

# Macroeconomic Policy in Open Economies

## Why Do Economists Disagree?

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### Key points

- For many years macroeconomic policy was able to achieve reasonable internal and external balance during the period called the ‘Great Moderation’.
- The global economic and financial crisis in 2008 for many countries worsened very significantly the mix of internal and external balance that they had been exhibiting.
- The Meade-Mundell-Fleming framework for analyzing macroeconomic policy in an open economy can usefully be applied to the cases of the US, China and Greece in the period following the global economic crisis.

### Introduction

Macroeconomic policy in an open economy sets out to achieve two things simultaneously: internal and external balance. The way in which these two targets are defined has changed over time. During the Keynesian era of the 1950s and 1960s internal balance was reflected by the idea of non-inflationary ‘full’ employment combined with a rate of economic growth



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that allowed living standards to rise year upon year. External balance was defined as overall balance of payments equilibrium. Nowadays, internal balance would more likely be interpreted as achieving the level of output that is associated with the natural rate of unemployment and as avoiding a significant output gap. Meanwhile, external balance might be seen as achieving and maintaining a ‘sustainable’ current account balance of payments.

For many years prior to the global financial and economic crisis that emerged in 2008, these targets had, for the most part, been hit. This was the period of the so-called ‘Great Moderation’. For most large and influential economies there was positive economic growth, living standards were rising, inflation was low and unemployment appeared to be close to its natural rate. There were exceptions to the rule, Japan being the most notable one, but generally there were few worries about internal balance. If there were any concerns among policymakers, they involved external balance and whether the pattern of global current account balance of payments disequilibria could be sustained. However, the concern was not sufficiently strong to lead to any significant policy action to reduce the imbalances. Because macroeconomic performance in terms of attaining both internal and

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external balance was deemed to be broadly satisfactory, much of the heat went out of the debate about the design of macroeconomic

policy in an open economy that had been a feature of earlier times.

The global crisis reignited the flames of disagreement over macroeconomic policy. Divisions among macro theorists that appeared to have been buried in the 1990s and early to mid-2000s came to the surface once more. There has been a ‘lively’ and sometimes acrimonious exchange of views. In the United States, for example, a popular distinction has been made between the ‘freshwater’ economists who retain more confidence in markets as opposed to government intervention, and see no role for governments in actively trying to manipulate aggregate demand, and ‘saltwater’ economists who are less sanguine about the operation of markets, and in particular financial markets. They see a larger role for governments,

which incorporates the use of fiscal and monetary policy to influence aggregate demand in the short term.

When one observes a debate over an issue involving intelligent people who are prepared to adopt a reasonably scientific approach, it is likely to be the case that there is no clear and straightforward answer available; otherwise they would find it and consensus would follow. The fact that a debate continues means that there must be areas of uncertainty that empirical testing has, as yet, failed to eliminate. The purpose of this article is to identify and discuss some of the areas of the contemporary uncertainty and disagreement that surround the design of macroeconomic policy in an open economy. In the circumstances that have existed since 2007 many countries have deviated significantly from either internal or external balance, or both of them. The main issue has been to determine what governments can do, if anything, to help move them back towards full internal/external balance as soon as possible.

It is in the nature of macroeconomics that things are complicated. One variable affects, and is in turn affected by, another. It is therefore necessary to simplify and to find a model that at least approximates how things work in the real world. It is in the nature of models that simplification is gained by imposing constraining assumptions, and the questions then become whether the assumptions are based on sound microeconomic foundations, whether they are reasonably realistic, and whether and to what extent the predictions of the model depend on them being met. However, even when a model does not give definitive answers, it may still help by providing an analytical framework that identifies and permits an assessment of the principal factors involved in formulating answers. Rather than merely assembling a litany of apparently unconnected factors, an acceptable analytical framework will help in drawing a coherent overall picture that then drives a relevant and well-directed discussion and also delineates areas in which more information is needed. Does such a framework exist?

For many years the workhorse model for open economy macroeconomics has been what became known as the Mundell-Fleming model; although many of the ideas incorporated in the model had

been developed earlier by Meade (1951) and by Swan (1955).<sup>1</sup> Here I examine whether this model continues to fulfil a useful function in the contemporary world economy. Does it offer a useful framework that allows an organised and coherent description and evaluation of policy options?

