International arrangements for a resilient global economy

Keynote speech by Jaime Caruana
General Manager, Bank for International Settlements

Conference on "The uncertain future of global economic integration", jointly organised by the Central Bank of Iceland and the Reinventing Bretton Woods Committee

Reykjavik, 14 September 2017

Introduction

I am very grateful to Már Guðmundsson, his colleagues at the Central Bank of Iceland and Marc Uzan of the Reinventing Bretton Woods Committee for the invitation to speak at this event. As all of you are well aware, much attention has of late focused on globalisation. Opinions on the topic are sharply divided, as the subject has taken centre stage in the political arena. The public debate has prominently featured arguments that question the benefits of globalisation. Acknowledging the importance of the debate, the BIS dedicated a special chapter on globalisation in our latest Annual Report.

We argue that we should not forget the lessons of the past and not take for granted the gains in living standards and prosperity achieved over the last half-century, largely as a result of globalisation. Yes, the concurrent rise in inequality and political tensions in many countries give cause for concern. But they are neither best ascribed to globalisation nor best addressed by rolling the wheel of history backwards.

Instead, the best way to tackle these problems is to design sound and well targeted policies that recognise that the burden of adjustment to change, whether coming from globalisation or new technology, often weighs heavily on specific sectors or regions. In order to maximise the net benefits of globalisation, policymakers should complement international efforts to address the shortcomings of the international monetary and financial system with domestic policies. These should seek to mitigate inequality, to facilitate the smooth reallocation of resources and to boost resilience to costly financial crises.

Thus, we are back to a long-standing issue in economics, and one that occupies the Reinventing Bretton Woods Committee: what international arrangements are conducive to a vibrant and resilient global economy? As the question and the title of this speech suggest, we need arrangements that harness and consolidate the benefits of globalisation. We cannot turn back the clock.

My theme is that there is room to improve the international monetary and financial system. In financial regulation, domestic mandates co-exist with extensive international cooperation. When it comes to monetary policy and macroeconomic policies more generally, domestic mandates are broadly considered to preclude cooperation. This is so even though the spillovers from these policies are widely recognised to be powerful, not least through global financial markets.

I will start by offering some thoughts on the nature of globalisation, its costs and benefits, and what policy can do to minimise the former and maximise the latter. I will start by highlighting the interdependence of real and financial openness: it is not possible to have one without the other. I will then argue that, even giving due regard to inequality and financial stability concerns, the benefits of globalisation clearly outweigh its costs. I will conclude by making some observations on domestic policy implications and on the scope for international cooperation, in the hope of furthering discussion here at this conference throughout the day and tomorrow.

Economic globalisation in perspective

The two main components of economic globalisation – trade and financial integration – go hand in hand. Trade requires financial links, such as international payments and credit, and in turn results in financial links, such as the accumulation of international assets and liabilities. As a result, it is not surprising that countries that are more open to trade also tend to be more financially open.

Conceptually, one can think of three globalisation layers.[1] The first, most basic, layer is trade of commodities and finished goods and the corresponding simple international financial links, such as cross-border payments. The second layer involves more complex trade and financial linkages. It includes trade in intermediate goods and services associated with the efficiency-driven distribution of production across countries and the corresponding financing arrangements. The third layer concerns the financial transactions used to actively manage balance sheet positions. These positions include the stocks of assets and liabilities, and exposures more generally, created by the first two layers, as well as the allocation and diversification of wealth, not necessarily related to trade. The third layer thus decouples financial from real openness to some extent. That said, on the whole, the two are deeply intertwined.

Historically, there have been two major waves of globalisation. The first wave, which started in the mid-19th century and lasted until World War I, saw a substantial increase in both real and financial cross-border linkages, albeit starting from a very low base in a largely poor world. Trade openness for the then major economies, measured as the ratio of imports plus exports to GDP, more than doubled between the early 1800s and the turn of the century (Graph 1). The increase in financial openness, measured as investment assets held by foreigners as a share of GDP, was no less dramatic, with capital flows to colonies and former colonies particularly notable. The collapse of the first wave was as remarkable as its build-up: the "great reversal" in the interwar period was almost complete. Many factors contributed, not least increased protectionism, responsible for around half of the decline in global trade during the Great Depression.

