

# Inflation in the Time of Corona and War: The plight of the developing economies

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#### ABSTRACT

Reliance on established macroeconomic thinking is not of much use in trying to understand what to do in response to the constellation of forces driving up inflation and slowing down growth in these times of COVID-19 and war. This paper attempts to reduce the heat and turn up the light in the debate on the return of high inflation and looming stagflation—by providing evidence-based answers to key (policy) questions concerning the return of high inflation: How close are the parallels between the current conjuncture and the 1970s? What are the differences? Does what is currently happening already amount to stagflation? Can central bankers engineer a ‘soft landing’ of their economies or are we already poised for a deep (global) recession? What are the likely spill-over effects of monetary tightening in the US on the emerging economies? What, if anything, can we learn from the monetary and fiscal policy experiences and policy mistakes of the 1970s? And, finally, are there alternative, less socially costly, ways to bring inflation down?

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**Key words:** Monetary policy; inflation targeting; fiscal policy; inflation; global supply chains; COVID-19 crisis; stagflation; spill-over effects to emerging economies.

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“The evil that is in the world comes out of ignorance, and good intentions may do as much harm as malevolence, if they lack understanding.”  
— Albert Camus (1948), *The Plague*.

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## 1. Introduction

Fears of ‘stagflation’, a *portmanteau* term referring to the combination of stagnation and inflation, have come back to haunt macroeconomic policy makers all over the globe, who see economic growth in their economies slow down as consumer price (CPI) inflation is unexpectedly and rapidly accelerating. The last time the world economy experienced stagflation was during the 1970s, when oil-exporting countries in the Middle East cut supplies to the United States and other supporters of Israel. The “supply shock” of a four-fold increase in the cost of oil drove up many prices and depressed economic activity globally.

Stagflation was thought to be a thing of the past. But now there is a real risk of it coming back, warns the Bank for International Settlements (BIS 2022), the ‘central bank’ for the world’s central banks. High inflation is expected to be around for a prolonged period of time—as a result of the recurring reinstatements of lockdowns in China<sup>1</sup> and the surge in global energy and commodity prices following Russia’s war in Ukraine (and accompanying sanctions).<sup>2</sup> Unexpectedly high inflation, wars in key commodity-producing regions, slowing economic growth, tightening monetary policy and turbulence in commodity stock markets resemble the dominant features of the global economy in the 1970s (UNCTAD 2022; World Bank 2022). “That period ended in the early 1980s,” as Martin Wolf (2022) reminds us, “with a brutal monetary tightening in the US, a sharp reduction in inflation and a wave of debt crises in developing countries, especially in those of Latin America.”

How close are the parallels between the current conjuncture and the 1970s? What are the differences? Does what is currently happening already amount to stagflation? Can central bankers engineer a ‘soft landing’ of their economies or are we already poised for a deep (global) recession? What, if anything, can we learn from the monetary and fiscal policy experiences and policy mistakes of the 1970s? This paper addresses these questions—mostly from the perspective of the emerging and developing countries, the macroeconomic performance of which is strongly dependent on monetary (and fiscal) policy decisions in the advanced economies, and especially in the US (but also, increasingly, in China).

Central banks are raising rates rapidly in the most widespread tightening of monetary policy for more than two decades, according to a recent *Financial Times* analysis (Romei 2022). In several emerging economies, central banks had already raised interest rates a few times by the end of 2021 (BIS 2022). During February-May 2022, central bankers worldwide announced more than 60 increases in key interest rates. These rate hikes are just the beginning of a new global monetary

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<sup>1</sup> Following an outbreak of corona (omicron), millions of Chinese citizens were living under lockdown in March 2022. The lockdowns in Shenzhen, Zhejiang, Shanghai, Jilin, Suzhou, and Guangzhou disrupt container movement within China and in Chinese ports, upsetting global supply chains and raising shipping costs. Ninety percent of China’s electronics manufacturing comes from the region around Shenzhen and passes through the port at Shenzhen.

<sup>2</sup> Russia is the world’s biggest exporter of oil and gas and a ban on energy imports from Russia will raise energy prices and inflation. Russia and Ukraine also export more than a quarter of the world’s wheat and Ukraine is a major corn exporter.

tightening cycle (UNCTAD 2022). The Federal Reserve is expected to move to a policy rate around 2.75% by the end of 2022, but statements in the minutes of the *Federal Open Market Committee* (FOMC) indicate that its members are prepared to raise interest rates more, if and when deemed necessary (Storm 2022).