The article is organised in the following way. First, it presents a brief empirical summary of the world economy between 2006 and 2008/09. This illustrates the nature of the sharply increased deviation from internal/external balance that occurred during and in the aftermath of the global financial and economic crisis in 2008, particularly for advanced economies as opposed to emerging ones. In the next section a summary is provided of what I shall refer to as the Meade, Mundell, Fleming (MMF) analytical framework, which endeavours to capture its underlying features without going into textbook detail. The article makes a distinction between a ‘model’ that is quite specific and prescriptive, and an ‘analytical framework’, which is broader and can be used to accommodate competing ideas that lead to different conclusions about the design of policy. After that comes a critical examination of some of the principal assumptions upon which the MMF framework, and the more specific version of this in the form of the conventional Mundell-Fleming model, are based and an assessment of whether these remain reasonable assumptions in modern times. We also use the framework to isolate the main areas of disagreement in open economy macroeconomics undertaking, as we do, a critical analysis of the criticisms that have been made of it. Next, the MMF framework is used to evaluate the design of macroeconomic policy over the period 2008–12 in three case studies: the US, China and, more briefly, Greece as a representative example of the PIGS (Portugal, Italy, Greece and Spain). Finally, a few concluding remarks are proffered about the current state of open economy macroeconomics.

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<sup>1</sup> The key contributions include Fleming (1962) and Mundell (1960, 1961 and 1963). Boughton (2002) provides an excellent review of the origins of the Mundell-Fleming model, although he favours using a conventional alphabetical ordering of the names. He points out that it was Dornbusch (1976a, 1976b, 1980) who popularised the idea of citing Mundell ahead of Fleming, although up until then the model had been referred to in various ways. Kenen (1985) still preferred to put Fleming’s name first, as had Tower (1972). Cooper (1976) also assigned primary credit to Fleming, although also chose to emphasise the contribution of Meade. Arndt (1973) referred to the Tinbergen-Mundell model while mentioning Fleming in a list of other contributors. Tinbergen (1952) examined the theory of economic policy, pointing out that governments need at least as many independent policy instruments as they have targets. For the purposes of this article such debates are of only tangential interest.

## The impact of the global economic crisis on internal/external balance

The impact and legacy of the global economic and financial crisis in 2008 for many countries was to worsen very significantly the mix of internal and external balance that they had been exhibiting prior to it. At this stage we can note that there are important global linkages between external and internal balance. In the context of the crisis, a global savings glut that was reflected by large balance of payments surpluses in countries such as China and Germany contributed to financial and economic crises in deficit countries (most notably the US) by encouraging excessive spending and borrowing. This resulted in asset and house price bubbles. When the bubbles burst, these economies suffered recession and a large deviation from internal balance.

Later in this article I shall examine the policy options that confronted the US, China and Greece as a consequence of the crisis. Before it happened, the US was, in 2006, experiencing a growth rate of 2.7%, unemployment of 4.6% and inflation of 3.2%.<sup>2</sup> The economy was to all intents and purposes in internal balance. However, with the US current account balance of payments deficit running at 5.8% of GDP, there were questions about its sustainability. The problem related to external balance, and how to move closer to external balance without sacrificing internal balance.

For China, too, the evidence revealed an economy enjoying internal balance, with a high rate of economic growth (12.7%) alongside low unemployment (4.6%) and low inflation (3.2%). The current account was in surplus at 8.5% of GDP, and the issue facing policymakers in China was whether they regarded the surplus as a problem and, if so, what should be done to reduce it.

In Greece, as also in Portugal, Italy and Spain, the conventional indicators of internal balance showed satisfactory performance in 2006. While, for Italy, the current account deficit was only 2.8% of GDP, suggesting that Italy was closer than the other countries in the PIGS group to full internal/external balance, for Greece, Portugal and Spain the current account deficits were 15.0%, 12.7% and 9.7%,

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<sup>2</sup> All the data quoted in this article are taken from either IMF or World Bank sources.

respectively. As these numbers show, there was a relatively acute problem of external balance. The dilemma facing policymakers in these countries was similar in nature to that facing the US, but worse. How could external balance be achieved without sacrificing internal balance?