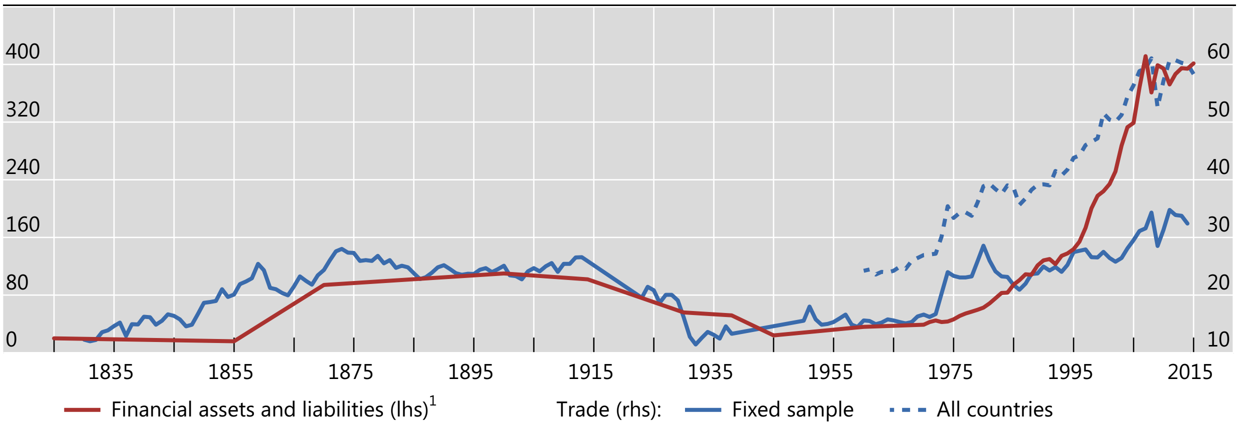
The second globalisation wave, which started after World War II, has overwhelmed the first. Trade openness surged beyond its prewar peak: countries traded more, and more countries traded. For the world as a whole, trade openness (measured by the size of trade volumes relative to output) has doubled since 1960. Improvements in transport and communication again have played a role, but trade liberalisation has been a more important factor than in the first wave. Trade growth in the two decades up to the mid-2000s was particularly rapid: China and former communist countries re-entered global trade, and the patterns of trade became increasingly complex. Specialisation through the division of production stages across national borders resulted in the unprecedented expansion of global value chains and financial arrangements to facilitate these developments.

---

1 See BIS, *87th Annual Report*, June 2017, Chapter VI.

The two historical waves of economic globalisation

As a percentage of country sample GDP | Graph 1



[1] Prior to 1970, calculated as external financial assets multiplied by two.

Sources: G Federico and A Tena-Junguito, "A tale of two globalizations: gains from trade and openness 1800-2010", *Review of World Economics*, pp 1-25, August 2017; P Lane and G Milesi-Ferretti, "International financial integration in the aftermath of the global financial crisis", *IMF Working Papers*, no 17/115, May 2017; M Obstfeld and A Taylor, "Global capital markets: integration, crisis, and growth", Cambridge University Press, 2004; Federal Reserve flow of funds accounts; IMF, *Balance of Payments Statistics*; World Bank; US Department of the Treasury; McKinsey Global Institute analysis; BIS calculations.

In both globalisation waves, financial openness increased with trade openness, but its expansion has been much more marked in the second. Available estimates, while imperfect, suggest that financial openness is roughly three and a half times its prewar peak. External financial assets and liabilities stood at around 110% of GDP in 1900, troughed in 1945 at about 25%, and soared to around 400% of GDP in 2015.

Some have argued that financial globalisation peaked around the Great Financial Crisis. Just as global trade has barely grown relative to GDP, the crisis brought to a halt the rapid rise in standard measures of financial openness. As Lane and Milesi-Ferretti show, this has reflected mainly weaker capital flows to and from advanced economies, coupled with a rise in the share of emerging market economies (EMEs) which have lower external assets and liabilities than advanced economies.[2] However, the *apparent* pause in financial globalisation needs to be interpreted with caution: the pullback has been concentrated in cross-border bank loans, following an unsustainable pre-crisis expansion.[3] And, for much the same reasons, what *appears* to be a global shrinkage is confined to European banks, which uniquely responded to credit losses after 2007 by shedding assets abroad.[4] Some emerging market banks have been expanding their foreign assets rapidly, albeit from a low base. At the same time, financial interconnectedness between countries continues to rise as banks and asset managers expand their reach. Outstanding US dollar and euro bonds of non-residents of the United States and the euro area, respectively, continue to grow smartly. In the four quarters ending March 2017, such dollar bonds outstanding grew by 10% and such euro bonds grew by 6%.

