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Classification by country or commodity group

The classification of countries in this *Report* has been adopted solely for the purposes of statistical or analytical convenience and does not necessarily imply any judgement concerning the stage of development of a particular country or area.

The major country groupings used in this *Report* follow the classification by the United Nations Statistical Office (UNSO). They are distinguished as:

- » Developed or industrial(ized) countries: the countries members of the OECD (other than Mexico, the Republic of Korea and Turkey) plus the new EU member countries and Israel.
- » Transition economies refers to South-East Europe and the Commonwealth of Independent States (CIS).
- » Developing countries: all countries, territories or areas not specified above.

The terms "country" / "economy" refer, as appropriate, also to territories or areas.

References to "Latin America" in the text or tables include the Caribbean countries unless otherwise indicated.

References to "sub-Saharan Africa" in the text or tables include South Africa unless otherwise indicated.

For statistical purposes, regional groupings and classifications by commodity group used in this *Report* follow generally those employed in the *UNCTAD Handbook of Statistics 2010* (United Nations publication, sales no. B.10.II.D.1) unless otherwise stated. The data for China do not include those for Hong Kong Special Administrative Region (Hong Kong SAR), Macao Special Administrative Region (Macao SAR) and Taiwan Province of China.

Other notes

References in the text to *TDR* are to the *Trade and Development Report* (of a particular year). For example, *TDR 2010* refers to *Trade and Development Report, 2010* (United Nations publication, sales no. E.10.II.D.3).

The term "dollar" (\$) refers to United States dollars, unless otherwise stated.

The term "billion" signifies 1,000 million.

The term "tons" refers to metric tons.

Annual rates of growth and change refer to compound rates.

Exports are valued FOB and imports CIF, unless otherwise specified.

Use of a dash (–) between dates representing years, e.g. 1988–1990, signifies the full period involved, including the initial and final years.

An oblique stroke (/) between two years, e.g. 2000/01, signifies a fiscal or crop year.

A dot (.) indicates that the item is not applicable.

Two dots (..) indicate that the data are not available, or are not separately reported.

A dash (-) or a zero (0) indicates that the amount is nil or negligible.

Decimals and percentages do not necessarily add up to totals because of rounding.

Abbreviations

DIG	
BIS	Bank for International Settlements
CAC	collective action clause
CFTC	Commodity Futures Trading Commission
CIT	commodity index trader
CIS	Commonwealth of Independent States
CPI	consumer price index
DJ-UBSCI	Dow Jones-UBS Commodity Index
EC-AMECO	European Commission Annual Macro-economic database
EMH	efficient market hypothesis
EMS	European Monetary System
EMU	Economic and Monetary Union
ERM	European Exchange Rate Mechanism
ETF	exchange traded fund
ETN	exchange traded note
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FDIC	Federal Deposit Insurance Corporation
FSB	Financial Stability Board
GATS	General Agreement on Trade in Services
GDP	gross domestic product
HFT	high frequency trading
IEA	International Energy Agency
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
LLR	lender of last resort
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
OTC	over the counter
PMPU	producers, merchants, processors, users
PPP	purchasing power parity
REER	real effective exchange rate
S&P GSCI	Standard and Poor's Goldman Sachs Commodity Index
SDRM	sovereign debt restructuring mechanism
SIFI	systemically important financial institution
TDR	Trade and Development Report
UIP	uncovered interest rate parity
ULC	unit labour cost
UNCTAD	United Nations Conference on Trade and Development
USDA	United States Department of Agriculture
WTO	World Trade Organization
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OVERVIEW

Economic integration and interdependence in the world today have reached an unprecedented level. As a result, the globalized economy cannot function for the benefit of all without international solidarity and cooperation. This was highlighted by the global financial and economic crisis that followed the collapse of big financial institutions, and it has underlined the need for developing approaches to new forms of global collaboration. The G-20, which has become a leading forum for international economic cooperation, successfully coordinated an immediate policy response to the crisis, or "Great Recession" as it is now called. Coordinated monetary policy easing by leading central banks marked the first step, with most members of the G-20 launching large fiscal stimulus packages as well as emergency support programmes to restore financial stability. The aggregate impact of these measures stopped the economic freefall and won policymakers an important first round in battling the crisis. However, despite intense discussions, little progress, if any, has been achieved in major areas that were also of concern to the G-20. These include financial regulation, inter alia for tackling problems related to the "financialization" of markets for many primary commodities, and, even more importantly, reform of the international monetary system for curbing volatile short-term capital flows that are driven mainly by currency speculation.

Meanwhile, global economic recovery has entered a renewed phase of fragility because a process of self-sustaining growth through private spending and employment is not assured, especially in developed countries. Many of these countries have shifted their fiscal policy stance from stimulus to retrenchment, which risks leading to prolonged stagnation, or even to a contraction of their economies. Given the lack of growth in employment and wages in Europe, Japan and the United States, their policies should aim at continued stimulation of their economies instead of trying to "regain the confidence of the financial markets" by prematurely cutting government spending. The main global risk is that wages and mass incomes might not increase sufficiently to feed a sustainable and globally balanced process of growth based on domestic demand. This indicates that the risk of higher inflation resulting from rising commodity prices is very small. Only very few countries that have strong growth and overshooting wage dynamics face inflation risks.

The recovery of commodity prices has helped developing countries maintain their growth momentum, but these prices are prone to considerable volatility as they are strongly influenced by the speculative activities of market participants motivated by purely financial considerations. And although growth in a number of large developing countries has come to rely more on domestic drivers than on exports, it remains vulnerable to adverse developments in the international financial system. In particular, these countries are exposed to short-term capital flows, which tend to exert an upward pressure on their currencies and damage their export industries. Thus developing countries are also facing considerable downside risks, and should aim at maintaining stable macroeconomic conditions domestically and containing external disruptions. As they progress along successful development paths, they need to make their voices better heard in the global debate on a new design of the international monetary and financial system.