To the extent that the countries cited above were representative,

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it is unsurprising that the principal global macroeconomic issue in 2006 related to global economic imbalances and the extent to which they were sustainable. Macroeconomic policy focused

on trying to foster external balance. However, surplus countries appeared to be unenthusiastic about pursuing policies that would dramatically reduce their surpluses, and deficit countries seemed to believe that there was a reasonable chance that their deficits could continue to be financed in a way that allowed them to avoid painful adjustment measures. For most countries internal imbalance did not appear to be a problem. Even in Japan, a country that had experienced a decade or more of relatively weak economic growth, living standards as measured by GDP per capita had been rising in the early to mid-2000s and unemployment had begun to fall.

As the crisis hit, things changed dramatically for many countries in the world, but not for all of them. In 2008, and even more so in 2009, economic growth in most advanced economies was negative and unemployment increased sharply.<sup>3</sup> The focus of policy shifted towards trying to restore internal balance, but in a way that did not worsen the degree of external imbalance.

In deliberating on the design of the policy instruments that would encourage economies to move in the direction of attaining full internal and external balance, it helps to have an analytical framework that allows the various options to be evaluated. The most widely used one had been established more than 50 years before the crisis hit.

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<sup>3</sup> In Germany, unemployment did not rise, but the rate of economic growth slowed from 3.5% in 2007 to 1.1% in 2008. Germany's current account balance of payments remained in substantial surplus at more than 6% of GDP in 2008.

## **Key issues emerging from the MMF framework: areas of uncertainty and disagreement**

The work that culminated in the formulation of this open economy analytical framework was conducted by Meade in the 1950s, and by Mundell and Fleming in the 1960s. I shall refer to it as the MMF framework in an attempt to distinguish it from the specifics of the Mundell-Fleming model. It built on what was, at the time, standard closed economy analysis and included three sectors: a real sector, a monetary sector and the balance of payments, comprising both the current account and the capital account. The framework is conventionally depicted using a two-dimensional diagram containing relationships that show the real sector, the monetary sector and the balance of payments. Alternatively, it is expressed by a series of equations. The diagram reveals the combinations of national income and the rate of interest that maintain equilibrium in the three sectors, respectively. The challenge facing policymakers is to find a location where equilibrium across all three sectors simultaneously coincides with non-inflationary full employment (or employment at the natural rate). To achieve this outcome they have a number of policy instruments at their disposal and their success depends on how well these are used. In the 1960s, and at the time of the Bretton Woods international monetary system, countries were reluctant to change their exchange rates, so the emphasis was placed on using just monetary and fiscal policy. However, with increasing financial globalisation there were constraints on monetary policy and the system was buttressed by the use of capital controls. The exchange rate weapon was used only occasionally, and usually when all else had failed. After the collapse of that system in 1973, many countries adopted more flexible exchange rates and this offered an additional way of dealing with macroeconomic disequilibria.

Starting from a situation in which there is an output gap and therefore spare productive capacity, circumstances that have been common in the aftermath of the global financial crisis, expansionary fiscal policy, involving an increase in the size of the fiscal deficit, is seen by the MMF framework as leading to an increase in national income and output as well as an increase in the rate of interest. The impact on national income depends on the value of the expenditure multiplier,

which in turn, and to some extent, depends on the impact on the rate of interest. An increase in economic activity tends to increase the demand for money and, assuming that the supply of money is not modified to meet this demand, the rate of interest will tend to rise, with the extent of the rise depending on the size of the excess demand for money. If the authorities allow the supply of money to increase in order to meet the increased demand for it, the impact on the rate of interest can be neutralized and the effect on national income made more powerful.

