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**Distributional Effects of Macroeconomic Policy Choices  
in Emerging Market Economies**

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## 1. Introduction

Policy choices have distributional consequences. This proposition is seen as self-evident in the context of certain macroeconomic policies such as fiscal policy that often have an explicit redistributive element. However, far less attention has been paid to the distributional consequences of a range of other macroeconomic and structural policies, where much of the analysis has typically been focused on aggregate consequences, especially in terms of growth and volatility.

Distributional consequences typically receive limited attention in economic models that analyze the effects of monetary policies and even specific interventions such as capital controls. In a world with complete financial markets, this is usually not a first order issue as monetary policy can then affect macroeconomic variables such as inflation and growth but has few distributional consequences. If households can fully insure against household-specific income risk, then particular policy choices may have aggregate welfare consequences but limited distributional consequences.

A burgeoning literature has begun to formally tackle the distributional effects of conventional and unconventional monetary policy actions in advanced economies. Even in a simplistic setting in which changes in policy interest rates are the main tool of monetary policy, such changes can have differential impacts on net borrowers relative to net savers. If households can insure completely against this source of income risk, then the distributional effects would be muted. However, such markets do not exist even in rich economies that have well-developed financial systems. Underdeveloped financial markets, coupled with insufficient access to formal financial institutions, limit households ability to insure against idiosyncratic (household-specific) shocks and magnify the distributional effects of aggregate macroeconomic fluctuations that may initially have only small effects. These effects are likely to be of first-order importance in emerging market and low income economies.

While distributional consequences of policies are of intrinsic interest, a related and

equally important reason is whether, through the effects on distribution--which in turn can affect policy responses to shocks--there are eventually aggregate consequences that policymakers need to pay attention to. Certain policies can have significant implications for small but politically powerful groups; these effects can be in a direction opposite to that of the general welfare effects. This is well recognized in trade theory, for instance, where the benefits of free trade are distributed broadly amongst the population but costs of opening up to foreign competition are borne by a relatively small group. In the absence of redistributive mechanisms that mitigate the losses of those hurt by more open trade, the political clout of the potential losers can lead to policy choices that have adverse aggregate welfare consequences. The insider-outsider theory of labor markets, where political capture by insiders can lead to adverse employment consequences, is another example of a distributional issue having aggregate effects.<sup>1</sup>

For emerging market economies dealing with monetary policy choices, these issues turn out to be equally important. In this lecture, I will argue that it is important to explicitly recognize distributional rather than just aggregate consequences when evaluating specific policy interventions as well as the mix of different policies.

These issues have become especially relevant in light of rising financial integration and policy developments in advanced economies since the financial crisis. In advanced economies, monetary policy has become the main line of defense against macroeconomic shocks. With their economies becoming increasingly complex and more financially open, monetary policy has also moved to the center stage in the policy toolkit of developing economies. Monetary policy analysis for developing economies has traditionally been conducted with open economy extensions of models that are mainly relevant for advanced economies. Emerging market economies have certain structural features that can not be easily captured in such models. Incomplete and underdeveloped financial markets, low levels of financial access, and weak monetary transmission mechanisms are among the features that are typical to emerging markets and less developed economies,

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<sup>1</sup> See Rajan (2010) for a discussion of some of these issues in the context of the U.S. and other advanced economies.

and that deserve more careful attention in formal models.

In this lecture, I provide a selective overview of what the existing literature has to say about the distributional consequences of a variety of macroeconomic policies. I then briefly review two recent pieces of work that attempt to address these issues in a formal theoretical setting. That is followed by a discussion of what dimension of heterogeneity seems to matter most for assessing welfare consequences of different policies. Finally, I discuss some broader policy issues relevant to emerging markets, particularly those in Asia. This discussion will provide an even stronger motivation for assessing distributional effects of certain policies and policy responses to shocks.