No one doubts that further monetary tightening by the Fed will push the US and the global economy into a recession (Roubini 2022). But opinions are divided over how deep and long-lasting the unavoidable recession will be. Establishment opinion is that “the time to throttle an inflationary upsurge is at its beginning, when expectations are still on the policymakers’ side,” as Wolf (2022) puts it. That is, the sooner and the more aggressive central bankers act, the lower will be the collateral damage to the (global) economy and the more likely the (global) economy will experience a ‘soft landing’—which is *Central Banker Speak* for a relatively mild recession. The Bank for International Settlements (BIS 2022, p. 24) warns, in its *Annual Economic Report of 2022*, that “the most pressing challenge for central banks is to restore low and stable inflation without, if possible, inflicting serious damage to the economy”, adding that “calibrating the response naturally involves a trade-off. Tightening too much and too quickly could inflict unnecessary damage. But doing too little would raise the prospect of a larger and more costly tightening down the road.”

While BIS (2022) formulates its policy advice somewhat disguisedly, other economists (*e.g.*, Summers 2022) are more explicitly arguing that a ‘hard landing’, a cherished euphemism for a deeper, bruising, recession, will be preferable to the long-run societal cost of a scenario in which central banks do not act strongly and quickly enough, lose their inflation-fighting credibility, and cannot prevent the de-anchoring of expectations. Wolf concurs and adds that “the political ramifications [*of such a stagflation cycle*] are disturbing, especially given a vast oversupply of crazy populists.”

The clinical and technocratic arguments of BIS (2022), Summers (2022) and Wolf (2022) are fairly typical of the broader macroeconomic debate within a select in-crowd of *Very Serious Economists* over how to respond to the recent surge in global inflation. The tone of this debate in newspapers and on-line fora is serious (“stagflation, after all, is a grim threat”); the arguments are abstract (“monetary tightening is crucial to maintain the central bank’s inflation-fighting credibility and keep inflation expectations anchored”); the analyses are surprisingly ahistorical (“today’s situation is a repeat of the 1970s”); the discussions are relatively tone-deaf to the very inegalitarian negative impacts of the sharp increases in interest rates; the (social engineering) policy solutions are mechanical and actionable (“raise interest rates to x% and the inflation will go away”); and the underlying thinking remains firmly within the box of establishment macroeconomics (“the central bank is capable of controlling inflation without killing the economy while doing so”).

The problem with this view is that global inflation is predominantly due to supply-side bottlenecks, many of which will disappear only when COVID-19 is brought under control, and this needs much more work and intentionality than a mere decision to increase the interest rate by central banks. More importantly, it requires thinking outside the narrow confines of establishment macroeconomics, which is mistakenly centered around the false belief that a powerful central bank is capable of using the interest rate to stabilize inflation at the inflation target without unnecessarily imposing considerable costs on the economy and society. Instead, other instruments must be

considered to deal with the current bout of inflation, including co-ordinated interventions to ease supply bottlenecks, controls on energy prices, price caps or targeted relief. But any—necessary—discussion on planning and strategic price controls is beyond the pale for ‘Serious Macroeconomists’, as is illustrated by the way these economists, including a Nobel laureate, responded to Isabella Weber’s (2021) sensible proposal to use price policy to fight the inflation (Galbraith 2022).

This paper attempts to recover the lost plot, arguing that the recent inflation has mostly supply-side origins, caused by the COVID-19 crisis, and has been enabled by wrong past and current macroeconomic policy choices. The corona-crisis has been seriously stress-testing the resilience of the global supply chains that have developed during three decades of neoliberal globalization—and the system has been found wanting. **Section 2** considers these global supply-side sources of inflation in more detail.

**Section 3** presents data on accelerating inflation in major OECD economies and eleven large emerging market and developing economies (EMDEs). The data underline the fact that the rise in inflation is a global phenomenon: almost all economies are experiencing similar surges in (consumer price) inflation. Inflation is running well above central bank inflation targets in almost all advanced economies as well as in most inflation-targeting EMDEs. In most of the economies, central banks have so far reacted to the increase in inflationary pressures with a relatively gradual response, tapering off unconventional monetary policy support introduced during the pandemic and raising policy rates. But everyone appears set to more drastically monetary policy soon. I note here that differences in the magnitude of fiscal relief responses to the corona-crisis between countries are not showing up in (statistically significant) differences in CPI inflation rates. This suggests that fiscal policy is a not a key driver of inflation (differences).

**Section 4** considers the negative substantial global impacts of a tightening of US monetary policy, which will include currency depreciation, sudden financial outflows, higher risk premia, weaker credit positions and more difficult access to global dollar credit and liquidity (necessary for exports and investment). Higher interest rates in the US will thus stymie growth in the emerging economies and constrain their macroeconomic policy space (UNCTAD 2022), which was already compromised by rising commodity prices and corona (Bortz *et al.* 2021). The ability of central banks in the emerging economies to manage the fall-out of monetary tightening by the Federal Reserve, will critically depend on their access to US dollars—and this will depend on the Fed. A global recession, in turn, will hurt the US economy. Hence, clockwise or counter-clockwise, the Federal Reserve will have to balance its *de jure* national mandate and its *de facto* global function.