The world economy is still struggling to recover from the worst recession since the Great Depression. Courageous, globally coordinated countercyclical policies succeeded in rescuing economies from the brink of collapse. Nevertheless, policymakers cannot afford to waste the opportunity for a more fundamental reorientation of policies and institutions. Strict regulation of the financial sector, orienting it more towards investment in fixed capital, is key to greater stability of the global economy and to its return to a sustainable growth path. This requires increased coherence between the multilateral trading system and the international monetary system. At the national and regional levels, there is a strong case for a reorientation of fiscal policy that takes into account the requirements of the overall macroeconomic situation rather than focusing exclusively on balancing budgets or on achieving rigid public deficit targets. However, unless there is a reversal of the current trend of diminished income expectations of the average household and a return to policies that emphasize the importance of mass income growth as the basis for sustainable and balanced development in rich and poor countries alike, all other attempts to regain growth momentum will be in vain.

Recovery of the world economy is slowing down, with strong downside risks

The pace of global recovery has been slowing down in 2011. Global GDP is expected to grow by 3.1 per cent, following an increase of 3.9 per cent in 2010. In many developed countries, the slowdown may even be accentuated in the course of the year as a result of government policies aimed at reducing public budget deficits or current-account deficits. In most developing countries, growth dynamics are still much stronger, driven mainly by domestic demand.

As the initial impulses from inventory cycles and fiscal stimulus programmes have gradually disappeared since mid-2010, they have revealed a fundamental weakness in the recovery process in developed economies. Private demand alone is not strong enough to maintain the momentum of recovery; domestic consumption remains weak owing to persistently high unemployment and slow or stagnant wage growth. Moreover, household indebtedness in several countries continues to be high, and banks are reluctant to provide new financing. In this situation, the shift towards fiscal and monetary tightening risks creating a prolonged period of mediocre growth, if not outright contraction, in developed economies.

In the United States, recovery has been stalling, with the pace of growth well below what is needed to make a significant dent in unemployment. Even the second round of quantitative easing has failed to translate into increased credit for domestic economic activities, as domestic demand has remained subdued due to stagnating wages and employment. With little scope to lower interest rates further – as they are already at historically low levels – and fiscal stimulus waning, a quick return to a satisfactory growth trajectory is highly unlikely. In Japan, recovery has been delayed by the impact of unprecedented supply-chain and energy disruptions due to the massive earthquake and tsunami in March. In the European Union, growth is set to remain below 2 per cent in 2011, although with significant variations among member countries. In Germany a revival of exports (particularly to Asia) and investment, together with rising public expenditures, resulted in a strong increase in economic activity in 2010 and early 2011, but, as in other developed economies, mass income remains very weak, as does domestic demand.

With the unresolved euro crisis, the reappearance of severe debt market stress in the second quarter of 2011 and the prospect of austerity measures spreading across Europe, there is a high risk that the eurozone will continue to act as a significant drag on global recovery. Austerity measures, as the main means of

tackling the euro crisis without regard for regional domestic demand growth, may backfire badly. Crisis-hit countries in the euro area are labouring under extremely adverse conditions. They need low interest rates and a revival of growth, but instead, their growth dynamics are weak and market interest rates on public debt are prohibitively high.

Relatively fast growth in developing countries has relied more on domestic demand

Growth rates in developing countries are likely to remain much higher – at almost 6.5 per cent – than in the developed countries. In many developing countries, growth has been driven more by domestic demand than by exports. Emerging market economies (e.g. Brazil, India, South Africa and Turkey, among the G-20 members) have had to deal with the major challenge of short-term capital inflows, attracted by higher interest rates that reflect higher inflation rates or tight monetary policies. These inflows have been exerting enormous appreciation pressure on their domestic currencies, and tend to weaken their export sectors and widen their current-account deficits. In Brazil, the central bank intervened heavily in the currency market, but at the same time it also increased its policy interest rate further, even though it was already at a very high level in real terms, and the fiscal stance was tightened. The central bank of the Russian Federation had a similar response.

Expansion has remained strong in all developing regions, with the exception of North Africa and some countries in West Asia, where political unrest has adversely affected investment and tourism, and thus also growth. East, South and South-East Asia continue to record the highest GDP growth rates, although there is a tendency towards some slowdown, reflecting supply-chain effects from Japan, tighter monetary conditions and weak demand in some major export markets, notably Japan and the United States. In China, the contribution of net exports to GDP growth has declined, and fixed investment and private consumption are now the two major growth factors. Wage growth in China is an important element in reducing the reliance of the Chinese economy on exports, and thus the full participation of labour in the country's productivity gains is contributing effectively to a rebalancing of global demand.

In Latin America and the Caribbean, expansion continues to be robust. While the Brazilian economy is slowing down, Argentina and most Andean countries are set to record another year of rapid growth. In Mexico and most of the small Central American and Caribbean economies, growth will be much more modest, mainly owing to their dependence on exports to the United States. Sub-Saharan Africa is likely to keep growing at the same rapid pace as in 2010. As a result of terms-of-trade gains, investment in infrastructure and expansionary fiscal policies should promote economic growth in the subregion, and rapid development of the services sector will provide further impetus. However, GDP growth rates in sub-Saharan Africa are unlikely to contribute to significant poverty reduction in the near future, as economic improvements often fail to trickle down to the entire population.

In the transition economies, although growth rates are unlikely to equal that of the developing-country average, they have returned to their pre-crisis trend, and should increase considerably faster than those of developed countries.

Recovery of international trade and price volatility in commodity markets

International trade in both goods and services rebounded sharply in 2010, after having registered its steepest fall since the Second World War. The volume of international trade is expected to return to a single-digit growth rate in 2011, from 14 per cent in 2010, particularly in developed economies. Commodity prices recovered very early in the cycle and have been exhibiting high volatility, owing largely to the greater presence of financial investors in commodity markets.