## **2. A Selection of Policies and Their Distributional Implications**

In this section, I provide a general discussion of a range of macroeconomic policy choices and how they have distributional implications, either by themselves or because they constrain or influence other policy choices. This discussion is intended to be illustrative rather than exhaustive.<sup>2</sup>

### *2.1 Monetary policy*

Coibion et al. (2012) note that the effects of monetary policy on income inequality depend on the relative importance of different channels. If expansionary monetary policy raises profits more than wages, then households with claims to ownership of capital—typically wealthier households—will tend to benefit more. Higher inflation could also disproportionately hurt households that have limited access to financial markets and therefore hold more currency. On the other hand, low interest rates could benefit borrowers and penalize savers. These and other channels imply that there is no strong prediction from theory about how monetary policy affects income inequality. Coibion et al. (2012) conclude that, in the U.S., contractionary monetary policy increases labor

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<sup>2</sup> Goldberg and Pavenik (2007) provide a nice survey and some evidence about the effects of globalization on inequality in developing economies. Woo et al. (2013) discuss empirical evidence on the distributional impact of fiscal policies.

earnings, income, and consumption inequality. This is contrary to the perception that expansionary U.S. monetary policy in the post-crisis period has led to a widening of income inequality.

In a similar vein, Brunnermeier and Sannikov (2012) argue that, when an economy is subject to macroeconomic and financial shocks, liquidity and deflationary spirals generate endogenous risk and redistribute wealth in a manner that worsens inequality. They suggest that expansionary monetary reduces endogenous risk, stabilizes the economy, and stimulates growth, all of which helps to rebalance wealth after an adverse shock. In their model, monetary policy effectively functions like a social insurance scheme in an economy that is beset by financial frictions.

There are of course other channels through which monetary policy has redistributive effects. For instance, tight monetary policy can affect credit access of smaller firms, especially in an economy with collateral constraints that limit borrowing. Expansionary monetary policy that is sustained over long periods can also affect the relative price of capital, which could raise the capital-labor ratio, reduce employment growth, and redistribute income from labor to capital.<sup>3</sup> While theoretical models have been helpful in identifying the various channels through which monetary policy has redistributive effects, the sheer number of channels suggests that the net redistributive effect is specific to each economy and even to the specific type of monetary policy action.

## *2.2 Exchange rate and financial sector policies*

Exchange rate policies also have a redistributive element. Tightly managed exchange rates that limit currency appreciation in the short term can benefit producers (and, under some circumstances, also workers) in the tradable goods sector. In the presence of nominal rigidities, management of the nominal exchange rate can delay the adjustment of

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<sup>3</sup> Karabarbounis and Neiman (2013) document the global decline of the labor share in national income and argue that this shift is the result of the decrease in the relative price of investment goods. They attribute this shift in relative prices to advances in information technology, but—at least for some of the advanced economies—monetary policy could be an equally important factor in explaining their results.

the real exchange rate in response to positive productivity shocks. Such a policy is less beneficial to the average household in the economy, which cannot benefit from cheaper imports, and domestic agents that may have borrowed abroad in foreign currency loans. Moreover, poor households that mainly use cash for savings and other transactions would face a disproportionate burden if the real exchange rate adjustment eventually took place largely through higher domestic inflation. Of course, many of these effects may be opposite and symmetric if the exchange rate policy were to delay real exchange rate depreciation in response to adverse shocks to productivity or other factors.

Exchange rate management can also have broader consequences if it results in financial repression. Foreign exchange market intervention can become quite expensive for central banks as they cope with the costs of sterilizing that intervention. This often leads to financial repression that can take different guises. It can involve explicit directives to domestic banks to buy government debt, which has consequences for financial sector efficiency.

Financial repression often keeps interest rates artificially low, hurting those who rely on fixed income investments such as bank deposits or government securities, and who do not have easy access to other instruments for financial diversification. In China, for instance, the cap on bank deposit rates has kept real (inflation-adjusted) yields on bank deposits low or negative for most of the last decade and a half. This implies a significant net transfer from households that rely mainly on labor income to enterprises and the owners of capital.<sup>4</sup> Furthermore, as discussed in the previous sub-section, financial repression also affects the relative price of capital and tends to favor capital-intensive rather than labor-intensive production.

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<sup>4</sup> See Prasad (2009) for a discussion of this issue and Lardy (2008) for estimates of the implied fiscal transfer from households resulting from the cap on deposit rates.