With rising inflation, tightening monetary and financial conditions and elevated debt levels considerably limiting policy space, the emerging economies are facing increasingly stronger stagflationary headwinds (World Bank 2022). **Section 5** considers the impending global stagflation and looks at similarities and differences between the current conjuncture and stagflation in the 1970s. I argue that drawing historical parallels between the current inflation and the stagflation of the 1970s is not helpful: unlike in the 1970s and after decades of labor market deregulation and union bashing, workers across the globe are relatively powerless and incapable of protecting their real wages in this inflationary era (ILO 2021). While corporate profits in the 1970s were squeezed



by higher energy and commodity prices and higher nominal wages, corporate (‘pandemic’) profits have been growing in 2022, especially for the larger firms with market power. World Bank (2022) and BIS (2022) are nevertheless calling for (drastic) monetary tightening and fiscal retrenchment. UNCTAD (2022, p. 22) is right, however, in sounding the alarm that “it is not obvious [...] that tighter monetary and fiscal policies [in developed countries] are the correct response to inflation driven by supply-side bottlenecks”, because these policies “may have disastrous repercussions for developing countries if it triggers appreciation of the dollar.” **Section 5** discusses the likelihood of contractionary devaluations in the developing world—and argues, based on a review of the empirical evidence on the *effectiveness* of monetary policy in lowering inflation in the EMDEs, that central banks cannot bring down current inflation without engendering considerable damage to their economies. A ‘soft landing’ is an impossibility, so the economic policy discussion should focus on the issue of whether a ‘hard landing’—a deep and prolonged recession caused by monetary tightening—is a social cost worth suffering in order to bring down inflation. In my view, given the significant (and avoidable) collateral damage caused by monetary tightening (measured in terms of output losses, increased unemployment, much higher inequality and significantly greater and deeper poverty), hiking up interest rates is not a rational policy response to the recent surge in inflation—and this conclusion becomes even more weighty when one considers the risk that excessive monetary tightening leads to ‘super-hysteresis’, *i.e.*, permanent damage to the level and *the growth rate* of an economy’s potential output (as also discussed in **Section 5**).

It is, therefore, critically important to consider alternative ways to bring inflation down. **Section 6** briefly discusses a few such options, including the much-maligned strategic price controls, a tightening of position limits and an increase in margin requirements to eliminate commodity-market speculation, and fiscal interventions to shield vulnerable households and firms from the negative impacts of high inflation. Finally, I discuss the importance of (external) debt relief measures and of reforms to improve the access of the developing economies to global US dollar liquidity.

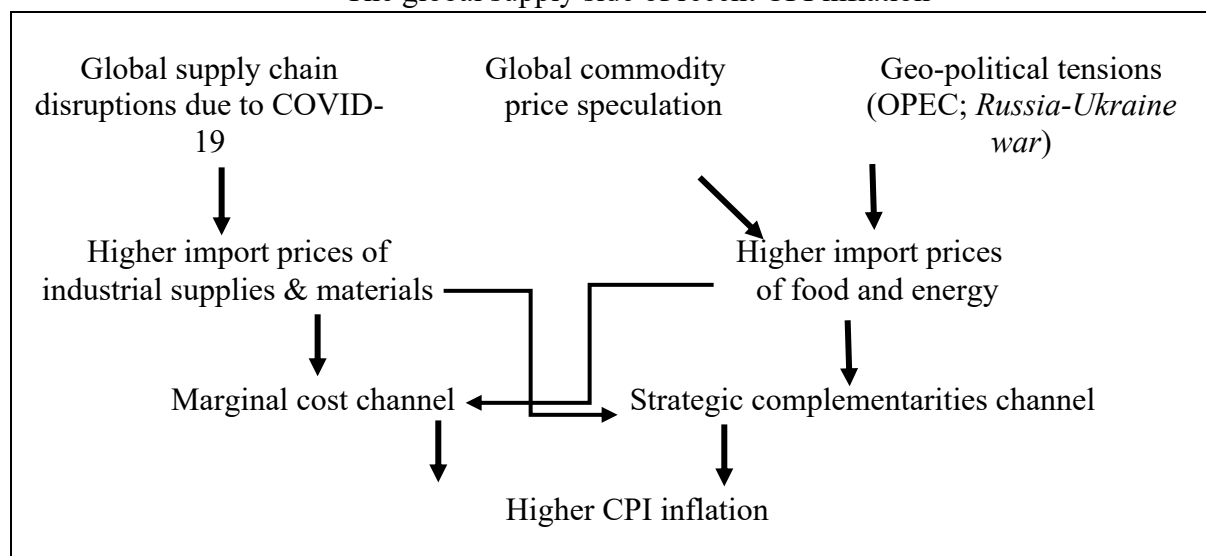
## 2. The global supply-side drivers of inflation<sup>3</sup>

**Figure 1** presents a schematic summary of which global supply-side factors have contributed to the recent increase in CPI inflation in the advanced economies and the EMDEs. First, COVID-19 related *disruptions of global commodity chains* have created shortages of (critical) industrial components and materials, leading to higher import prices for these intermediate inputs and higher prices across all countries (**Section 2.1**). Second, *geopolitical factors* have contributed to higher prices for energy and food, and commodities in general; this has raised import inflation as well (**Section 2.2**). Finally, an *increased risk appetite of global commodity speculators* has amplified the rise in global commodity prices (**Section 2.2**). This section will specifically focus on the US economy, because the Federal Reserve sets the tone for global monetary policy (which will be followed by other systematically important central banks). The highlighted mechanisms are operating in other advanced and in many emerging economies as well.