Although the UNCTAD index for food prices in February 2011 exceeded the levels reached during the food crisis of 2007–2008, the food security situation appears to be less critical than at that time, owing to the relatively low prices of rice and a good harvest for grain crops in Africa in 2010. Moreover, most food-exporting countries refrained from imposing export restrictions, which had been a significant factor in the food crisis of 2007–2008. Nevertheless, the rise in food prices in 2010–2011 could have a serious impact on food security, made worse by the threat of famine in East Africa. It is again adding to extreme poverty, as the food import bill of the low-income, food-deficit countries is expected to increase by 27 per cent in 2011. Therefore, government measures to alleviate the impact on the poorest are needed.

To some extent, rising commodity prices are already contributing to the slowdown of overall activity in the consumer countries, because high prices are reducing purchasing power at a time when household incomes are being hit by high unemployment, slow wage growth and the debt deleveraging process, particularly in developed countries. If higher commodity prices lead to a widespread tightening of monetary policy worldwide, this could become a major threat to the recovery. The European Central Bank, for example, continues to take its cue from headline inflation, and has embarked on monetary tightening since April 2011. However, in view of the enormous labour market slack in the United States and Europe, where even nominal wages are barely growing, the risk of higher commodity prices triggering an inflationary spiral are negligible. Thus a restrictive monetary policy is not an appropriate measure against high commodity prices, which are primarily the result of external factors, mostly related to supply-side shocks and to the impact of financial markets.

Similarly, in emerging market economies, headline inflation is related less to overheating than to the fact that food and energy prices have a much greater weight in the consumer price indices of poorer countries compared with the developed countries. Under these circumstances, monetary tightening in the absence of overheating would appear to be largely misplaced, since second-round effects in most cases have been limited.

Slow wage growth is endangering the recovery

Wage income is the main driver of domestic demand in developed and emerging market economies. Therefore, wage growth is essential to recovery and sustainable growth. However, in most developed countries, the chances of wage growth contributing significantly to, or leading, the recovery are slim. Worse still, in addition to the risks inherent in premature fiscal consolidation, there is a heightened threat in many countries that downward pressure on wages may be accentuated, which would further dampen private consumption expenditure. In many developing and emerging market economies, particularly China, the recovery has been driven by rising wages and social transfers, with a concomitant expansion of domestic demand. However, as developed countries remain important export destinations, subdued growth in those markets, combined with upward pressures on developing countries' currencies, poses the risk of pressures for relative wage compression in developing countries as well.

Wage growth that is falling short of productivity growth implies that domestic demand is growing at a slower rate than potential supply. The emerging gap can be temporarily filled by relying on external demand or by stimulating domestic demand through credit easing and raising of asset prices. The global crisis has shown that neither solution is sustainable. The simultaneous pursuit of export-led growth strategies by many countries implies a race to the bottom with regard to wages, and has a deflationary bias. Moreover, if one country succeeds in generating a trade surplus, this implies that there will be trade deficits in other countries, causing trade imbalances and foreign indebtedness. If, on the other hand, overspending is enticed by easy credit and higher asset prices, as in the United States before the crisis, the bubble will burst at some point, with serious consequences for both the financial and real economy. Therefore, it is important that measures be taken to halt and reverse the unsustainable trends in income distribution.

The case for an incomes policy

Given the importance of consumption for boosting global demand, incomes policies in the biggest economies could contribute significantly to a balanced expansion, especially when the global recovery is still fragile. An essential element of such a policy is the adjustment of real wages in line with productivity, so that domestic consumption can rise in line with supply. This would also help prevent an increase in unit labour costs, and thus keep the main domestic source of inflation under control. Monetary policy could then reduce its focus on price stability and pay greater attention to securing low-cost finance for investment in real productive capacity, which in turn would create new employment opportunities. Wages rising at a rate that corresponds approximately to the rate of productivity growth, augmented by a target rate of inflation, is the best anchor for inflation expectations.

The current problems in the eurozone are largely the result of diverging wage increases in the member States. Since the creation of the eurozone, wages have risen faster than productivity and the official inflation target of the European Central Bank in some member States, and much less in others, causing considerable shifts in competitiveness. Unlike the emerging market economies in similar crisis situations in the past, the countries in the eurozone that have lost competitiveness and now face serious debt problems do not have the option of devaluing their currencies. Therefore, in addition to income transfers, an explicit policy of increasing wages in the surplus countries, particularly in Germany, to reduce the problems of falling competitiveness in the more crisis-hit countries is a crucial part of the solution.

A brief "Keynesian moment"

After many years of calls for a reduced role of the State in economic management, many governments in both developed and emerging market economies launched large stabilization packages to restore aggregate demand, and intervened in the rescue of the financial sector. Before the crisis, expansionary fiscal policies were often considered ineffective, on the grounds that any increase in the public sector deficit would be compensated by a concomitant downward adjustment in private expenditure. But as the impact of monetary policy was limited during the crisis, the orthodox concern with balanced budgets or short-term fiscal targets came to be ignored, and governments were again viewed as "buyers and borrowers of last resort".

However, recent developments in fiscal and monetary policy in many economies, and the recommendations of major international institutions such as the International Monetary Fund (IMF) and the Organisation for Economic Co-operation and Development (OECD), suggest that recognition of the need for fiscal stimulus during the crisis has not been followed up by a more profound rethinking of the principles of macroeconomic policy. In 2011, many governments have again reversed their policy orientation from one of fiscal expansion to fiscal tightening, and others are planning to do so. This is of particular concern since, in most developed economies that were severely hit by the financial crisis, the private sector has not yet completed the deleveraging process whereby non-financial agents try to reduce their indebtedness and banks try to restore their capital ratios. In such a debt-deflation process, even if monetary easing and low interest rates were to be continued, they could not be expected to have a major stimulating effect.

Those who support fiscal tightening argue that it is indispensable for restoring the confidence of financial markets, which is perceived as key to economic recovery. This is despite the almost universal recognition that the crisis was the result of financial market failure in the first place. It suggests that little has been learned about placing too much confidence in the judgement of financial market participants, including rating agencies, concerning the macroeconomic situation and the appropriateness of macroeconomic policies. In light of the irresponsible behaviour of many private financial market actors in the run-up to the crisis, and costly government intervention to prevent the collapse of the financial system, it is surprising that a large segment of public opinion and many policymakers are once again putting their trust in those same institutions to judge what constitutes correct macroeconomic management and sound public finances.