### *2.3 Capital controls*

Capital controls are increasingly seen as a useful prudential tool that can help promote financial stability in economies that are vulnerable to large and volatile capital flows. However, controls have important distributional consequences in terms of access to finance and to risk-sharing opportunities.

There is some evidence that controls favor larger firms, which generally find it easier to get around controls and raise foreign financing.<sup>5</sup> Larger firms also tend to have better political connections, giving them preferential access to controlled inflows. This leads to reduced financing for small firms and could have particularly deleterious impacts on service sector firms, which tend to be smaller, more labor intensive, and typically better at generating employment than capital-intensive manufacturing firms. Rather than delivering the indirect, collateral benefits of financial openness, capital controls sometimes end up perpetuating domestic inefficiencies and fostering corruption.<sup>6</sup>

Capital controls can also have a greater impact on poorer households compared to wealthier ones. The latter typically have access to more channels that help them evade the controls and bring money into or out of a country. One manifestation of the aggregate consequence of this disparity is in terms of risk sharing.

Capital account opening can have perverse consequences on overall national risk sharing. For countries at intermediate levels of financial openness, a simple measure of risk sharing—the ratio of consumption volatility to income volatility actually increases with rising financial openness.<sup>7</sup> This is exactly the opposite of the ostensible risk-sharing benefits of opening up to financial flows.

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<sup>5</sup> See Forbes (2007). Klein (2012) has a broader discussion of the impact and effectiveness of different types of capital controls.

<sup>6</sup> For a discussion of the collateral benefits of financial openness, see Kose et al. (2009).

<sup>7</sup> See Kose, Prasad, and Terrones (2009).

One of the explanations that has been suggested for this result is that, in a closed economy, different types of households share household-specific risk amongst themselves but are unable to insure against aggregate (country-level) shocks. Opening up the capital account should give all types of households the ability to diversify their portfolios internationally and achieve better risk sharing outcomes. However, because of market segmentation, only a subset of households in the economy—typically the more well-off—have access to these investment opportunities. Consequently, those households stop sharing risk with other domestic households and this could in fact diminish the amount of overall insurance against idiosyncratic shocks. Thus, under certain choices of key model parameters, the ratio of aggregate consumption volatility to income volatility could in fact rise as a consequence of financial opening.<sup>8</sup>

In a world with undisciplined and volatile capital flows, financial regulatory policies that have characteristics in common with capital controls might well play a useful role in ensuring financial stability. But the above discussion suggests that it is imperative for policymakers to pay careful attention to the various potential distributional effects of such policies.

### **3. Two Examples**

The previous section indicated that distributional effects can be important across a broad range of policies and deserve greater attention in formal economic models. In this section, I discuss two examples, both drawn from my recent work, that attempt to analyze distributional consequences of certain policy choices related to monetary frameworks. The second example illustrates the point that distributional issues are not only important in and of themselves but also matter because policy responses to try and counter the distributional effects can in turn have aggregate welfare consequences.

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<sup>8</sup> See Levchenko (2005).



### *3.1 Core vs. Headline Inflation Targeting Under Incomplete Markets*

The global financial crisis has reinvigorated the debate about the appropriate objectives for monetary policy. A consensus appears to be developing that the inflation targeting (IT) framework has delivered price stability and should be retained but that central banks should use prudential regulation and other policy tools to counteract asset price bubbles.<sup>9</sup> Whether or not IT is the chosen framework, central banks around the world view low and stable inflation as a primary, if not dominant, objective of monetary policy.