So here we encounter what is *the first issue* and area of debate as identified by the MMF framework. Will an increase in the size of a fiscal deficit actually have a positive effect on economic activity, and how large will it be? There are broadly two but quite starkly opposing points of view. Neo-Keynesians and saltwater economists follow much of the reasoning in the MMF framework, and claim that such an increase will have an expansionary effect on the economy, with the size of this effect depending on the value of the expenditure multiplier, which they claim is greater than 1. If there is spare capacity in the economy the expansion will be in real terms. If not, the result will be inflation. This point of view doubts that the impact on the rate of interest will be sufficiently strong to significantly dampen this expansionary effect, and therefore claims that there will be little 'crowding out'. This will be particularly the case if the economy is in a liquidity trap. In sharp contrast, new classical macroeconomists or freshwater ones suggest something completely different. They claim that an increase in the fiscal deficit will merely drive up the rate of interest as the government seeks to borrow in order to finance the deficit. This will then reduce private-sector expenditure in the form of consumption and investment by something close to the increase in government expenditure. Aggregate demand will therefore not tend to change, although its composition will. The government sector will become larger relative to the private sector. More dramatically, they claim that the effect on expenditure could be close to zero or even negative, since as the fiscal deficit increases, people will expect an eventual increase in taxation. They will then increase current saving to cover this (a phenomenon known as Ricardian equivalence). In these circumstances the rate of interest will not increase. The growth

of government debt, and the eventual fiscal austerity that is anticipated to deal with it, will undermine market confidence and weaken the business outlook; private-sector investment will decline. As a consequence, expansionary fiscal policy will somewhat perversely actually be contractionary.

Recall that macroeconomics is complicated. The MMF framework illustrates that the disagreements about the impact of fiscal policy described above represent just the start of it. Let us assume that the weight of evidence favours the argument that expansionary fiscal policy is indeed expansionary, and that both the level of national income and the rate of interest will tend to rise. This leads us to *the second issue* that the MMF framework identifies: what will be the impact on the current account and the capital account of the balance of payments? The MMF framework assumes that the current account is strongly influenced by the level of national income. An increase in this will lead to an increase in imports (depending on the marginal propensity to import) relative to exports and therefore to a weakening in the current account. Beyond this, it also assumes that international capital moves in response to interest rate differentials. If fiscal expansion leads to an increase in the domestic rate of interest, this will in turn lead to an inflow of capital, depending on the degree of capital mobility (or, in other words, the interest rate elasticity of international capital). In this scenario it is feasible that the capital account could strengthen more than the current account weakens, so that there will be a net increase in the demand for the country's currency in the foreign exchange market. What are the implications of this? They depend on the government's response and on whether balance of payments disequilibria are allowed to exert an impact on the value of the currency.

This moves us on to *the third issue* captured by the MMF framework. This involves the nature of the exchange rate regime. To begin with, let us assume that the government does not want the value of the currency to rise because of the related loss of competitiveness. It will

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then be tempted to intervene in the foreign exchange market and supply the additional units of the domestic currency that are being demanded by foreign investors. The domestic money supply will rise, and this will moderate the rise in the rate of interest and endorse the expansionary impact of the initial increase in the fiscal deficit – unless, that is, the government can effectively sterilise the effects of their intervention in the forex market by issuing government bonds to absorb the additional liquidity they have created. In the long term, however, and with a sustained inflow of capital, they will probably be forced to allow the exchange rate to appreciate. The resulting loss of competitiveness, and the implied reduction in demand for home-produced goods, will then exert a contractionary effect on the domestic economy. There will be open economy crowding-out as a consequence of the exchange rate appreciation.

At this point, we are confronted with yet more questions that follow on from the above discussion. The answers to these may vary across countries, and this means it is difficult to formulate a simple rule about the design of macroeconomic policy that can be applied worldwide.

- *What is the scope for sterilized intervention?* It depends on a range of factors such as whether the bond market is well established or thin, and whether existing international reserves are deficient or excessive. It also depends on the size of the existing fiscal deficit and the capacity of the government to handle an increase in it.
- *What is the impact of currency appreciation on the current account?* It depends on the values of key foreign trade price elasticities that may not be confidently known at the time that policy is enacted and may change over time.
- *Where do exchange rate expectations fit in and what is the impact of the alternative policy strategies on them?* Unfortunately there is no good model of what determines exchange rate expectations. One idea is that of uncovered interest parity (UIP). This claims that the international capital market is close to perfect, with financial assets across the world being seen as close substitutes for one another. In these circumstances arbitrage will ensure that interest rates in one part of the world are brought

into close proximity with rates elsewhere once they are adjusted for expected changes in exchange rates. If the rate of interest rises in one country then, to comply with UIP, it must be that the value of the country's currency will be expected to depreciate to offset the interest rate advantage, and this will then negate the impact of the rise in the rate of interest on capital flows.<sup>4</sup>