The strong fiscal impact of the crisis

The growing public debt has not been the result of imprudent fiscal policies. Before the crisis, between 2002 and 2007–2008, on a global scale fiscal balances had improved significantly, mainly as a result of strong increases in public revenues both in absolute terms and as a percentage of GDP. This was a by-product of a broad-based acceleration of output growth, and, in many primary-commodity-exporting countries, it was also a result of the price boom in international commodity markets. In addition, there was a widespread decline in the share of interest payments in public expenditure, largely due to lower real interest rates. Hence, many countries had substantial fiscal space when the crisis occurred.

The crisis caused a significant deterioration in public sector accounts as automatic stabilizers operated, which reduced revenues and increased expenditure, and fiscal stimulus packages were launched, many of them unprecedented in size. In many developing countries, fiscal accounts were also strongly affected by a sharp drop in commodity prices and higher interest rate spreads on the public debt. In several developed countries the deterioration of fiscal balances reflected public bailouts of ailing financial institutions, which to a large extent implied a conversion of private into public debt. In 2008 and 2009, government expenditure as a share of GDP increased in all regions, while government revenues declined. This decline was particularly steep in the African, West Asian and transition economies that rely heavily on the proceeds of primary commodity exports for their fiscal revenues, and it was more moderate in most economies of East and South Asia, and Latin America.

In developed countries, strong fiscal stimulus measures were particularly critical to counterbalance sharply shrinking private demand, since even extremely expansionary monetary measures were not particularly effective in an environment of massive private deleveraging. The United States implemented the largest stimulus package, both in nominal terms and as a percentage of GDP, followed by Japan and Germany. In the developed countries, about 40 per cent of the announced fiscal stimulus took the form of tax cuts. In several developing and transition economies, the size of the stimulus packages as a share of GDP exceeded that of developed economies, and there was a much greater emphasis on increased spending than on tax cuts.

The countercyclical policies and the recession led to a sudden jump in the public-debt-to-GDP ratio in developed countries. By the end of 2010 that ratio had risen to well above 60 per cent, surpassing the previous peak of 1998. In developing and emerging market economies, the ratio increased only moderately following a steep reduction in the previous years, so that it is now much lower than that of developed countries. However, there are substantial variations among the developing countries, and a number of lowincome countries are still in debt distress.

Fiscal space is not a static variable

As current budget deficits and the stock of public debt have risen sharply in several countries, there is a widespread perception that the space for continued fiscal stimulus is already – or will soon be – exhausted, especially in developed countries. There is also a perception that in a number of countries debt ratios have reached, or are approaching, a level beyond which fiscal solvency is at risk.

However, fiscal space is a largely endogenous variable. A proactive fiscal policy will affect the fiscal balance by altering the macroeconomic situation through its impact on private sector incomes and the taxes perceived from those incomes. From a dynamic macroeconomic perspective, an appropriate expansionary fiscal policy can boost demand when private demand has been paralysed due to uncertainty about future income prospects and an unwillingness or inability on the part of private consumers and investors to incur debt.

In such a situation, a restrictive fiscal policy aimed at budget consolidation or reducing the public debt is unlikely to succeed, because a national economy does not function in the same way as an individual firm

or household. The latter may be able to increase savings by cutting back spending because such a cutback does not affect its revenues. However, fiscal retrenchment, owing to its negative impact on aggregate demand and the tax base, will lead to lower fiscal revenues and therefore hamper fiscal consolidation. Since current expenditure can be difficult to adjust (because it is composed mainly of wages and entitlement programmes), fiscal retrenchment usually entails large cuts in public investment. This reduction in growth-promoting public expenditure may lead to a fall in the present value of future government revenues that is larger than the fiscal savings obtained by the retrenchment. The outcome could be an improvement in the immediate cash flow of the government, but with negative consequences for long-term fiscal and debt sustainability. Moreover, making balanced budgets or low public debt an end in itself can be detrimental to achieving other goals of economic policy, namely high employment and socially acceptable income distribution.

The failure to consider these dynamic effects was what led to disappointing outcomes for many countries that implemented fiscal tightening as part of IMF-supported programmes during the 1990s and 2000s. In countries where fiscal tightening was expected to reduce the budget deficit, that deficit actually became worse, often sizeably, due to falling GDP. In Indonesia in the late 1990s, for example, a GDP growth rate of 5 per cent was forecast, but in fact output shrunk by 13 per cent; in Thailand, instead of the expected 3.5 per cent GDP growth there was a 10.5 per cent contraction. Other countries shared similar experiences. The reason for what appears to have been a systematic miscalculation, leading "inevitably to fiscal underperformance", as the IMF's Independent Evaluation Office put it, was overoptimistic assumptions about the "crowding in" of private investment.

Another often neglected aspect of fiscal space is that the way in which the public sector spends and taxes is not neutral; changes in different types of revenue or expenditure generate different macroeconomic outcomes. In principle, an increase in spending on infrastructure, social transfers or targeted subsidies for private investors tends to be more effective for stimulating the economy than tax cuts, because it leads directly to increased purchases and demand. On the other hand, disposable incomes from reduced tax payments are likely to be spent only partially. This is particularly true when the private sector is highly indebted, since it would then use part of the tax proceeds for repaying outstanding debts rather than for consumption and investment. Increased social spending to support low-income groups seems to be a rational way to promote recovery, as it prevents their consumption from falling during a crisis and poverty from rising. If tax cuts are the preferred instrument, reductions of sales and value added taxes as well as income tax cuts for the lower income groups that have a higher propensity to spend are generally more effective in raising demand and national income than tax cuts for the higher income groups.

Determinants of public debt

High and rising public debt ratios are clearly a legitimate political concern, but like fiscal space, public deficit and debt limits are difficult to define, since they have strong interrelationships with other macroeconomic variables. Therefore, any attempt to identify a critical level of "sustainable" debt is a difficult task. Governments' economic policies and debt strategies have to take into account their specific circumstances and social needs as well as their external relationships.