What is the right price index that should be the focus of the inflation objective? This is a central operational issue in implementing not just IT but any version of monetary policy. In the existing literature, the choice of price index has been guided by the idea that inflation is a monetary phenomenon. It has been suggested that core inflation (excluding food, energy and other volatile components from headline CPI) is the most appropriate measure of inflation.<sup>10</sup> The logic is that fluctuations in food and energy prices represent supply shocks and are non-monetary in nature. Since these shocks are transitory and volatile and do not reflect changes in the underlying rate of inflation, they should not be a part of the inflation targeting price index.<sup>11</sup>

This logic is supported by previous research based on models with price and/or wage stickiness, which show that targeting core inflation maximizes welfare. Existing models have looked at complete market settings where price stickiness is the only source of distortions (besides monopoly power). Infrequent price adjustments cause mark-ups to fluctuate and also distort relative prices. In order to restore the flexible price equilibrium, central banks should try to minimize these fluctuations by targeting sticky prices.<sup>12</sup> For instance, using a variant of a New Keynesian model, Aoki (2001) has shown that under complete markets targeting inflation in the sticky price sector leads to welfare

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<sup>9</sup> See, for instance, Eichengreen et al. (2011). Clarida, Gali, and Gertler (1998, 1999) summarize the earlier orthodoxy and discuss alternative perspectives. Mohanty and Klau (2004) discuss some issues related to monetary policy rules for emerging market economies.

<sup>10</sup> See Wynne (1999).

<sup>11</sup> See Mishkin (2007, 2008).

<sup>12</sup> See Goodfriend and King (1997, 2001).

maximization and macroeconomic stability. Targeting core inflation is equivalent to stabilizing the aggregate output gap as output and inflation move in the same direction under complete markets.

These results from the prior literature rely on the assumption that markets are complete (allowing households to fully insure against idiosyncratic risks). The central bank then only needs to tackle the distortions created by price stickiness. However, there is compelling evidence that a substantial fraction of agents even in advanced economies are unable to smooth their consumption in a manner consistent with the permanent income hypothesis.<sup>13</sup> This leaves open the issue of analytically determining the appropriate price index for markets with financial frictions in general and emerging markets in particular.<sup>14</sup>

In a recent paper (Anand and Prasad, 2012), I develop a model to evaluate the welfare implications of targeting different price indices in an incomplete markets setting that is particularly relevant for emerging markets. The objective is not to define optimal policy rules but, rather, to evaluate welfare outcomes of different policy rules using alternative measures of inflation. This model is used to provide welfare comparisons of the practical choice that most central banks face—targeting core or headline inflation, along with some variants of those rules.<sup>15</sup>

Financial frictions that result in consumers being credit-constrained have not received much attention in models of inflation targeting. To examine the significance of such frictions, which are particularly relevant for emerging markets, the model incorporates heterogeneous agents. It is assumed that a fraction of consumers cannot smooth their

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<sup>13</sup> Campbell and Mankiw (1991) estimate that in the U.S. nearly 50 percent of income accrues to consumers who do not smooth their consumption. For more evidence on the proportion of credit-constrained consumers in the U.S., see the discussion in Anand and Prasad (2012).

<sup>14</sup> This discussion abstracts from other issues relevant to designing optimal inflation targeting regimes—such as the choice of a point target versus a band, the horizon over which inflation should be targeted, appropriate level of the target, and the implications of uncertainty about the perceived target.

<sup>15</sup> There is a related literature that attempts to compute optimal price indexes given a particular policy rule—see, e.g., Aoki (2001), Benigno (2004) and Eusepi, Hobijn and Tambalotti (2011).

consumption—that is, they simply consume their current labor income.<sup>16</sup> When markets are not complete and agents differ in their ability to smooth consumption, their welfare depends on the nature of idiosyncratic shocks. Thus, this model enables the analysis of changes in the welfare distribution under alternative inflation targeting rules.

When markets are complete, the income distribution following a sector-specific shock does not matter for the choice of consumption and, hence, welfare. However, under incomplete markets, household income, which is influenced by the nature of shocks and the price elasticity of the demand for goods, matters for consumption choices. Through its impact on household income and expenditure, the price elasticity of the demand for food, which is low in emerging market economies, affects welfare outcomes from core and headline inflation targeting under incomplete markets. For instance, a negative productivity shock to a good with a low price elasticity of demand could increase the income of net sellers of that good and raise the expenditure of net buyers of that good.