Although there remain staunch advocates of UIP who are attracted by the underlying microeconomics associated with arbitrage, most economists believe (or will concede) that the empirical evidence offered in support of it is not compelling; here is another area of uncertainty that policymakers confront. Indeed, the whole issue of international capital movements is one that is as yet not fully understood. There are many things that may influence them apart from the rate of interest. Important among these will be risk, but how is this calculated? It remains unclear. The upshot is that an enhanced capital inflow could, in principle, coincide with a fall in the rate of interest, while a capital outflow could coincide with an increase in it.

Now, at the cost of making things even more complicated, let us consider another possibility. This is a case that may be closer to what has actually happened over recent years in the aftermath of the crisis. Here a country's monetary authorities accommodate an initial fiscal expansion by allowing the money supply to increase; the fiscal deficit is, in effect and at least to some extent, monetised. In these circumstances, the impact on national income will be accentuated, as will be the weakening in the current account of the balance of payments. But there will be no offsetting strengthening in the capital account since the interest rate will not have risen. With a flexible exchange rate, the currency will depreciate. And with the resulting improvement in competitiveness there will be a further increase in aggregate demand and national income.

But can we be certain about the course of events that has just been outlined? Unfortunately not; again there are 'ifs' and 'buts'. One of them relates to the size of the output gap. Once this has been closed,

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<sup>4</sup> A related criticism of the MMF framework is that it failed to anticipate the rational expectations revolution in macroeconomics, and therefore makes no distinction between policy changes that are anticipated and those that are unanticipated. It incorporates a fairly traditional view of the trade-off between inflation and unemployment as represented by initial forms of the Phillips curve rather than by forms that incorporate inflationary expectations. Views will differ about just how important this criticism is.

the danger is that economic expansion will overshoot, and internal balance will be lost as the rate of inflation accelerates. This raises a tricky issue for policymakers since it is difficult to calculate the precise impact of fiscal and monetary policies over time; lags will be involved. What is appropriate policy in the short term may become inappropriate in the longer term. At what point should the policy direction be modified, tapered out or reversed?

The time dimension is also important when assessing the effect of currency depreciation. It is widely recognised that elasticities are higher in the long term than they are in the short term. In the context of exchange rate depreciation there is the well-established 'J curve' phenomenon. Following exchange rate depreciation, the current account may weaken before it strengthens. In the short term the elasticities may fail to comply with the Marshall Lerner condition. The consequence of this is that the exchange rate instrument that is directed towards hitting the external balance target may be ineffective or indeed counter-productive in the short term, making the external imbalance larger, and this may be particularly problematic where the current account has already become unsustainable.

Things do not end there. Just as there are debates about the sign (positive or negative) of the effect of increased fiscal deficits on national income, there are also debates about whether currency depreciation will be expansionary or contractionary. Once again timing is likely to be important. It is theoretically possible that the effect of depreciation will be contractionary in the short term, with, for example, adverse balance sheet effects dominating, and then expansionary in the medium to long term when the trade effects begin to dominate. Policymakers are then faced with the dilemma of knowing exactly when to shift course.

With all these areas of uncertainty and disagreement it is important to have an analytical framework to act as a navigational guide. Does the MMF framework provide an appropriate one? Answering this question requires us first of all to examine some of the criticisms that have been made of it. We can then see whether, in spite of them, the framework provides a useful basis for discussing the policy options selected by a group of countries in the post-crisis era.

## Assessing the MMF framework

Criticism may be made of the MMF framework at a number of levels. At the first level, while the specifics of a particular group of assumptions leads to reasonably precise conclusions, the precision may depend importantly on their legitimacy; it may evaporate quite quickly once the assumptions are relaxed. For any one specific set of assumptions, the conclusions that emerge from the MMF framework are precise; but they may be precisely wrong. Thus, in a version of the MMF framework where exchange rates are pegged and international capital is mobile, fiscal policy emerges as having a comparative advantage in achieving internal balance, while monetary policy has one in achieving external balance. If, however, exchange rates are flexible and capital is highly mobile, then it emerges that fiscal policy is rather ineffective in delivering internal balance; a conclusion that once again needs to be altered where monetary policy is directed towards keeping interest rates low.