Empirical evidence shows that, even though fiscal deficits and public debt constitute a relatively high proportion of GDP in some parts of the world today – especially in some developed countries – in many countries they are not large by historical standards. Moreover, it is not only the absolute stock of debt that matters for the sustainability of the public debt, but the relationship between that stock and some other key variables. These variables include, in addition to the primary fiscal balance, the average interest rate to be paid on the outstanding debt, the growth rate of the economy and the exchange rate. The latter strongly influences not only the domestic value of the foreign-currency-denominated debt, but also the demand for domestically produced goods.

Therefore, unsustainable public debt positions are not always the outcome of expansionary – or irresponsible – fiscal policies. Primary deficits caused by discretionary fiscal policies have even been found to contribute less to higher debt ratios than slower (or negative) GDP growth and banking and currency crises. Conversely, even if government budgets are in primary deficit, the public-debt-to-GDP ratio can be reduced, provided the nominal interest rate on public debt is lower than the growth rate of GDP. Thus, monetary policy plays an important role in determining the sustainability of the public debt. However, countries that have foreign-currency-denominated debt, or that do not have control over their own monetary policy, may experience sudden surges in borrowing costs during economic crises precisely when their ability to pay is limited. In developing countries, empirical evidence shows that contractionary efforts have not been particularly successful, and that, normally, debt sustainability has been achieved by promoting higher rates of economic growth.

The response to a crisis should depend on its cause. If a crisis originates from the bursting of an asset bubble, a more rational response would be financial reform, and even quite the opposite of fiscal retrenchment, namely countercyclical policies to absorb private sector deleveraging so as to reduce the macroeconomic slump created by asset deflation. If the crisis originates from overexposure to foreign creditors and excessive appreciation of the domestic currency, the appropriate response at the national level might be to improve the debt structure, as well as introduce policies aimed at avoiding misalignments of the real exchange rate and imposing controls on capital inflows.

Financial deregulation opened the door to excessive risk taking

The recent sharp increase in public sector deficits and public indebtedness is the result of a grave crisis in the financial system following a wave of financial liberalization, led by the so-called "Anglo-Saxon" economies. It is, therefore, somewhat ironic that the financial agents that caused the crisis should have become the judges of the suitability of public policies adopted to contain its damage. Financial liberalization and deregulation was based on a widespread belief in the greater efficiency of market forces, and it led to the creation of increasingly sophisticated financial instruments. Deregulation was in part a response to pressure from competitive forces in the financial sector, but it was also part of a generalized trend towards less government intervention in the economy. New financial instruments and continued liberalization in the financial system allowed speculative activities to expand significantly, so that gambling became an important and, at times dominant, feature of financial activities. This became a source of instability in many economies, and indeed, in the entire international economic system. By contrast, it is difficult to find any new financial instruments that have contributed to increasing the efficiency of financial intermediation for the benefit of long-term investment in real productive capacity.

Even when financial deregulation and current-account liberalization resulted in an increasing number of financial crises in both developed and developing countries, the strong belief that markets are the best judges of efficient factor allocation led policymakers to continue with financial deregulation. It took the global financial crisis to finally force a serious debate about the necessity for fundamental reforms to prevent similar crises in the future. Widespread consensus that deregulation was one of the main factors leading to the global financial and economic crisis led to calls for strengthening financial regulation and supervision.

Markets are important, but financial markets work differently

Financial markets do not function in the same way as typical markets for goods and services. While entrepreneurs participating in goods markets are concerned with the creation of new real assets that have the potential to improve productivity and increase all incomes in the future, financial market participants are primarily concerned with the effective use of information advantages concerning existing assets. In goods markets, price discovery is based on information from a multitude of independent agents who act according to their own individual preferences, and opportunities for profit arise from individual pioneering actions based on the private, circumstantial information of the market participants. By contrast, in financial markets, especially those for assets which fall in the same broad risk category (such as equities, emerging-market currencies, and more recently, commodities and their derivatives), price discovery is based on information related to a few, commonly observable events, or even on mathematical models that mainly use past – rather than only current – information for making price forecasts.

The fatal flaw in the functioning of financial markets lies in the fact that the most profitable activities are often derived from herd behaviour (i.e. following the trend for some time and disinvesting just before the rest of the crowd does). Acting against the majority, even if justified by accurate information about fundamentals, may result in large losses. Thus, whenever market participants "discover" that price trends in different markets provide an opportunity for "dynamic arbitrage" (i.e. investment in the probability of a continuation of the existing trend), and all bet on the same outcome, such as rising prices of real estate, equities or other assets, since the same information is available to all market participants, there is a strong tendency for herd behaviour. As a result, the herd acquires the market power to move those prices in the desired direction.

This is why prices in financial and "financialized" markets sometimes tend to overshoot, which gives rise to wrong prices for extended periods of time. As herding dominates the scene, no single participant questions whether the underlying information is correct or can be rationally related to events and developments in the real economy. This phenomenon has been observed not only in securities markets and markets for financial derivatives, but also in currency and commodity futures markets. Thus financial markets themselves have created most of the "fat tail" risks that have led to their collapse in financial crises. Uncertainty about the appropriate values of bank assets during such bubbles can become so high that no capital requirement or liquidity buffer can absorb the subsequent shock, so that governments have to step in with rescue packages.

Re-regulation of financial markets is indispensable

Over some 150 years of banking history, an implicit accord had emerged that in times of crises, governments, or central banks serving as "lender of last resort", would provide the necessary support to prevent the collapse of individual financial institutions and of the overall system. In return these institutions were subject to government regulation and supervision. There had always been a risk that events in the real economy, such as failure of a large debtor or a generalized recession, could generate difficulties in the financial sector. This became particularly evident during the Great Depression of the 1930s, as a consequence of which lender-of-last-resort functions were institutionalized, together with deposit insurance aimed at preventing bank runs.