---

2 See P Lane and G Milesi-Ferretti, "International financial integration in the aftermath of the global financial crisis", *IMF Working Papers*, no 17/115, May 2017.

3 See J Caruana, "Have we passed 'peak finance'?", speech at the International Center for Monetary and Banking Studies, Geneva, 28 February 2017.

4 See R McCauley, A Bénétrix, P McGuire and G von Peter, "Financial deglobalisation in banking?", *BIS Working Papers*, no 650, June 2017.

It is therefore unlikely that globalisation more broadly has gone into reverse. Hence, policymakers face two key questions: Do the benefits of globalisation outweigh its costs? And what is the best way to address the challenges posed by globalisation in order to maximise its net benefits? In what follows, I offer my thoughts on both of these questions.

The benefits of globalisation outweigh its costs

The overall impact of globalisation of the world economy has been positive. Greater global economic integration has helped to raise living standards and to lift large parts of the world out of poverty. Trade openness has greatly enhanced productive efficiency and vastly improved consumption opportunities. Financial openness, in addition to supporting international trade, has allowed greater scope for diversifying risks and earning higher returns. It has also made funding more readily available and facilitated the transfer of knowledge across countries.

Trade and financial openness tend to raise economies' growth rates. Who would argue that EMEs would have grown as rapidly without the boost of international trade? Many EMEs explicitly adopted an export-led growth model to accelerate their economic development. How this process works through enhanced productivity and competition is more subtle. In principle, trade increases the size of the marketplace and fosters competition between firms. This improves efficiency as production is concentrated in more productive firms – wherever they may be located. The most productive firms expand, achieving greater scale economies, while the least efficient ones shrink. This expansion and contraction raise productivity in the aggregate. That said, the empirical evidence on the pro-competitive effects of trade is not conclusive. While globalisation improves industry performance, it is harder to disentangle whether the main driver is genuine productivity gains, or a shift towards firms with more market power.[5] What is clear, however, is that trade directly raises the welfare of consumers, who can choose from a greater variety of goods, all the way to the highest-quality products.[6]

Financial openness also boosts growth by enabling a more efficient allocation of capital and facilitating the transfer of technology and know-how. The ability to hold foreign financial assets widens opportunities for higher returns and for the diversification of risk. The injection of foreign capital provides funding to capital-constrained firms, increasing real competition and efficiency. Direct investment can yield further benefits through the transfer of knowledge and technology and the spread of best practice.

True, one has to acknowledge that, along with the numerous benefits that it carries, globalisation does create important challenges. The gains have tended to be unequally distributed. And financial openness exposes economies to potentially destabilising external forces. However, these challenges, in my view, do not warrant a rejection of globalisation, but do call for well designed safeguards. Let me address each challenge in turn.

---

[5] See J De Loecker and P Goldberg, "Firm performance in a global market", *Annual Review of Economics*, vol 6, 2014, pp 201–27.

[6] See J Frankel and D Romer, "Does trade cause growth?", *American Economic Review*, vol 89, no 3, 1999, pp 379–99; D Irwin and M Terviö, "Does trade raise income? Evidence from the twentieth century", *Journal of International Economics*, vol 58, no 1, 2002, pp 1–18; H Y Lee, L Ricci and R Rigobon, "Once again, is openness good for growth?", *Journal of Development Economics*, vol 75, no 2, 2004, pp 451-72; and M Noguer and M Siscart, "Trade raises income: a precise and robust result", *Journal of International Economics*, vol 65, no 2, 2005, pp 447–60.

Globalisation and inequality

On the one hand, globalisation can raise inequality through a number of channels. First, the gains from international trade tend to be unevenly distributed across skills, income levels and locations. Trade often benefits skilled workers in advanced economies and unskilled workers in EMEs. Second, as FDI tends to increase capital intensity and the returns to skill, the benefits tend to accrue to higher-income individuals. Third, globalisation may also raise inequality by favouring income from capital sources. Greater mobility of capital, relative to labour, can put downward pressure on wages when firms threaten to relocate or outsource jobs. The same difference in mobility can leave labour to shoulder a greater share of taxes. Since lower-income households rely more on labour income, these effects are likely to increase inequality.

