different types of monetary policies (e.g. monetary policies at the zero lower bound are different than 'conventional' interest rate policies) and that spillover effects may diverge across countries. While all three policy institutions show awareness regarding the uncertainty that emanate from difficulties to disentangle and identify different international effects of monetary policies, they all draw on epistemic uncertainty as a resource to promote their particular frames.

4. The potential for post-Keynesian contributions

Post-Keynesians are traditionally aware of the inherent instability of the international monetary and financial system, its adverse impact on the economy if not sufficiently regulated and the implications of macro-financial linkages for the conduct of monetary policy (Minsky 1986, Keynes). Also the need for coordination in the international monetary and financial system was emphasized early on by Keynes (s. e.g. Keynes 1919) . It is therefore not surprising that the financial crisis 2007 led to a surge of contributions that picked up these two issues. This section identifies contributions made in the *Review of Keynesian Economics, Journal of Post Keynesian Economics, Cambridge Journal of Economics*, Review of Political Economy and *Journal of of Economic Issues* since 2007 which account for the macrofinancial dimension of monetary policies as well as implications for the global governance of the international monetary and financial system.

Conduct of monetary policy

Criticisms of inflation-targeting frameworks, which were the largely uncontested hegemonic until the financial crisis 2007, are not surprising to occur from the side of post-Keynesianism. The inherent macrofinancial perspective and the implications of financial instabilities for the governance of the international monetary and financial system are traditionally centerpiece of (post-)Keynesianism. Nevertheless, contributions from this side differ in the degree to which monetary policies should be reformed. Older contributions made only minimal changes to the original inflation-targeting framework and do not account for the financial dimension of monetary policy (Kriesler and Lavoie 2007). Contributions after the crisis became more sweeping. Vernengo (2016) argues that the unidimensional focus on inflation objectives impedes economic development. He does not account, however, for financial stability aspects and therefore suggests that capital inflows are unambiguously good for development. Aquanno and Brennan (2016) similarly criticize distributional effects of inflation-targeting regimes. Seccareccia (2017) shows how sectoral interests affect monetary policy and how this affects distributional effects of quantitative easing.

Taking into account the impact of financial instability on the economy automatically entails a distributive dimension, strengthening the venture point of critics that adopt a macrofinancial perspective.. This is convincingly shown by Knibbe (2015), who criticizes inflation-targeting policy frameworks and argues for the integration of price and financial stability objectives, since the focus on price stability of consumer goods is insufficient to guarantee monetary and financial stability. Tokucu (2014) shows how the Turkish central bank adjusted its policy framework to account for changes in financial markets, emphasizing how financial stability concerns need to be integrated in monetary policy frameworks. Arestis and Sawyer (2010) find that that financial stability, not inflation targeting, should be the prime rational for the conduct of monetary policy. It is particularly this link between monetary policy and financial stability that is in the center of debates of central bankers about monetary policy frameworks.

Also Dow (2017) discusses the need for integrating financial stability concerns in monetary policy frameworks since, based on the changing structure of financial system, only this allows to safeguard macroeconomic and fianncial stabilty. Further, Le Maux (2017) shows how changing structures of financial markets underpinned the change in monetary policy frameworks after the financial crisis, increasingly focussing on financial stability. Reforming the monetary policy framework by integrating financial stability concerns will reduce the buildup of financial imbalances and financial risks that were largely unnoticed in the years before the financial crisis. Post-Keynesian approaches could help promote this change of policy frameworks which gained momentum in the debates of Fed, IMF and BIS. But what about possible contributions to the debate about the governance of the international monetary and financial system?

The **governance of the international monetary and financial system**

A number of contributions analyze the problems posed by destabilizing international capital flows. Particularly the difference between the current account perspective (as adopted by the Fed) and the capital account perspective (as adopted by the BIS in 2013) is well articulated. Liang (2012a) provides an interesting contribution as he explicitly questions the usefulness of the current account perspective for analyzing global financial imbalances. She nicely shows how coordination under current account perspective will neither reduce global financial risks nor global economic growth (only beggar-thy-neighbor). In a follow-up paper, Liang (2012b) shows how the international monetary and financial system fuels both financial imbalances and financial instabilities and argues, in Keynes' tradition, for the implementation of a clearing union to reform the international monetary and financial system. This builds on the Keynesian insight that financial flows and economic development are tightly interlinked.