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<sup>3</sup> This section draws on *Section 3* of Storm (2022).

**Figure 1**  
The global supply side of recent CPI inflation



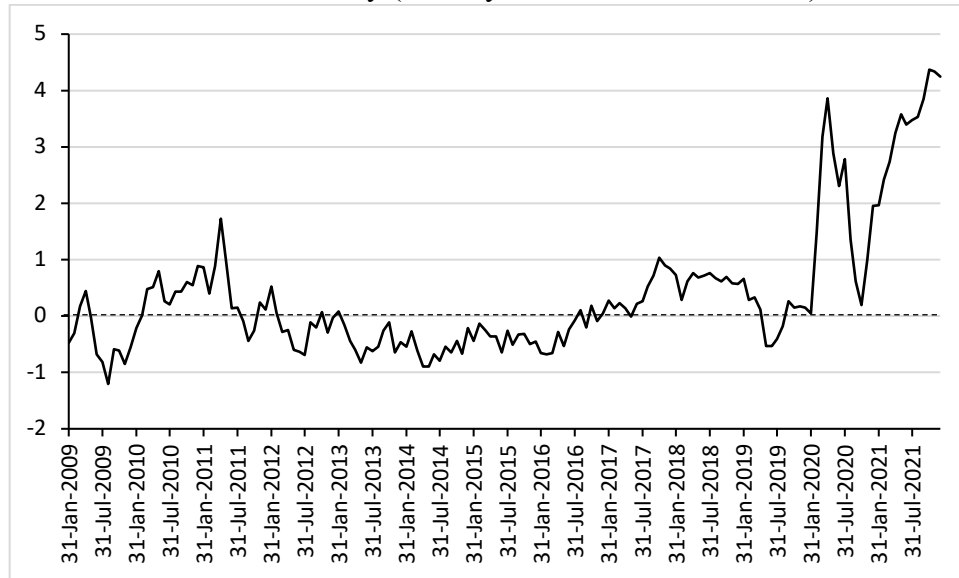
*Source:* Author’s construction. *Note:* Following Amiti *et al.* (2021), changes in import prices can affect domestic prices through two channels: (1) the *strategic complementarities* channel; and (2) the *marginal cost* channel.

## 2.1 Global supply-chain disruptions and import inflation

A key driver of rising global inflation has been the breakdown of global supply chains. Global commodity chains rely on a complex, global network of transportation services, primarily container shipping, to move intermediate goods between multiple countries for processing before they are shipped globally as final goods. The pandemic has disrupted—and continues to upset—regular trade flows, when various Asian countries (including China) locked down factories and ports and reopened these at different times. The Asian lockdowns led to seaport congestions globally—and in many other ports across the globe.

Evidence of global supply-chain disruptions appears in **Figure 2** which shows the *Global Supply Chain Pressure Index* (GSCPI), developed by the Federal Reserve. The GSCPI integrates a number of commonly used metrics on global supply chains which concern the cost of shipping raw materials and containers, and supply management data on delivery times, backlogs and inventories. The index is normalized such that a zero indicates that the index is at its average value with positive (negative) values representing how many standard deviations the index is above (below) this average value.

**Figure 2**  
The Global Supply Chain Pressure Index (GSCPI):  
The US economy (January 2009 – December 2021)



*Source: Benigno et al. (2022).*

The GSCPI increased by almost four standard deviations in April 2020, after which supply-chain problems eased for a brief while; but during November 2020 and October 2021, the GSCPI again increased to more than four standard deviations above the long-term average. The supply-chain disruptions across logistics networks, increases in shipping costs and longer delivery times, caused by the COVID-19 crisis, are unprecedented.