On the other hand, other aspects of globalisation could mitigate inequality. For one, trade could curb inequality by lowering relative prices for those goods disproportionately consumed by lower-income households, such as clothing. Furthermore, financial openness can enhance the ability of low-income individuals to borrow, to invest and to smooth consumption. Both of the above would lead to a reduction in inequality.

In practice, even as inequality within many countries has risen, global inequality has fallen, in large part due to the increase in living standards associated with globalisation. As for the drivers of within-country inequality, the empirical evidence suggests that trade and financial openness have contributed only modestly to the rise in income inequality over time. Rather, technology appears to have been the dominant factor. In particular, the returns to skilled labour, which uses technology more intensely, have increased substantially, in part at the expense of low-skilled labour.[7] While globalisation facilitates technological diffusion, one should focus on guiding the productive and disruptive effects of technology rather than curbing the spread of technology.

Globalisation and financial stability

Globalisation can also affect financial stability by allowing monetary and financial conditions to spill over across countries. This is a manifestation of the "excess elasticity" of the international monetary and financial system, its ability to amplify financial booms and busts and thereby cause serious macroeconomic costs.[8]

Just like poorly managed domestic financial liberalisation, financial openness can contribute to financial instability unless sufficient safeguards are in place. Financial crises were common in the first wave of globalisation, but financial repression largely prevented them in the first three decades of the second wave. With greater openness in the 1980s and 1990s, sharp reversals of international capital flows set off emerging market financial crises. The Great Financial Crisis also saw a considerable degree of contagion among national financial systems.

There are three main mechanisms through which financial conditions propagate internationally. First, close financial linkages between globally active financial institutions can quickly spread financial shocks across borders. Second, highly mobile international capital can behave procyclically, amplifying financial upswings and reversals. And third, foreign currency exposure transmits global financial conditions and exposes firms, governments and even households to foreign exchange losses.

---

7 See W Cline, *Trade and income distribution*, Institute for International Economics, Washington DC, 1997; and IMF, "Globalization and inequality", *World Economic Outlook*, October 2007, Chapter 4.

8 See BIS, *85th Annual Report*, June 2015, Chapter V.

The first mechanism relates to the way that global financial intermediation forges close links between internationally active financial institutions. The Great Financial Crisis demonstrated how such interconnectedness propagated funding stress among the world's largest financial institutions and forced them to deleverage internationally. Runs on money market funds turned into runs on European banks' dollar funding. Thus, the regulatory reforms in the aftermath of the Great Financial Crisis have focused not only on strengthening the resilience of banks, but also on transforming shadow banking into resilient market-based finance.[9]

The second mechanism works through international credit flows that reinforce the recipient economy's business and financial upswings and deepen the downturns. The close link between cross-border and domestic credit adds to financial stability risks. Cross-border credit tends to amplify domestic credit booms, as it acts as the marginal funding source. Indeed, the cross-border component typically outgrows its domestic counterpart during financial booms, especially those that precede serious financial strains.[10]

The third mechanism relates to the fact that the domains of major international currencies extend well beyond their respective national jurisdictions.[11] This is especially true in the case of the US dollar, the pre-eminent global currency. The dollar continues to play a key role in international trade and finance, ahead of the euro (Table 1). More than half of world trade is invoiced and settled in dollars, pointing to the currency's dominant role as a unit of account. As a means of exchange, the dollar is on one side of no less than 87% of foreign exchange market transactions.

Combining these roles, the US currency helps shape global liquidity conditions. Against the backdrop of the exceptionally accommodative US monetary policy stance, the outstanding stock of US dollar-denominated credit to non-bank borrowers outside the United States reached $10.7 trillion at end-March 2017. No less than $3.4 trillion of this dollar credit went to non-banks in EMEs.[12]

The outsize external role of the US dollar means that changes in the US monetary policy stance have a direct influence on financial conditions elsewhere. And since monetary policymakers, including those in control of global currencies, focus on domestic conditions, they could unintentionally end up worsening financial imbalances well beyond their national borders. Monetary policy in major funding currencies also affects financial conditions elsewhere through exchange rates. In the so-called "risk-taking channel of currency fluctuations", the depreciation of a global funding currency strengthens the balance sheets of currency-mismatched borrowers and boosts lenders' risk-taking. This channel is especially relevant for external debt flows to EMEs.[13] The channel may also influence manufactured trade through global value chains, which are particularly sensitive to financing conditions.