But is this really a valid criticism of the MMF framework? It seems to be more a criticism of the way in which the model is being interpreted and used. The criticism is more appropriately levelled at one particular set of assumptions that may be deemed to be unrealistic, rather than at the analytical framework itself, which can accommodate different sets of assumptions.

At the second level, some of the functional relationships embedded in the MMF framework are fairly unsophisticated. For example, the trade and capital flow functions are rudimentary. But what can reasonably be expected of a two-dimensional diagram? The same criticism could be made of a simple demand curve. A reasonable response would seem to be that the MMF framework does not claim that trade depends only on national income or that capital flows depend only on the rate of interest. There are other influences that may be incorporated into the analysis. By the same token, we recognise that demand curves will shift as things other than price change. All that is necessary to justify the MMF framework is the assumption that imports will vary positively with national income, and that capital flows will be influenced positively by interest rate differentials. While there are other factors at work, as well as counter-arguments, these do not appear to be sufficient to destroy the basic MMF framework. Moreover, there can

be legitimate debate about the degree of capital mobility, and about just how sensitive capital flows are to interest rate differentials. Again discussions about the price elasticity of demand and about shifts in demand curves do not lead us to abandon the whole notion. Instead the concept helps us to organise our thoughts.

At a third level, the MMF framework is short term in its focus. In connection with this it treats the movement of international capital as a flow rather than as reflecting a process of portfolio adjustment. Nor does it have anything to say about the supply side of the economy. However, if it takes time to adjust portfolios this limitation may not completely undermine the framework's usefulness. It is merely a limitation of which we need to be aware. Again, it would be difficult to incorporate a detailed treatment of the supply side. If the extreme versions of the supply-side approach associated with the Laffer curve, and the incentives created by marginal tax rates, are put to one side, and if it is further accepted that aggregate supply changes only relatively slowly, and largely as a result of productivity growth – which is something that is not well understood in any case – then it may not constitute a damning indictment of the MMF framework that these issues are left out. Exogenous changes in supply can in any case be incorporated within the framework. In conditions where there is significant unemployment and a large output gap, it is important to investigate what can be done by means of macroeconomic policy to ensure that the spare productive capacity is used. This will make a significant contribution to economic and social well-being.

Some economists may disagree, but while recognising its limitations, a reasonable conclusion would appear to be that the MMF framework provides a suitable basis for analysing many important aspects of macroeconomic policy in an open economy. An acid test is to see whether it helps in explaining, discussing and evaluating the policy choices made by a number of countries in the post-crisis era.

## **Macroeconomic policy in the post-crisis era: a few case studies**

In this section we briefly examine macroeconomic policy in the period 2008–12 in the US, China and in Greece, as a representative member of

the PIGS group of countries (Portugal, Italy, Greece and Spain). As a basis for this examination the MMF framework is used as described in the preceding sections.

In the US there was clear evidence in 2008 and 2009 that internal balance was not being achieved. Unemployment increased from 5.8% in 2008 to 9.3% in 2009. Data on economic growth and the output gap painted a similar picture, with the growth rate falling to -3.4% in 2009. In 2008 the current account deficit was running at 4.6% of GDP, and this suggested that the US was also failing to achieve external balance. The MMF framework implies that, in these circumstances, fiscal expansion is appropriate in order to move the economy closer to internal balance. However, the impact of expansionary fiscal policy will in principle be offset, and even neutralised, if the rate of interest increases as a result. To avoid this, and to maximise the impact of expansionary fiscal policy on internal balance, monetary policy needs to be kept loose and interest rates low. The downside of this strategy is that the economy will move further away from external balance as the current account weakens and as the capital account fails to strengthen. To deal with this, the MMF framework suggests that the exchange rate should be allowed to depreciate. This will tend to happen automatically alongside an increase in national income and where there is no increase in the rate of interest, unless the authorities intervene to prop up the value of the currency. This might be something they would consider if inflation were high, but in the US in 2009, consumer prices were stationary. If anything the worry was over potential deflation.