A recent IMF study finds, based on data from 143 countries over the past 30 years, that shipping costs are an important driver of inflation around the world: when freight rates double, inflation picks up by about 0.7 percentage point. Most importantly, the effects are quite persistent, peaking after a year and lasting up to 18 months. This implies that the increase in shipping costs observed in 2021 could increase inflation by about 1.5 percentage points in 2022.<sup>4</sup>

To illustrate the impact on the domestic economy of these supply-chain disruptions and shortages of intermediate inputs and final goods, let us consider the increase in import inflation in the US economy in more detail (Storm 2022). These global supply-chain pressures are showing up in higher import prices, as is shown in **Figure 3**. The overall price index of US imports increased by 10.8% during January 2021 and January 2022, and around half of this increase is due to the substantial rise in the prices of imported industrial supplies and materials, up nearly 35 percent during the same period. Rising prices of imported intermediate inputs, such as industrial supplies and materials, exert amplified effects through the US economy by increasing the production cost

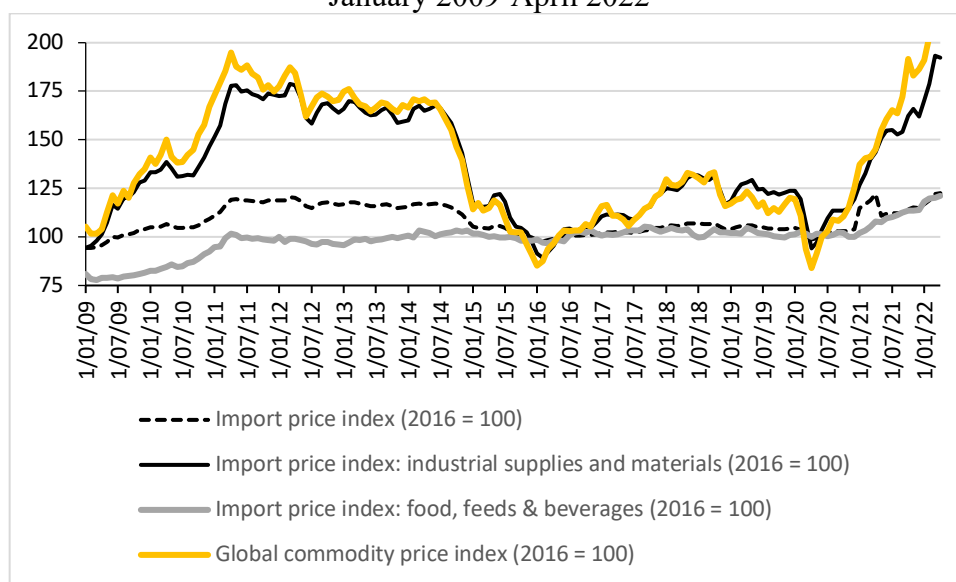
<sup>4</sup> See Carrière-Swallow *et al.* (2022).

of goods and services that, through backward production linkages, rely heavily on these inputs (Amiti *et al.* 2021).

Higher import prices feed into US higher inflation—via two separate channels (Amiti *et al.* 2021):

- the *marginal cost channel*, which captures how much domestic prices change in response to changes in the cost of imported intermediate inputs. For example, when the prices of imported steel go up, the cost of producing cars increases and this feeds through to higher prices of domestically produced cars. According to estimations by Amiti *et al.* (2021), the marginal cost channel accounts for around 70 percent of the effect of higher import prices on US inflation.
- the *strategic complementarity channel*, which captures how much US firms adjust their prices in response to changes in the prices charged by their foreign competitors. For example, if the price of imported cars increases, domestic car producers can also increase their prices. The strategic complementarity channel has been estimated to account for circa 30 percent of the effect of higher import prices on US inflation (Amiti *et al.* 2021).

**Figure 3**  
Monthly import prices: general; industrial supplies & materials;  
and food, feeds & beverages (2016 = 100),  
January 2009-April 2022



*Source:* FRED Database (series IR, IR0, IR1 and PALLFNFINDEXM). *Note:* The linear regression coefficient of global commodity price index on US import prices (during January 2009-January 2022; monthly data) is 0.26 ( $t$ -value = 34.3;  $R^2$ -adjusted = 0.88). The increase in the global commodity price index by 53.5 points during January 2020 and January 2021 is associated with an increase in the index of US import prices by 13.8; during this period, the actual increase in the import price index was 13.6.

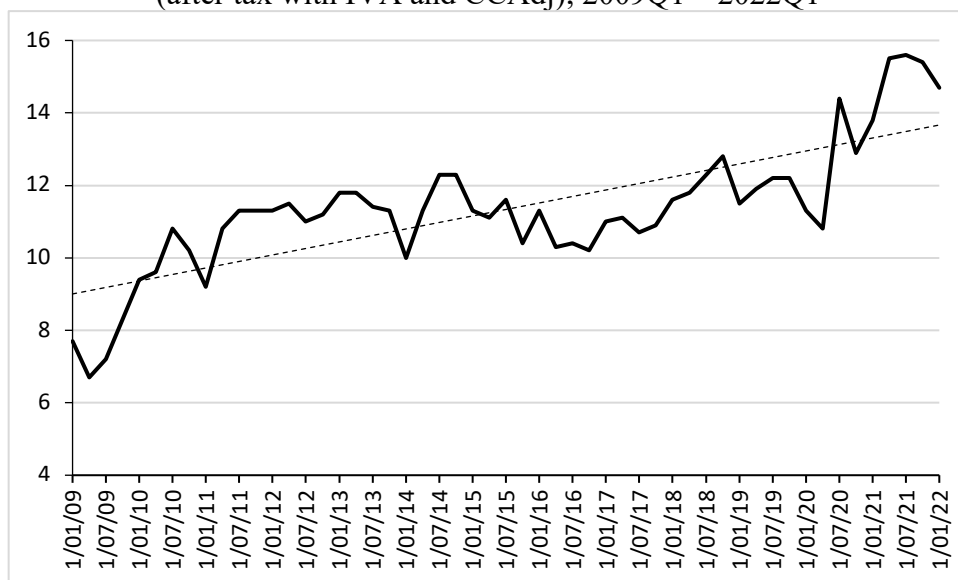
The *strategic complementarity channel* does help to explain the profiteering by large US corporations which have been able to raise their profit margins to the highest level in 70 years. Using inflation as an excuse and helped by algorithmic pricing and AI, mega-corporations are choosing to raise prices to increase their profit margins – and they hold enough market power to do so without fear of losing customers to other competitors.