---

9 See Financial Stability Board, "Transforming shadow banking into resilient market-based finance", 12 November 2015.

10 See C Borio, R McCauley and P McGuire, "Global credit and domestic credit booms", *BIS Quarterly Review*, September 2011, pp 43–57; S Avdjiev, R McCauley and P McGuire, "Rapid credit growth and international credit: challenges for Asia", *BIS Working Papers*, no 377, April 2012; and P Lane and P McQuade, "Domestic credit growth and international capital flows", *The Scandinavian Journal of Economics*, vol 116, no 1, 2014, pp 218–52.

11 See C Borio, "More pluralism, more stability?", presentation at the Seventh High-level Swiss National Bank-International Monetary Fund Conference on the International Monetary System, Zurich, 10 May 2016.

12 See "Highlights of global financial flows", *BIS Quarterly Review*, September 2017.

13 See V Bruno and H S Shin, "Capital flows and the risk-taking channel of monetary policy", *Journal of Monetary Economics*, vol 71, 2015, pp 119–132; and B Hofmann, I Shim and H S Shin, "Sovereign yields and the risk-taking channel of currency appreciation", *BIS Working Papers*, no 538, January 2016.

Selected indicators for the international use of key currencies

As a percentage of world total — Table 1

	US dollar	Euro	Pound sterling	Yen	Renminbi	*Total (USD trn)*
Forex market turnover, daily, April 2016 (200%)[1]	87.6	31.3	12.8	21.6	4.0	*5.1*
Foreign exchange reserves, Q1 2017[2]	64.5	19.3	4.3	4.6	1.0	*10.9*
International bank deposits, Q1 2017[3]	61.2	25.0	4.9	3.2	1.3[4]	*24.8*
Outstanding international debt securities, Q1 2017	46.5	37.6	8.1	2.0	0.5	*21.7*
International trade invoicing/settlement, 2010–11	50.3	37.3			1.4	

[1] Because each transaction involves two currencies, the shares sum to 200%. [2] Shares are based on allocated data from IMF COFER. [3] Shares are based on the $23.8 trillion of international deposits with identified currency denomination. [4] Share based on renminbi deposits reported by seven jurisdictions.

Sources: H Ito and M Chinn, "The rise of the redback: evaluating the prospects for renminbi use in invoicing", in B Eichengreen and M Kawai (eds), *Renminbi internationalization: achievements, prospects, and challenges*, Brookings Institution Press and the Asian Development Bank Institute, pp 111–58; IMF; BIS international banking and international debt securities statistics; BIS calculations.

Policy implications

Rolling back globalisation is surely not an adequate response to the main challenges facing modern economies. Just as there is no suggestion to roll back technology, reversing globalisation would lower living standards. The Great Financial Crisis provides recent examples, where a number of countries enacted export restrictions or other WTO-inconsistent measures, or discriminated against foreign firms in industry or agriculture.[14] Protectionist measures may well end up hurting those segments of the population that the policies intended to shield. The challenges of managing economic change are not unique to globalisation. As with other such challenges, well designed policies can limit the adjustment costs associated with globalisation and enhance the gains from it.

To maximise the net benefits of globalisation, policymakers can do their part on two fronts. In the domestic context, countries can implement policies that mitigate inequality and reduce the probability and impact of financial crises. Regulation can also strengthen the resilience of financial institutions. Yet keeping one's own house in order is not enough: international cooperation should complement domestic efforts at several levels.

Domestic policy solutions

On the domestic front, countries can implement policies that boost resilience and help those hurt by greater economic openness. In some cases, economies in hard-hit areas have languished for years, with falling employment and wages sapping local spending. The impact can be managed by appropriate safeguards, whereby domestic structural and fiscal policies play important roles. Importantly, the extent of dislocations depends on obstacles to adjustment. Just as in the case of technology, flexible labour and

[14] See E Truman, "Globalization goes into reverse?", *Realtime Economic Issues Watch*, Peterson Institute for International Economics, 2009.

product markets and measures that encourage adaptability, such as retraining programmes, can mitigate trade-induced dislocations. Structural policies are possibly even more important for countries without an independent monetary policy and exchange rate flexibility, such as the member countries of the euro area.