As things turned out, the US authorities followed a fairly standard MMF prescription. The size of the fiscal deficit relative to GDP as measured by net borrowing almost doubled between 2008 and 2009, the money supply grew and interest rates were kept low. Initially, the value of the dollar appreciated as it was perceived to be a safe haven during the early years of the crisis. This may have contributed to there being a modest increase in the size of the current account deficit in 2010 (following a significant decline in 2009). However, over the period 2010–12 the dollar depreciated and the current account deficit narrowed. By 2012, unemployment had begun to fall, positive economic growth had been restored and the current account deficit was

only 2.1% of GDP, a level that is widely regarded as sustainable. In short, the US economy seemed to have moved much closer towards a state of internal/external balance.

The potential problems with this strategy, and the ones emphasised by its critics, come from a number of sources. One is that it may be continued for too long. A danger then is that inflation will accelerate. This will damage competitiveness and have an adverse effect on external balance, as well as moving the economy to the ‘other side’ of internal balance. A modest decline in the value of the currency may be replaced by a rapid decline leading to a crisis of confidence in the currency and to a ‘hard landing’. A second problem is that the debt accumulation associated with financing a large fiscal deficit in circumstances where economic growth is modest will eventually undermine market and business confidence. This may mean that an enduring fiscal deficit will in the longer term have a contractionary effect. The nature of the contemporary debate about US macro policy has hinged largely on these issues.

In China the situation has been very different, but it can still be described and evaluated in the context of the MMF framework. In 2008 economic growth was 9.6%. There did not appear to be a significant output gap and unemployment did not appear to be a problem, with the data showing a rate of 4.2%. If anything, and with inflation at nearly 6 per cent in 2008, the macroeconomic indicators, suggested that China was on the ‘other side’ of internal balance as compared with the US. This was also the case in terms of external balance. While China did not exhibit external balance, the nature of the imbalance took the form of a large current account surplus, which was 9.3% of GDP in 2008. In many ways this situation did not provide a strong incentive for the Chinese authorities to modify policy at all, with China benefiting

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from export-led growth. China seemed content to defend what many calculations suggested was an undervalued currency, and to intervene in the foreign

exchange market to prevent currency appreciation. In association with this, China continued to accumulate very large levels of international reserves. Initially the intervention appeared to be associated with a

relatively rapid expansion in the domestic money supply; broad money grew by 28.4% in 2009. This hinted that the intervention was not being sterilised to any substantial degree.

Although China initially seemed unenthusiastic about following it, the MMF framework suggests a strategy for moving towards internal/external balance in the circumstances that existed in 2008. This involves currency appreciation to moderate the current account surplus, combined with some relaxation in fiscal and monetary policy to offset the adverse effects that appreciation would have on internal balance. Thus external balance could, in principle and according to the MMF framework, be created without damaging internal balance. As things panned out, this does seem to be the broad course of action that has been pursued in China.

While in theory the scope for sterilised intervention was limited by the ill-developed nature of domestic financial markets, there are indications that sterilisation was in fact high, something that was facilitated by a modest fiscal deficit and low debt. However, a strategy that involved continuing to strongly defend the yuan's value began to be seen by Chinese policymakers as one that would be difficult to sustain and as potentially inflationary. Currency appreciation had the attraction of being counter-inflationary. At the same time, there may have been political attractions to shifting somewhat away from a form of economic growth that relied on foreign demand towards one that placed more emphasis on domestic demand. Not only did this mean that domestic living standards could rise more rapidly and be shared more evenly (instead of international reserves being further accumulated at the rate that had been occurring) but it also meant that China could assuage some of the international criticism that was being made of its policies from the viewpoint of correcting global economic imbalances. Here it was claimed that a continuing surplus in China limited the ability of other countries to reduce their deficits and achieve external balance.