As is shown in **Figure 4**, the non-financial corporate profits per unit of real GDP have increased from 10.8% in 2020Q2 to 15.6% in 2021Q3 during the corona-period. Nominal growth of corporate profits (by 35%) during 2021 has vastly outstripped nominal increases in the compensation of employees (10%) as well as the PCE inflation rate (6.1%). According to *The Wall Street Journal*, nearly two out of three of the biggest US publicly traded companies had larger profit margins this year than they did in 2019, prior to the pandemic (Broughton and Francis 2021). Nearly 100 of these corporations did report profits in 2021 that are 50 percent above profit margins from 2019.

Evidence from corporate earnings calls shows that CEOs are boasting about their “pricing power,” meaning the ability to raise prices without losing customers (Groundwork Collaborative 2022; Perkins 2022). Even the Chair of the Federal Reserve, Jerome Powell, has weighed in on this issue, stating that large corporations with near-monopolistic market power are “raising prices because they can.” These profit increases have contributed to a process of profit-price inflation.

**Figure 4**

Profit per unit of real gross value added of non-financial corporate business: Corporate profits (after tax with IVA and CCAdj); 2009Q1 – 2022Q1



Source: FRED Database (series A466RD3Q052SBEA).

## 2.2 Global commodity prices, import prices and PCE inflation

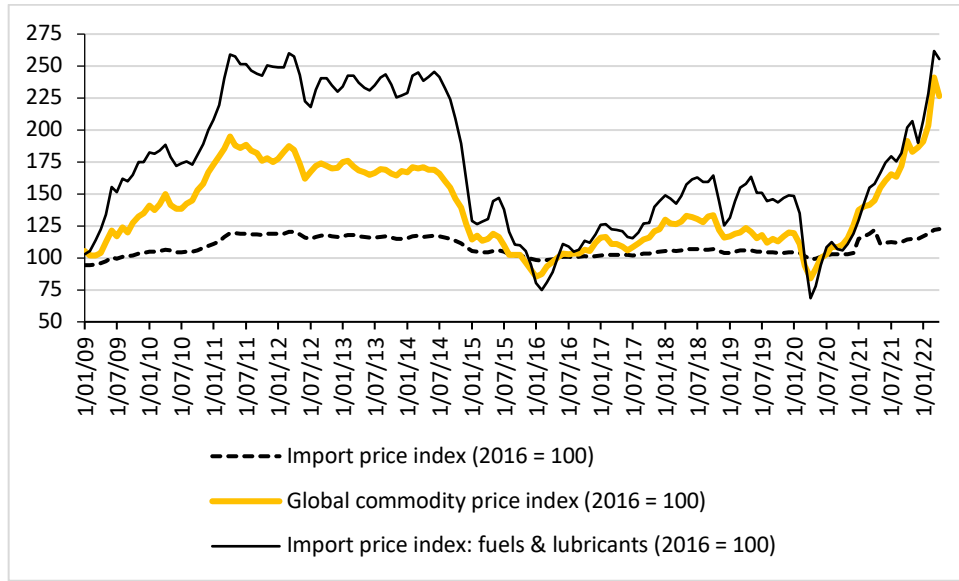
Movements in the US import price index are strongly correlated with movements in global commodity prices ( $r = 0.91$ ; see **Figure 3**). During January 2021-April 2022, higher global commodity prices have pushed up import prices of *food, feed & beverages* (which account for about 7% of US merchandise imports) by 19% (**Figure 5**) and import prices of *fuels & lubricants* (which account for around 5% of US merchandise imports) by almost 100% (**Figure 5**). According to estimates by Fed economist Kevin Kliesen (2021), commodity price changes and PCE inflation<sup>5</sup> are highly correlated: the average correlation of the four main commodity price indices and (headline) PCE inflation is 0.7.