However, structural reforms take time to deliver benefits, so it is important to design and sequence such policies with care. As OECD researchers have argued, a promising growth strategy is to prioritise reforms that come with short-run benefits and combine reforms to benefit from complementarities across product and labour markets.[15] For instance, reforms in these two markets can be pursued in parallel so that lower prices from stronger competition limit the impact of labour market reforms on real wages. The judicious use of fiscal policy can help limit the economic costs of globalisation. This is particularly so if it builds public support for structural reforms that are necessary to accommodate the effects of globalisation.

Similarly, strong policy and institutional frameworks designed to make financial systems sounder are critical to reaping the full benefits of financial openness. The domestic financial stability policy toolkit is important.[16] This calls for well articulated macroprudential frameworks on a firm microprudential base. And it also requires the capacity to address directly any debt overhang and asset quality problems that might arise during financial busts, in order to repair balance sheets and to improve overall creditworthiness. Indeed, EMEs have been taking important steps in this direction since the mid-1990s. This has gone hand in hand with a better external balance sheet structure, helping to reduce their vulnerability to external factors. In particular, they boast stronger net international investment positions and thicker cushions of foreign exchange reserves.

From a medium- and long-term perspective, there is a need to review the overall policy framework to ensure more robust and sustainable growth and to address accumulated vulnerabilities. As I have argued before, the monetary policy framework should take financial stability systematically into account.[17] Furthermore, the changing nature of the inflation process, including the increasing influence of *global* factors on inflation, calls for further refinement to current monetary policy strategies.[18] When it comes to fiscal policy, strengthening the foundations for sustainable growth requires taking targeted action while avoiding destabilising debt dynamics. Our analysis of the stance of fiscal policy needs to take into account the financial cycle. In particular, a prudent approach to fiscal policy recognises that the upswing of the financial cycle flatters the fiscal accounts with unsustainable revenues.

The role of international cooperation

If policymakers could better manage the financial cycle, that would in itself already help constrain excesses and to reduce spillovers from one country to another.

Yet keeping one's own house in order is not enough. Policymakers should also give more weight to international interactions of domestic policies.

Multilateralism is key for delivering the best outcomes in this respect. The special roles of global financial institutions and global currencies go beyond international trade and the financial interactions

---

15 See A Caldera Sánchez, A de Serres and N Yashiro, "Reforming in a difficult macroeconomic context: A review of the issues and recent literature", *OECD Economics Department Working Papers*, no 1297, 2016.

16 See C Borio, "The financial cycle and macroeconomics: what have we learnt?", *Journal of Banking & Finance*, vol 45, issue C, 2014, pp 182–98.

17 See J Caruana, "Looking beyond the here and now", speech on the occasion of the BIS Annual General Meeting, Basel, 25 June 2017.

18 See C Borio, "How much do we really know about inflation?", speech on the occasion of the BIS Annual General Meeting, Basel, 25 June 2017.

directly linked to trade in the first two layers of globalisation. An internationally agreed joint approach helps to ensure that policymakers properly manage global financial risks, not least those associated with the highly procyclical third layer of globalisation.

If we step back, we can see the long-standing cooperation in financial regulation and supervision. Standards are agreed and then incorporated into national law. The joint approach even extends to peer review of implementation. No one argues that such cooperation is at odds with the domestic financial stability mandates of central banks and others. It is well understood that the best way to make the financial system more resilient is through an international agreement. For this reason it remains a top priority to complete the international financial reforms under way. It is not the time to lower our guard.

There is even a joint approach to exchange rates. The G20 Finance Ministers and Central Bank Governors reiterated in March 2017 in Baden-Baden, Germany "that we will refrain from competitive devaluations and we will not target our exchange rates for competitive purposes".

International cooperation is also needed beyond finance to ensure a level playing field in trade and areas such as taxation. Multilateral trade agreements provide common markets to maximise efficiency. Trade and financial linkages enable companies, particularly large multinationals, to make decisions regarding production and profit declaration to minimise their taxes. There is also a case for closing tax loopholes while retaining some degree of tax competition, making sure that highly mobile capital shares the tax burden with less mobile labour.