However, with the trend towards deregulation of the financial system over the past three decades, the situation has been reversed: today, the financial sector has increasingly become a source of instability for the real sector. At the same time, official support for this sector has become more frequent and involves ever larger injections of public money. Financial markets were deregulated, despite frequent failures of those markets. Therefore, to protect the real sector of the economy from the negative spillover effects that are endogenously generated in the financial market itself, a considerable degree of official re-regulation is needed which would re-establish a proper balance between government protection of the financial sector and government regulation of financial institutions.

Because financial markets are so little understood, an unresolved issue is the systematic underestimation of risks that arise when all participants in a certain segment of the financial market move in the same direction through herd behaviour. This can result in so-called "tail risks", which, although occurring very rarely, when they do occur, the consequences can be catastrophic. The markets can only be stabilized if they no longer

have the power to move prices in the wrong direction or to overshoot the fair value by a wide margin. Thus, systematic intervention by governments should become a legitimate tool to correct market failures.

The deregulation of financial markets has also allowed an increased concentration of banking activities in a small number of very big institutions, as well as a shift in bank funding, from a reliance on deposits to a greater reliance on capital markets, and from lending to trading. Moreover, it has paved the way for the development of a largely unregulated "shadow financial system", particularly in developed economies. By early 2008, the liabilities of that system were almost twice those of the traditional banking sector. By absorbing many of the newly created finance companies or money market funds, or by creating their own ones under the umbrella of bank holding companies, banks outsourced a large segment of their credit intermediation functions to associated companies in the shadow system. Some parts of this system (e.g. money market funds) played the same role as that of banks but with virtually no regulation, and the volume of activities of such groups has always been backed by too little capital.

Much of the systemic risk in the financial system has derived from the systemically important financial institutions. Proposals to address this "too-big-to-fail" problem have concentrated, so far, on additional capital requirements and improved supervision rather than on restructuring. A more comprehensive approach should also include a special resolution procedure in case of crises, which should not place a burden on government resources, and the introduction of size caps, which may be absolute or relative to GDP.

Towards a restructuring of the banking system

As the problem of mispricing is a systemic feature of financial markets, regulation should focus on the system, rather than on behaviour inside the system, with a view to ensuring that the system as a whole better serves real productive investment and growth in the real economy. A clear separation of deposit-taking institutions from those that are engaged in investment banking activities could help prevent gambling by commercial banks. This would also reduce the size and increase the diversity of banking institutions. Publicly owned banks could play a more important role, not only for development finance purposes, but also as an element of diversity and stability. These kinds of banks have turned out to be more resilient during crises, and they have partly compensated for the credit crunch in the private system caused by the recent crisis. They may also help promote competition in situations of oligopolistic private banking structures.

As the latest financial crisis was generated in the private financial sector, many of the arguments repeatedly advanced over the past few decades against publicly owned banks have further lost credibility. When the crisis struck, large banks in Europe and the United States were able to survive only because they benefited from public funds and guarantees. While during the boom period private institutions and individuals enjoyed large profits and bonuses, governments – or the taxpayers – have had to bear the downside risk during slumps. Therefore the point that only publicly owned banks enjoy an advantage through their access to public resources has been proven wrong. Moreover, the fact that these institutions are public entities reduces their incentive to engage in herd behaviour, exaggerated risk exposure and maximization of returns.

Growing financial speculation in primary commodity markets

Commodity prices have displayed considerable volatility over the past decade. The commodity price boom between 2002 and 2008 was the most pronounced in several decades – in magnitude, duration and breadth. The subsequent price decline following the eruption of the current global crisis in mid-2008 was notable both for its sharpness and for the number of commodities affected. Since mid-2009, and especially since the summer of 2010, global commodity prices have been rising again, though there was some flattening out in the first half of 2011.

Some observers consider broad-based changes in fundamental supply and demand relationships as the sole drivers of recent commodity price development. However, analyses are increasingly supporting the view that these fluctuations have also been influenced by the growing participation of financial investors in commodity trading for purely financial motives – a phenomenon often referred to as the "financialization of commodity trading".

While participation of financial actors in commodity markets is generally recognized as a normal feature of the market, a crucial question is the size of the financial flows and that they drive prices away from fundamentals and/or increase their volatility. In general, their participation could be economically beneficial by making markets deeper and helping to accommodate the hedging needs of commercial users and reduce their hedging costs, but their herd behaviour destroys these benefits. Financial investors such as index funds do not promote liquidity in markets, which would bring diversity to those markets; most of them follow the same strategy by going long in the strong belief that prices on those markets will continue to rise in the foreseeable future. Such financialization of commodity markets has caused those markets to follow less the logic of a typical goods market and more that of financial markets where herd behaviour often dominates.

Herding in commodity markets can be irrational, based on what may be called "pseudo-signals" such as information related to other asset markets and the use of inflexible trading strategies, including momentum investment or positive feedback strategies. Such strategies assume that price developments of the past carry information on future price movements, giving rise, for example to trend chasing. This results in buying after prices rise and selling after prices fall, independently of any changes in fundamentals.

But herd behaviour can also be fully rational. Information-based herding, for example, refers to imitation when traders believe that they can glean information by observing the behaviour of other agents. In other words, investors converge in their behaviour because they ignore their private information signals. Position-taking based only on other peoples' previous actions will lead to price changes without any new information being introduced to the market. A sequence of such actions causes a snowball effect, which will eventually lead to self-sustaining asset price bubbles. Informational herding is most likely to occur in relatively opaque markets, such as in commodity trading.

Correlated movements on equity, commodity and currency markets

Identifying the extent to which financial investment has affected the level and volatility of commodity prices is challenging due to the limited transparency and level of disaggregation of existing data. However, there is evidence to support the view that financial investors have affected price dynamics in the short term. One such piece of evidence concerns the role of dramatic changes in financial positions in the oil market between February and May 2011. Another relates to strong correlations between commodity price movements and developments on equity and currency markets, which are known to have been exposed to speculation.