The model also incorporates other important features relevant to emerging markets. The share of food in total household expenditures is higher in emerging markets, constituting 40-50 percent of household expenditures compared to 10-15 percent in advanced economies. Low price and income elasticities of food expenditures as well as low income levels make the welfare of agents in emerging markets more sensitive to fluctuations in food prices. These features imply that agents factor in food price inflation while bargaining over wages, thus affecting broader inflation expectations. Thus, in emerging markets even inflation expectation targeting central banks must take into account food price inflation.<sup>17</sup>

One key result is that in the presence of financial frictions targeting headline CPI inflation improves aggregate welfare relative to targeting core inflation (i.e., inflation in the sticky price sector). The intuition is as follows. Lack of access to financial markets

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<sup>16</sup> This friction is similar to that in Gali, Lopez-Salido and Valles (2004). Blanchard and Gali (2010) evaluate monetary policy rules in the presence of labor market frictions, real wage rigidities, and staggered price setting.

<sup>17</sup> Walsh (2011) documents the high pass-through from food price inflation to nonfood inflation in middle- and low-income countries.

makes the demand of credit-constrained consumers insensitive to fluctuations in interest rates. These consumers' demand depends only on real wages, establishing a link between aggregate demand and real wages. Thus, in the presence of financial frictions, the relative price of the good produced in the flexible price sector not only affects aggregate supply but, through its effects on real wages, also influences aggregate demand.

Thus, if the central bank ignores fluctuations in the flexible price sector, aggregate demand may in fact move in the opposite direction to what is intended by the monetary policy intervention. To have the desired effect on aggregate demand, the central bank has to target a price index that would dampen the response of credit-constrained consumers. In the model's specific setting, this means that the central bank should target headline inflation. The results have special significance for central banks in emerging markets. Given the prevalence of financial frictions in these economies, the conventional view that targeting core CPI inflation can best stabilize inflation and output needs to be re-examined.

This result differs from that obtained in the prior literature based on complete markets settings. For instance, in Aoki's (2001) model, relative prices of the flexible price sector only appear as a shift parameter of inflation in the sticky price sector. Under incomplete markets, by contrast, the central bank has to take account of price fluctuations in the flexible price sector in order to manage aggregate demand. Financial frictions break the comovement of inflation and output (as inflation and output may now move in opposite directions). Stabilizing core inflation no longer suffices to stabilize the output gap. Thus, in the presence of financial frictions, targeting headline inflation is a better policy choice.

To sum up, in the presence of credit-constrained consumers, targeting core inflation is no longer welfare maximizing. Also, stabilizing inflation is not sufficient to stabilize output when markets are not complete. Under these conditions, flexible headline inflation targeting—which involves targeting headline inflation and putting some weight on the output gap—improves welfare relative to the practical alternatives that we consider.

### *3.2 Inflation Targeting vs. Nominal Exchange Rate Targeting*

In ongoing research, I am developing a class of models to study other distributional consequences of monetary policy in developing economies. These models have more general applicability for all economies with financial market imperfections, which could include advanced economies, although that is not the immediate focus of the research. In a recent paper (Prasad and Zhang, 2013), I analyze one specific contemporary policy issue that central bankers in middle-income emerging market economies face, one that has been particularly relevant for Asian emerging market economies. This relates to the choice between accepting real exchange rate appreciation through nominal appreciation or higher domestic inflation. The analysis aims to examine not just the aggregate implications but also the distributional consequences of this particular policy choice.

With higher productivity growth relative to their advanced economy trading partners, emerging market economies are likely to experience trend real exchange rate appreciation. Many of these economies were also facing sharp short-run appreciation pressures (until recently) due to the unconventional monetary policy actions of advanced economies. Central bankers in these economies, fearful of exchange rate overshooting in the short run and the effects this could have on the competitiveness of their exports, have attempted to limit nominal exchange rate appreciation. Some countries like China tightly manage the nominal exchange rate while many emerging markets, such as India and others in Asia, adopt a policy of leaning against the wind to limit what they view as excessive exchange rate volatility but otherwise not actively resisting currency appreciation (or depreciation).