Focusing on cooperation among central banks in particular, a necessary step is to reach a common understanding of how various spillover and spillback channels work. For this, we need to develop analytical frameworks that more fully capture these effects.[19]

At the level of information-sharing among central banks, there is already greater recognition and awareness of spillovers. A lot of cooperation takes place on a bilateral basis and through our ongoing interaction at the BIS, the FSB, the IMF, the G20 and other multilateral fora.

As regards crisis management, international cooperation remains important. The Great Financial Crisis has shown that joint adjustments of monetary and fiscal policies and the establishment of international central bank swap lines can be effective. These actions are good examples of how we can do more in international cooperation. And there may be some room to strengthen these mechanisms further, even though risk management and governance issues loom large. However, a greater emphasis on preventing the build-up of financial imbalances appears desirable.

A second, higher, level of cooperation requires major central banks to internalise better international monetary policy spillovers to the extent that they feed back on their own domestic economies. This approach is in the spirit of "enlightened self-interest".

However, even if countries better anchor their own domestic policies, exchange the relevant information and take into account the cross-border effects of their policy settings, large private capital flows will still create externalities and collective action problems. This calls for more international cooperation that addresses the global spillovers.

[19] See J Caruana, "The international monetary and financial system: eliminating the blind spot", speech at the IMF conference *Rethinking macro policy III: progress or confusion?*, Washington DC, 16 April 2015.

Going one level still higher, we would do well to re-read two Andrew Crockett Memorial Lectures, one by Raghu Rajan and the other by Hélène Rey.[20] Rajan's lecture offered an academic's questioning of unconventional monetary policy. He followed up as Governor of the Reserve Bank of India with a paper on "rules of the monetary game".[21] He reviewed how policy spillovers had been analysed and urged those responsible for major funding currencies to work on rules that would help instil greater discipline in national policies. In her lecture, Rey convincingly argued that policymakers should consider a range of options to weaken the potency of the Great Financial Cycle and to foster financial stability. While acknowledging the serious obstacles on the path to such an ambitious destination, I fully agree with Hélène and Raghu that we should go there, given the deficiencies of the modern international monetary and financial system.

As I have previously argued,[22] there certainly is scope for greater international cooperation in monetary policy. As I just noted, the need for cooperation in financial regulation is well understood. Yet, when it comes to monetary policy, the dominant view is that keeping one's own house in order is enough. But can exchange rate fluctuations really insulate economies against contagion? Are national bond markets isolated or integrated? And do fallacies of composition characterise monetary policymaking?

The answers to these questions lead to the conclusion that there is a need for international cooperation in the realm of monetary policy. The need for such cooperation is especially pronounced when it provides the backing for financial stability. That is why monetary policymakers need to take further practical steps to complement their domestic analysis with a more global perspective.

That said, I do not have answers. I insist that we do not yet have in hand the analytic approaches required. It is certainly premature, if not mistaken, to imagine housing the cooperation under a single roof.

As we gather here today under the auspices of the Central Bank of Iceland and the Reinventing Bretton Woods Committee, we can take this opportunity to take further steps towards reaching a common understanding of the international spillovers and spillbacks that characterise the international monetary and financial system. If we manage to achieve this, we will be in a much better position to tackle the challenges facing the modern global economy.

Thank you for your attention.

---

20 See R Rajan, "A step in the dark: unconventional monetary policy after the crisis", 23 June 2013, www.bis.org/events/agm2013/sp130623.htm; and H Rey, "The global financial system, the real rate of interest and a long history of boom-bust cycles", 25 June 2017, www.bis.org/events/agm2017/sp170625.htm.

21 See P Mishra and R Rajan, "Rules of the monetary game", *RBI Working Paper Series*, WPS (DEPR) 04/2016, March 2016; and R Rajan, "New rules for the monetary game", *Project Syndicate*, 21 March 2016, www.project-syndicate.org/commentary/new-monetary-policy-rules-needed-by-raghuram-rajan-2016-03.

22 See J Caruana, "Policymaking in an interconnected world", speech at the Federal Reserve Bank of Kansas City's 36th Economic Policy Symposium on *The changing policy landscape*, Jackson Hole, 31 August 2012.