However, the modification in the design of China's macroeconomic policy has been muted in the post-crisis period. From 2009 to 2012 the size of the fiscal deficit increased relative to its level in 2008, but it remained small in relation to GDP and to the size of the deficits in many other countries. By 2012, and as a proportion of GDP, the fiscal deficit in China was

only about a quarter of the size of the US deficit. Indeed, the initial macroeconomic response to the global crisis was much more marked in 2009 than it was in the following three years as the rate of monetary growth fell and as the initial fiscal expansion was curtailed. Moreover, while the value of the yuan did appreciate in the period running up to 2012, the appreciation has not been sustained and has not been sufficient to completely eradicate the degree of undervaluation that exists according to many calculations of the fundamental equilibrium rate for the yuan. By 2012, China was still in the apparently enviable situation of being in internal balance, and on the preferable side of external imbalance (as perceived by the Chinese authorities if not by some other countries).

This is not a description that fits Greece or any of the other PIGS. For Greece the deviation from both internal and external balance in 2008 was extreme. Unemployment was close to 8%, economic growth was  $-0.2\%$  and the current account balance of payments deficit was about 15% of GDP. This was an unsustainable situation. The MMF framework would have suggested a strategy similar in design (but greater in degree) to the one outlined above in the case of the US. The difficulty for Greece was that it had fewer policy instruments available to it. The fact that, as a member of the Eurozone, it could not depreciate its exchange rate, and could not exert independent control over monetary policy, meant that reliance needed to be placed almost exclusively on fiscal policy. The Greek dilemma (or tragedy) was that it was struggling to achieve two targets, but using only one instrument; this is not possible if you start from where Greece started in 2008. Priorities needed to be established. Had the priority been placed on internal balance, then the MMF framework would have pointed to rapid fiscal expansion as the appropriate policy to adopt. But there was a raft of problems with this. First, the deficit was already large and could not be financed by either monetary expansion or by further borrowing. Second, there was the possibility that the theory of contractionary expansion might apply so that the strategy would in any case backfire. Instead, the priority was placed on trying to get closer to external balance, something that was seen as a precondition for being able to eventually get back to internal balance. In the short term this implied that the deviation from internal balance would become much greater. By 2012 Greece was closer to external balance with a current account deficit of 3.4% of GDP. However, with unemployment at 24.2% and a growth rate of  $-6.4\%$ , the

deviation from internal balance had become very much greater than it had been in 2008. The immense political problems to which this gives rise need little explanation.

## Concluding remarks

Macroeconomics is complicated since a whole range of important variables interact with one another, probably at different speeds. In any situation there are likely to be countervailing forces at work. In the absence of full and compelling information about the sign and size of key relationships, it is unsurprising that economists disagree about how economies work and therefore about the appropriate design of policy. The danger is that in such circumstances the picture becomes cluttered with ‘ifs’, ‘buts’ and ‘maybes’. It becomes difficult to ‘see the wood for the trees’. What is needed is a relatively simple analytical framework that facilitates a well-organised and coherent examination of the issues. The need has been aptly illustrated in the aftermath of the global economic and financial crisis in 2008 when policymakers faced the challenge of restoring some semblance of internal and external balance in their economies. How best could they do this?

In the 1960s an analytical framework emerged out of work conducted independently by a group of economists including Meade, Mundell and Fleming. This has usually been referred to as the Mundell-Fleming model, although in this article we have preferred to present it as a framework within which various assumptions can be imposed and relaxed. We have also promoted James Meade’s contribution and have referred to it as the MMF framework. One fairly specific set of assumptions led to a particular policy conclusion that is often associated with the Mundell-Fleming model, namely that fiscal policy will be an effective and efficient means of achieving internal balance in a world of pegged exchange rates but not in one where rates are flexible. However, to criticise this particular conclusion is not necessarily to criticise the MMF framework as a whole, since the framework accommodates other sets of assumptions too. By looking at the implications of different sets of assumptions, the areas of disagreement among economists can be delineated and investigated.

Having an appropriate analytical framework enables policy options and choices to be examined. It serves to focus on issues that need to be researched in more detail. The conduct of macroeconomic policy in the years since 2008 can be usefully analyzed using the MMF framework. While this may not lead to all economists agreeing, it may provide greater insights as to why, and on what, they continue to disagree.

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