In a world with flexible prices and no other rigidities, managing the nominal exchange rate will simply shift the channel of real exchange rate appreciation to higher domestic inflation.<sup>18</sup> However, with inertial price dynamics, real exchange rate appreciation can be limited at least in the short run through nominal exchange rate management. Such exchange rate management is likely to continue in practice given the absence of growth

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<sup>18</sup> In most settings—so long as the price adjustment process is symmetric—the situation is symmetric in terms of pressures for real exchange rate depreciation leading to disinflation.

momentum in both advanced and emerging market economies and the prospect of continued unconventional monetary policy actions by advanced economy central banks. In view of these circumstances, central banks in emerging markets will face strong domestic pressures to intervene more heavily in foreign exchange markets to forestall rapid currency appreciation.

This policy choice has significant distributional consequences, particularly on account of financial frictions and household heterogeneity in emerging market economies. In an export-oriented economy in which the interests of the exporting sector are given prominence for political economy reasons, a policy attempting to keep the currency undervalued can help maintain the competitiveness of the traded goods sector and give it more time to adjust to eventual real exchange rate appreciation. However, if this policy raises domestic inflation (through unsterilized foreign exchange market intervention), it can have negative consequences for other sectors of the economy and could even reduce aggregate welfare. The benefit of higher productivity, which leads to the pressures for real appreciation, would not translate into lower prices for traded goods that would improve consumption opportunities for the average household. Productive firms in the traded goods sector are also more likely to be owned by households with higher levels of wealth, which further exacerbates these distributional effects. Hence, it is important to assess the magnitude of both the aggregate and distributional consequences of monetary policy choices.

Preliminary results from the model indicate that, relative to an inflation targeting framework with flexible exchange rates, a nominal exchange rate targeting rule can have significant distributional effects. Even with labor being perfectly mobile between the traded and nontraded goods sectors, the result arises due to disparities in ownership of capital, with higher capital intensity in the traded goods sector. If households in the nontraded goods sector (whose earnings depend entirely on labor income rather than capital income) lack access to financial markets for sharing income risk, then the distributional consequences can be significant. More importantly, the aggregate consequences of such a policy can in fact be negative if foreign exchange market

intervention sparks higher inflation, which in turn adversely affects households with limited financial access.

#### **4. Implications for Policy and Research**

Even if one accepts that distributional consequences are worth more attention, there remains the question of what dimension of heterogeneity is important when evaluating welfare consequences of different policies. Heterogeneity in initial wealth distributions and the distribution of productivity across households have been shown to matter in evaluating policy choices. Wealth distributions or heterogeneity in terms of skill levels can matter for the propagation and persistence of aggregate shocks. There is a long literature on poverty traps, which details how transitory shocks such as adverse weather shocks or unemployment spells can have persistent effects at the household level. Similarly, skill-biased technological shocks can have differential and highly persistent effects on the wages and employment probabilities of workers with different skill levels and also have differential effects across sectors.

In the context of macroeconomic stabilization policies, the two examples discussed in the previous section suggest one aspect of heterogeneity that matters greatly for both distributional and aggregate consequences. For many macroeconomic policies, especially those related to monetary or financial sector policies, access to financial markets (sometimes referred to as financial inclusion) may be one of the crucial dimensions of heterogeneity.

The term access is broadly defined to include a variety of concepts.<sup>19</sup> The first element is the existence of a broad set of financial markets and institutions, while the second is the more direct element of access to the formal financial system, such as through bank accounts. Conditional on the existence of a broad set of financial markets, the level of access tends to be correlated with variables such as initial wealth or average income

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<sup>19</sup> See Čihák et al. (2012). The IMF's Financial Access Survey ([fas.imf.org](http://fas.imf.org)) provides cross-country data on a useful set of indicators of financial inclusion.

levels, or even variables such as education that in turn are indicators of productivity. But this correlation is one that can be influenced by policies specifically targeted to improving financial access.

From a modeling perspective, the main aspect of heterogeneity is the ability to use financial markets to insure against household-specific or sector-specific shocks. Heterogeneity in this dimension is the crucial one that delineates different types of households in terms of how they are able to deal with macroeconomic shocks and the policy responses to them. The two examples discussed in the previous section have emphasized this element of heterogeneity.