The rise in commodity and energy prices is spurred by a recovery in mobility (post-corona), worries over spare capacity among key producing nations, historically low inventory, slow progress in getting Iran's sanctions lifted, and now, conflict in Ukraine. However, the rise in (industrial) commodity prices during 2021 is not only driven by fundamental changes in demand or shortages of supply, but also by *speculation* on a continued increase in inflation (**Figure 5**). This is a self-fulfilling, reflexive, process: in commodities generally, price movements respond to speculative activity rather than the other way around. As a result, when financial investors expect inflation and commodity prices to increase, they will invest in commodity (futures) markets driving up commodity prices as well as inflation. This *reflexively* reaffirms the initial belief that inflation is likely to go up—and as result, more money will be poured into commodity markets. This herd-like behavior is visible in the ‘growing risk appetite’ of global commodity investors in **Figure 6**. It is a non-trivial driving force of the global commodity price surge in 2021.

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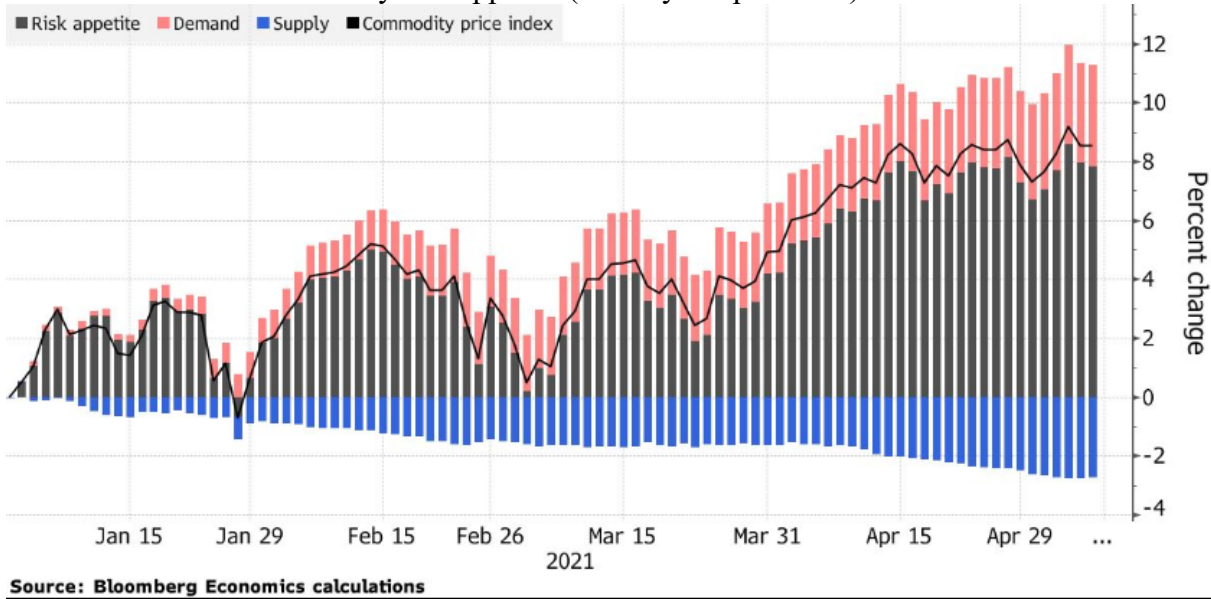
<sup>5</sup> PCE inflation is measured by increases in the price index of Personal Consumer Expenditures (PCE).

**Figure 5**  
 Monthly import prices: general; fuels & lubricants  
 (2016 = 100), January 2009-April 2022



Source: FRED Database (series IR, IR10 and PALLFNINDEXM).

**Figure 6**  
 Taste for commodities: Global price increases have been mainly driven  
 by risk appetite (January – April 2021)



Source: Van Roye and Orlik (2021).

Regulators such as the *U.S. Commodities Future Trading Commission* could insist on higher margin requirements and tighten position limits so as to discourage commodity price speculation. But in the absence of these, commodity speculators will continue to exploit the market disruptions—to great private benefit but much greater social cost.