Bonizzi's study (2017) sheds light on how capital flows are not triggered by macroeconomic considerations but instead are speculative and profit-driven, which have implications for financial stability. His insights resemble those of Borio at the BIS, who also identifyies a conceptual confusion of savings and finance that underpin the separation between the current account and the capital account view of international capital flows. Also Tokunaga and Epstein (2018) show that the current account view is insufficient in explaining the financial crisis as the focus needs to be shifted to the aspect of finance. for which the US dollar is the central currency. Their insights allow for strengthening the argument for integrating macrofinancial aspects in the conduct of monetary policy. Gallagher (2015a), who points to Keynes‘ contribution in the debate to global financial regulation, namely that international capital flows need to be regulated to safeguard economic and financial stability shows how welfare economics made a breakthrough in this respect. He further identifies similarities of new welfare economics to post-Keynesian approaches (ibid.: 59-60). Although drawing on different theories, both focus on the nature of international capital flows and their implications for financial stability, and find that these flows need to be regulated nationally and/or multilaterally.[10]

A second aspect of international governance highlighted in the literature concerns the role of asymmetries that are produced by the existence of reserve currencies, particularly the U.S. dollar. D'Arista (2009) emphasizes the shortcomings of the current currency systems and offers an overview of possible alternative regimes that could supplant the centrality of the US dollar. Also Garcia Banchs and Mata Mollejas (2014) point out the fundamental asymmetry in the international monetary system, divided into countries that issue reserve currencies and countries that build up reserves in these currencies. This has implications on the independence of monetary policy (reserve currency issuing countries are more independent) and the exchange rate regime (s. also Kaltenbrunner and Painceira 2017).

This brief overview of post-Keynesian contributions to the debate about negative externalities posed by monetary policies indicates that they could also offer relevant insights for policymakers. Until now, mainstream economists adapted to recent criticisms by integrating financial frictions into standard DSGE models and by developing new thoughts in welfare economics (see Korinek 2018). The capital account view is closely interlinked with post-Keynesian approaches, focussing on the the role of finance and its role in the international monetary and financial system. Post-Keynesian focus on fundamental uncertainty and speculation, reflecting the opposing approach in the governance of international monetary and financial system as well as the conduct of monetary policy. A main thrust is how to ensure

[10] In this vein, Ferrari-FIlho and De Paula (2008) argue that capital controls and managed exchange rate regimes need to be implemented to protect emerging market economies and developing countries from destabilizing short-term capital flows (s. also Kaltenbrunner and Painceira. 2017).

that monetary policies can be conducted independently, pointing to the need for global monetary governance (similar concerns have been raised in the debate on the global financial cycle, mostly stemming from empirical work, s. Coimbra and Rey 2018, Aggripino and Rey 2015).

5. Conclusion

Recalling the main findings of this paper: Firstly, there is a consensus among the three institutions that national monetary policies lead to international spillovers, although their sign, quality and quantity are still a matter of debate. Secondly, the 2013 taper tantrum coincides with a significant change in the analytical frames deployed by the three institutions. The Fed changed the communication of its conduct of monetary policy. The IMF increasingly studied and discussed effects as well as provided policy implications for emerging market economies concerning financial policy spillovers. And the BIS embraced a discourse that emphasizes the linkages between monetary policies and financial markets and asks advanced economies, particularly the U.S., to internalize negative policy spillovers they produce. Thus, the change of the Fed's discourse correlates with a general shift in the international discourse among policymakers about international effects of monetary policies.

The shift in analytical frameworks which we detected by 2013 resulted in the destruction of the congruence and harmony of the joint outlook on Quantitative Easing by the three investigated policy institutions. The inflow of international macro-financial conceptual variables in these analyses led to diverging policy assessments, the relevance of the risk-taking channel serves as a prime example. The Fed still focusses on the achievement of domestic macroeconomic objectives, while being increasingly mindful of the need to communicate with market actors and peers from abroad to prevent unrests as well as to reduce tensions within the central bank community. The IMF changed its understanding of policy spillovers and the role of monetary policies in driving capital flows. These efforts resulted in an analytical framework that mainly entailed ways how emerging market economies can cope with destabilizing capital flows, whereas the domestic macroeconomic focus of monetary policies remained unquestioned.

Also the BIS significantly changed its analytical framework regarding these issues, which result in policy implications that contrast starkly with the one of the IMF or the Fed. Monetary policies in advanced economies are identified as a main source of risks to the stability of the international monetary and financial system; hence the role of advanced economies was positioned in the center of the derived policy implications. Post-Keynesian ideas show remarkable similarities to ideas that were adopted by the BIS and the IMF over the last couple of years. The mutual indifference is hence all the more striking. While post-Keynesians at least partially cite norm entrepreneurs at the BIS and IMF, namely Borio, Disyatat, Claessens or Korinek, the other way is even less so. The integration of financial frictions in DSGE models, the adoption of the capital account view by the BIS, the rethinking in the IMF and the debates among central bankers about the integration of financial stability concerns in monetary policy frameworks are links that can be used by post-Keynesians to strengthen their influence in policy debates. Post-Keynesians have a headstart in these debates and could use this momentum to strengthen their position.

The large advantage of post-Keynesian approaches is that they do not presume that financial markets are inherently efficient. From this vantage point it is much easier for post-Keynesian to identify problems of monetary policies, particularly in its macro-financial dimension. Their approach is hence less convoluted and driven by auxiliary assumptions, as is the case for neoclassic economics, for which, since the financial crisis, financial frictions are increasingly discussed and integrated in mainstream DSGE models, a trend followed by central bankers. Post-Keynesians could enrich the debate by opening up the frames of analysis and offering macro-financial analyses and models that deviate from assumptions of equilibrium which could broaden the debate and inform future policy decisionmaking by central bankers.

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