One question is whether stripped-down models that incorporate heterogeneous agents in fact provide guidance to policymakers or if the models need to be brought closer to reality by inserting additional features. A possible extension of the model on different measures of price indexes, for instance, would be to include money explicitly. While this would provide a saving mechanism for hand-to-mouth consumers, it would in fact strengthen the case for headline inflation targeting to preserve the value of monetary savings. Another extension would be to include physical capital in the model. This would highlight a practical dilemma that emerging market central banks are grappling with in pursuit of their objective of price stability (low inflation). For instance, in India, the central bank was forced to raise policy rates during 2011 to deal with surging food price inflation even though the rate hikes hurt industrial activity. Similar patterns can be found in many other emerging markets.

Although they are highly stylized, such models can still provide useful insights into the difficult dilemmas that policymakers face. In emerging market and low-income economies, the classical result, which implies that the central bank should ignore food price inflation when making monetary policy decisions, is not politically tenable. Raising interest rates in response to a transitory negative shock to agricultural sector productivity may seem counter-intuitive. But the results outlined in the previous section suggest that such a policy could in fact be welfare improving in an incomplete markets setting and



with additional features of emerging markets such as the high level of food expenditure in household consumption expenditure.

## **5. Some Reflections on the Policy Mix**

To this point, I have focused on the distributional effects of specific policies. How different policies are combined to achieve desired outcomes can also have distributional consequences. For instance, in the U.S., short-term fiscal austerity measures in addition to unconventional monetary policies may have contributed to a weakening of the social safety net and a widening of income inequality in the aftermath of the financial crisis and the deep recession associated with it. Whether this plausible proposition is true requires more careful analysis of income but also social transfers through various safety net mechanisms.<sup>20</sup>

For emerging market economies, particularly those in Asia, the broader question of how different policies are used to buffer the effects of capital flow volatility has become a pressing policy issue. I will conclude this lecture with some broader reflections on why the analysis of monetary policy has become particularly important for these economies.

### *5.1 Monetary Policy as First and Last Line of Defense*

One of the key challenges that emerging market central bankers face as their economies become more open to capital flows is managing the volatility of those flows. Capital flows remain highly volatile and procyclical, and often accentuate domestic policy and institutional weaknesses in these economies. Before fashioning solutions, however, it is important to think about the sources of failures relative to the benchmark of the ideal pattern of capital flows in a frictionless world with well-functioning financial markets.<sup>21</sup>

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<sup>20</sup> Piketty and Saez (2013) present updated data on the rising inequality of income in the U.S. By contrast, Armour, Burkhauser, and Larrimore (2013) find much more modest increases in inequality based on a different treatment of capital income.

<sup>21</sup> See Prasad (2013). In brief, capital flows in a first-best world would be characterized by the following features. First, relatively stable capital flows that convey important collateral benefits. Second, capital flows driven mainly by macroeconomic fundamentals, such as output growth, employment productivity,

Conceptually, one can think about three related sets of problems—market failures, policy failures, and institutional failures. The distinction among these three types of failures is not as clear as suggested below, but the coarse typology still has its uses.

Market failures are in some sense the easiest for academic economists, at least, to pin down. These failures can occur, for instance, when there is herding behavior because of information asymmetries in markets or because of the way incentives are set up for investment managers in financial institutions. Those are issues that are relatively easy to grapple with and where it is easier to understand what needs to be done, even if it is difficult to actually implement those changes given the enormous pushback from those who have an interest in maintaining the status quo and not changing regulatory regimes.

Then there is the issue of policy failures. Undisciplined macroeconomic policies and inconsistent or ineffectual financial regulatory policies can heighten the risks associated with volatile capital flows. Here again the solutions are not difficult to discern, even if they are not always straightforward to implement. One can think about specific types of policies, say financial regulatory policies, which could in fact make capital flows flow to productive uses once they enter an economy. Macroprudential requirements are essentially a device for trying to direct capital inflows into the most productive channels and helping domestic investors attain the benefits of risk sharing through capital outflows that help them diversify their portfolios.