A comparison of commodity and equity price developments over various business cycles shows that those prices used to move in opposite directions during the early upswings of previous cycles. In contrast, there has been a remarkable synchronization of those price movements in the most recent cycle. This increased synchronization is surprising because of the very low level of capacity utilization in the wake of the "Great Recession" of 2008 and 2009, which meant very low demand for commodities. Despite this, commodity prices increased even before the recovery began in the second quarter of 2009 and kept growing in the two subsequent years, partly due to rising demand in emerging economies but also to a large extent because of purely financial operations. Consequently, two years later monetary policy has reacted, even though there is still a very low level of capacity utilization in developed economies. This points to another worrying aspect of the impact of financialization that has so far been underestimated, namely its capacity to inflict damage on the real economy as a result of sending the wrong signals for macroeconomic management.

Measures in response to commodity price instability

Short-term emergency measures are needed to prevent or mitigate the negative impact of adverse commodity price developments. At the same time it is necessary to devise ways of improving the functioning of commodity derivatives markets to enable those trading venues to better fulfil their role of providing reliable price signals to commodity producers and consumers, or at least prevent them from sending the wrong signals.

In light of the vital role of information in commodity price developments, a set of four policy responses to improve the functioning of those markets should be considered, especially for food and energy commodities. First, there should be greater transparency in physical markets through the provision of more timely and accurate information about commodities, such as spare capacity and global stock holdings for oil, and for agricultural commodities, areas under plantation, expected harvests, stocks and short-term demand forecast. This would allow commercial market participants to more easily assess current and future fundamental supply and demand relationships. Second, there needs to be a better flow of and access to information in commodity derivatives markets, especially regarding position-taking by different categories of market participants. This would further improve market transparency. In particular, measures designed to ensure reporting requirements for trading on European exchanges, similar to those enforced in United States exchanges, would considerably improve transparency of trading and discourage regulatory migration. Third, tighter regulation of financial market participants, such as setting position limits, could reduce financial investors' impacts on commodity markets. Proprietary trading by financial institutions that are involved in hedging transactions of their clients could be prohibited because of conflicts of interest. This requires finding the right balance between adopting overly restrictive regulation, which would impair the risk-transfer functions of commodity exchanges, and overly lax regulation, which would equally impair the basic functions of the exchanges.

Fourth, market surveillance authorities could be mandated to intervene directly in exchange trading on an *occasional* basis by buying or selling derivatives contracts with a view to averting price collapses or to deflating price bubbles. Such intervention could be considered a measure of last resort to address the occurrence of speculative bubbles if reforms aimed at achieving greater market transparency and tighter market regulation were either not in place or proved ineffective. While most of the trigger mechanism could be rules-based, and therefore predictable, such intervention would necessarily have some judgemental components. However, doubts have sometimes been raised about the ability of market authorities or government agencies to understand and follow the market. These are unfounded, because there is no reason why their understanding should be any different from that of other market participants; in markets that are prone to herd behaviour, they all have access to similar information. Moreover, contrary to the other market participants, an intervening authority would have no incentive to engage in any form of herd behaviour. Rather, it could break the informational cascades that underlie herd behaviour by announcing when it considers prices to be far out of line with fundamentals.

Exchange rates have become disconnected from macroeconomic fundamentals

The current debate on reform of the international monetary system has been dealing mainly with symptoms rather than with the main problems. The strong increase in foreign exchange reserves, the still hegemonic role of the dollar and destabilizing short-term capital inflows are mainly due to serious defects in the global exchange rate regime. Foreign exchange markets are under the dominant influence of financial market behaviour that is disconnected from macroeconomic fundamentals. This is a source of current-account imbalances, distortions in international factor allocation and additional uncertainty for all participants in international trade.

Even after the breakdown of the Bretton Woods system and the adoption of widespread exchange rate floating in 1973, international economic policy-making has often assumed that it is mainly real shocks, rather than monetary shocks, that need to be tackled by the international system. However, after several decades of experience it has become clear that monetary shocks, particularly in a system of flexible exchange rates, are much more significant and harmful. Whereas the international exchange of goods and services is subject to the rules and disciplines of the multilateral trading system, the absence of an international monetary system allows individual countries autonomy in their exchange rate policies, even when such policies have adverse impacts on the global economy by creating financial booms and busts and distortions in international trade.

Exchange rate developments that diverge from those that would be warranted on the basis of fundamentals can be attributed to two major factors: either significant cross-country differences in the evolution of unit labour costs in the context of a regime where nominal exchange rates are not flexible enough, or excessive short-term capital inflows that lead to an appreciation of an overly flexible nominal exchange rate. In a situation where unit labour costs vary among countries, because of differences in the growth of wages relative to productivity, exchange rate adjustments are necessary to prevent the build-up of trade imbalances arising from a shift in competitiveness among countries. Not all current-account disequilibria are due to misaligned exchange rates. However, deviations of the real exchange rate from fundamentals, especially if persisting over long periods, have a major impact on the international competitiveness of producers, particularly of manufacturers of any country, and thus on the pattern of international trade and trade balances.

On the other hand, deviations of exchange rates from what would be warranted by economic fundamentals can also arise from the impact of private short-term capital flows that are attracted by positive interest rate differentials. In such cases, the exchange rate of a country with higher interest rates – reflecting a higher rate of inflation or tight monetary policy – appreciates, although the macroeconomic conditions would require a depreciation. Once the underlying interest rate differential narrows or disappears completely, or in a situation of crisis, the earlier appreciation is typically followed by an overshooting currency depreciation that is again out of line with fundamentals.

Redesigning the exchange rate system

In the current non-system, individual countries have tried to find temporary and pragmatic solutions to the problems of over- or undervaluation. One solution is unilateral intervention in the currency markets, even on a daily basis; another is capital controls or the taxation of inflows of hot money. All of these measures are justified in an environment where there is still a belief that, in principle, "the market" is able to find the right exchange rates. However, they do not solve the most urgent problem, that of applying the "categorical imperative" of international exchange by finding the international value of the currency of one country which all its trading partners can accept.