Here again, it is a little harder but one can think about specific policies that improve the benefit-cost tradeoff from capital flows. The policy challenge is not just about financial market regulation but also about improving the functioning of financial markets (both by encouraging financial market development and ensuring adequate adequate regulatory capacity) and managing fiscal policy more prudently.

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and interest rates. Third, capital flows that cushion domestic business cycle conditions and facilitate international risk sharing, which implies countercyclical net inflows. Fourth, capital flows being mediated through relatively well regulated domestic and international financial markets. And fifth, from the perspective of emerging markets, having sound and stable macro policies in the advanced economies.

The third source of the discrepancies between theory and reality is the crux of the matter. I label this third category as institutional failures, which in turn have two dimensions-- domestic and international.

First, on the domestic front, the critical issue is terms of thinking about the balance of policies. Most central bankers now face multiple, and indeed, expanding mandates. This is a failure at the institutional level within countries. The problem is that monetary policy has become the main policy tool to deal with macroeconomic stabilization as well as to ensure financial stability and promote growth. In the advanced economies, in particular, a great deal needs to be done to achieve long-term fiscal retrenchment and promote structural reforms, but instead policymakers have been relying on the relatively easy crutch of monetary policies both to prevent financial meltdown and support growth. The same is true of some emerging markets.

In a sense, this is an institutional failure. It is not that monetary policy is getting it wrong, but rather that monetary policy is hemmed in by the configuration of other policies. And this requires change at the institutional level in order to get the mix of policies right.

The second aspect is the institutional framework at the international level. The difficult reality is that, with increasing financial integration, there are going to be spillovers of policy measures from the advanced economies to the emerging markets, and indeed the other way around as well. There is at present no good governance mechanism in place to sort of cope with these spillovers. Asking major central banks to take on an additional mandate in terms of looking at the spillover effects of their policies seems logical but would make an already complicated life for these institutions even more complicated.

But ultimately there is little choice but to confront these issues, both in terms of thinking more formally about spillover effects and also about the governance structure of international institutions, whose legitimacy has to be rebuilt if they are to be effective at helping solve collective action problems related to macroeconomic policies.

The lack of effective global governance has major implications for capital flows. Emerging markets feel that they have to accumulate more reserves, which forces them to buy advanced economy debt as safe assets that provide a layer of protection from volatile capital flows. The reality of the financial crisis in particular, and indeed even before, is that the demand for safe assets for emerging markets has been rising. In the aftermath of the financial crisis, conventional norms of reserve adequacy have gone out the window. The sense that more reserves are only good despite the costs they entail, is in a sense, creeping more and more into the minds of emerging market policymakers.

At the same time that demand for safe assets is rising, the availability of such assets has declined considerably. It is now clear that not all eurozone bonds are exactly the same in terms of their default risk and other characteristics. Moreover, countries like Japan and Switzerland are in fact demanding safe assets right now rather than supplying them. The private sector demand for safe assets has gone up, perhaps for the right reasons, but it is coming on top of rising sovereign demand. And indeed, a small group of advanced economies has become the major providers of safe assets, the U.S., of course, being the prime example. This is not a tenable situation, where the institutional set-up in the international arena leaves emerging markets feeling that they don't have any recourse in terms of safety nets other than self-insurance through reserve accumulation.

Solutions such as capital controls can create a buffer in the short term but ultimately, it will be necessary to get a firmer grasp on the underlying mix between these three types of failures and not try to use one set of policies that may end up misdiagnosing the real problem. When the relevant failures are really domestic policy failures, they need to be confronted as such rather than viewing the problem as being an external one that needs to be dealt with through a mechanism like capital controls. Ultimately, unless the domestic and foreign institutional weaknesses are fixed, both the domestic policy measures as well as measures to improve the functioning of financial markets, while necessary, might end up being futile.

To summarize, emerging market policymakers are being confronted by complex challenges related to both their domestic and global economic landscapes. When analyzing the configuration of domestic policies and the suitable mix between them to cope with both short-term and long-term challenges, it is important to consider distributional as well as aggregate consequences. Academic economists face an equally daunting challenge in developing models that can provide guidance to policymakers on these issues.

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(to be completed)

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