A better design of the global exchange rate system has to ensure that private financial actors, whose behaviour is often driven by purely speculative considerations and herding, do not exert excessive influence on the determination of exchange rates, and thus on the competitiveness of producers of different countries in international trade. Governments and central banks need to take the initiative by targeting exchange rates and ensuring that deviations from those targets are minimal and temporary.

A system of exchange rate management that helps prevent trade distortions and serves as a source of stability in international financial relations would need to include rules that provide: (a) sufficient stability of the real exchange rate (the most comprehensive measure of competitiveness) to enhance international trade and facilitate decision-making on fixed investment in the tradable sector, and (b) sufficient flexibility of the exchange rate to accommodate differences in the development of interest rates across countries.

Rules-based managed floating to curb speculation

Greater stability of the real exchange rate could be achieved by a system of rules-based managed floating. In principle, such a regime may be regarded as a dynamic version of the Bretton Woods system, which was based on the rule of fixed but adjustable nominal exchange rates. Like the Bretton Woods system, it would aim at avoiding fundamental balance-of-payments disequilibria; but unlike that system, it would rely on continuous adjustments of the nominal exchange rate along a path based on purchasing power parity (PPP) or uncovered interest rate parity (UIP). In order to achieve greater stability of the real exchange rate, the nominal exchange rate would be adjusted according to divergences in the evolution of consumer prices or unit labour costs in the first case, or to differences in short-term interest rates in the second.

Exchange rate management based on such a system would remove the incentives for speculation of the carry-trade type. Thus, short-term capital movements that have no linkages with trade or real investment, but are entirely motivated by expectations of profits from interest rate arbitrage across currencies and subsequent exchange rate appreciation of the target currency, would disappear.

Over the medium term, a strategy of managed floating based on a UIP rule is not very different from a strategy that targets the exchange rate based on a PPP path. In a UIP-based system, the nominal exchange rate would depreciate whenever a positive interest rate differential arose, and would thus cancel any gain that could be had from the interest rate differential. It has the advantage of directly dealing with financial markets. These markets are more sensitive to UIP deviations than goods markets, which react to PPP deviations. The UIP rule also has the advantage that UIP can be identified at very short notice, and on the basis of official interest rates rates rate than statistical measurements. However, it may be difficult to apply in situations of very large interest rate differentials, because the required adjustments of the nominal exchange rate would cause significant increases in import prices and a sharp rise in the domestic currency value of the external private and public debt. In this case, applying the PPP rule based on unit labour cost might be the more appropriate solution. Under this rule, the nominal exchange rate would be depreciated by an amount determined by the differential in unit labour costs, thereby neutralizing its impact on international competitiveness.

The concrete terms of a system of rules-based exchange rate management would need to be discussed and elaborated further. The problem of how to determine the level and allowable range of nominal exchange rate changes at the outset would have to be resolved. This would require a detailed investigation into the purchasing power of all currencies. Countries could also approach the starting exchange rate of such a system by making discrete parity adjustments before engaging in the rules-based managed floating strategy.

The need for symmetric intervention

In a system of rules-based managed floating along these lines, central banks would gain a degree of freedom in setting domestic short-term interest rates in line with domestic macroeconomic objectives. At the same time, its implementation would be considerably facilitated if the policy to control inflation were to rely mainly on an incomes policy that aims to check inflationary pressures instead of on a monetary policy.

To some extent, rules-based managed floating can be practiced as a unilateral exchange rate strategy. If a country is faced with the problem of short-term capital inflows generating appreciation pressure on its currency, this strategy could be applied without quantitative limitations, and without entailing operating costs for its central bank. However, when faced with the problem of capital outflows, there are limits to the extent of central bank intervention, which, in the absence of appropriate support from international financial institutions, are determined by the amount of its foreign exchange reserves. In this case, symmetric intervention by one or more countries whose currencies tend to appreciate as a counterpart to the first country's currency depreciation pressure will be necessary to make the system work. Therefore, the next best solution would be the application of the system through bilateral agreements or as a key element of regional monetary

cooperation. The greatest benefit for international financial stability would result from the rules for managed floating being applied multilaterally as part of global financial governance.

Towards greater efficiency of international goods markets

The principle of rules-based managed floating should not be contentious, although the concrete terms and details need to be worked out. It would make the international markets for goods and services more efficient by preventing international financial markets from creating serious distortions in international trade relations. It acknowledges that financial markets do not function in the same way as goods markets, and are therefore more prone to herd behaviour that can lead to over- and undershooting of the fair value of currencies. The frequent argument that governments cannot know the correct value of a currency better than markets has been refuted by the performance of financial markets, which have consistently failed to find the right values.

In any case, if currency appreciation as a result of speculative capital flows could be avoided by the system in the first place, the risk of a speculative attack that could subsequently lead to depreciation pressure would be much smaller. This would also reduce the need for central banks to accumulate foreign exchange reserves for precautionary reasons, and therefore the need for symmetrical intervention altogether. Nevertheless, should such a situation arise, the use of capital controls as a supplementary measure should be welcomed by the international community as another line of defence, since predictable exchange rates are at least as important for the functioning of the international trading system as multilaterally agreed trade rules.

The reform agenda in the wake of the global financial crisis is far from being completed. It has advanced slowly, and much of the enthusiasm for reform has waned. There is a very real risk of new crises erupting, and, in a highly integrated and excessively financialized world economy, such crises would not be limited to specific segments of the financial system or to specific countries or regions. Even if a crisis has its origin in developed countries and their complex financial markets, developing countries and emerging market economies will also be affected, as evidenced by the latest crisis. The G-20 has recognized this fact, but actions by the G-20 alone are not enough. The world economy as a whole is faced with serious and fundamental challenges, such as eliminating poverty and the transition to more climate-friendly patterns of production and consumption. To tackle these challenges successfully, all the other countries in the world need to participate, sooner or later, in the process of finding solutions. These include creating a stable macroeconomic environment that encourages an appropriate level of investment in fixed capital, which is needed for supporting the necessary structural change. Therefore it remains imperative for the international community and its institutions to address the unfinished elements in the global reform agenda more vigorously than has been done so far.

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