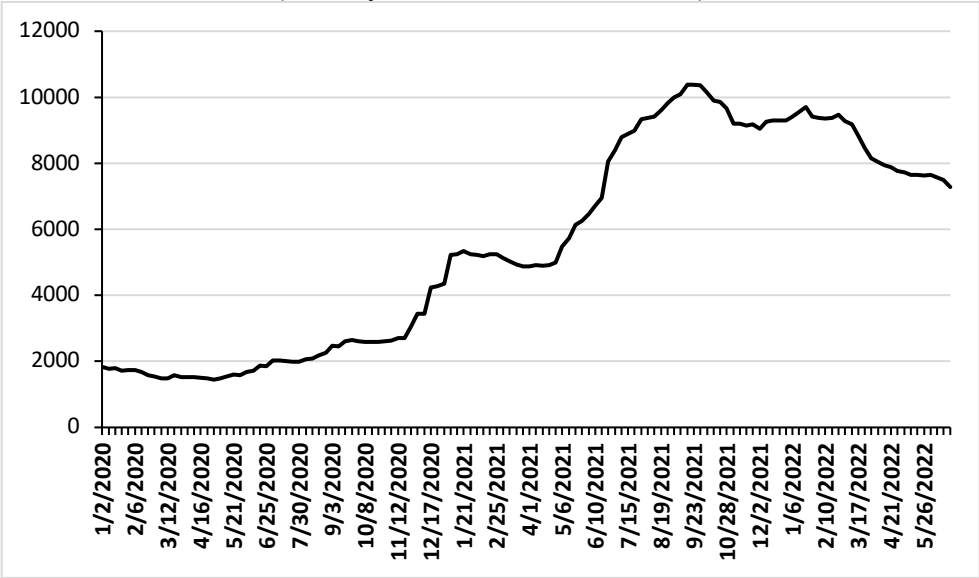
Russia’s invasion of the Ukraine (on February 24, 2022) has led to a renewed surge in global commodity markets, as anxiety is growing that supply will fall short in everything from wheat to natural gas. The resulting commodities chaos reverberates through the global economy, creating new commodity supply shortages and pushing up commodity prices and inflation even further. These resulting inflationary pressures will last until long after Russia’s war in Ukraine will be brought to an end.

**3. Inflation in the advanced and the developing economies**

Since the sources of rising prices lie in COVID-19-induced disruptions in global commodity chains and the war in Ukraine, the surge in inflation in 2021-22 is a global phenomenon: all economies in the world suffer from rising energy and food prices, delayed supplies, more costly (container) transportation and long-lasting shortages of components and industrial consumer goods.

To illustrate, the global *cost of container shipping* (which accounts for 17% of total seaborne trade volume) has soared: during the first six months of 2022, the average composite index of *Drewry’s World Container Index* is \$8476 per 40ft container (**Figure 7**), which is \$5245 higher than the five-year average of \$3232 per 40ft container during 2016-2021.

**Figure 7**  
 Drewry’s composite World Container Index (US\$/40ft)  
 (January 2, 2020 – June 23, 2022)



Source: World Container Index, Drewry Supply Chain Advisors



This surge in container rates could send consumer prices 1.5% higher over the next year, according to the *Review of Maritime Transport 2021*, published by UNCTAD;<sup>6</sup> even if the exact impact on consumer prices will vary by country and product, it is likely to be very significant. In addition, *delays in container shipping* have reached record levels (as is shown by Flexport’s Ocean Timeliness Indicator). Before September 2020, it took around 60 days (on average) to bring container cargo from China to Europe, but China-Europe container transport is taking 123 days in Spring 2022. Likewise, whereas trans-Pacific container transport from China to the US (West Coast) took around 50 days (on average) before September 2020, it is taking 109 days in April 2022. The doubling of container transportation time is due to COVID-19 lockdowns in China which have led to factory closures in Shenzhen and Shanghai and increased handling times in China’s ports.

The steadily mounting delays in supplies of key industrial supplies and consumer goods are constraining (goods) supply (relative to goods demand) and will be contributing to inflation across the globe for a long time, even if after the COVID-19 lockdowns will have become a thing of the past.

In **Section 3.1**, I look more closely at rising inflation in a number of key OECD economies, while **Section 3.2** considers inflationary pressures in major emerging and developing economies.

### 3.1. Inflation in the OECD economies

**Figure 8** presents the monthly Consumer Price Index (CPI) inflation rates for the US, the EU, France, Germany, the UK and Canada during January 2019 and May 2022; the monthly inflation rates express the increase in the CPI as the percentage change over the preceding 12 months.

Inflation has been highly correlated across OECD economies (Schnabel 2022b). The rate of CPI inflation in the US increased from 1.5% in January 2019 to 8.5% in May 2022; CPI inflation in the EU rose from 1.4% in January 2019 to 8.8% in May 2022. In May 2022, the CPI inflation rates for Germany, France and the UK are 8.7%, 5.8% and 9%, respectively, while Canada’s inflation rate in May 2022 was 7.7%. In all these cases, COVID-19-caused jams in global supply chains and rising commodity (and energy) prices are the main drivers of resurgent inflation (Schnabel 2022b). As is shown in **Figure 8**, in all cases, the CPI inflation rates in which energy price increases have been excluded, are considerably lower than the (headline) CPI inflation rate.

Much of the recent CPI inflation in these OECD economies is imported: during January 2019 and May 2022, import prices increased by around 10% in France, Germany and the EU, by 15% in the UK and by 68% in Canada; US import prices rose by 28% over the same period (**Figure 9**). Higher import prices are strongly correlated with higher rates of CPI inflation in all the countries included

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<sup>6</sup> By product, electronics, furniture, and apparel would see the greatest price increases—of at least 10% globally (UNCTAD 2021).

in **Figure 9**—and import price inflation explains around 28% of British inflation, around 40% of inflation in Canada, France and the EU, and 80% of German inflation.

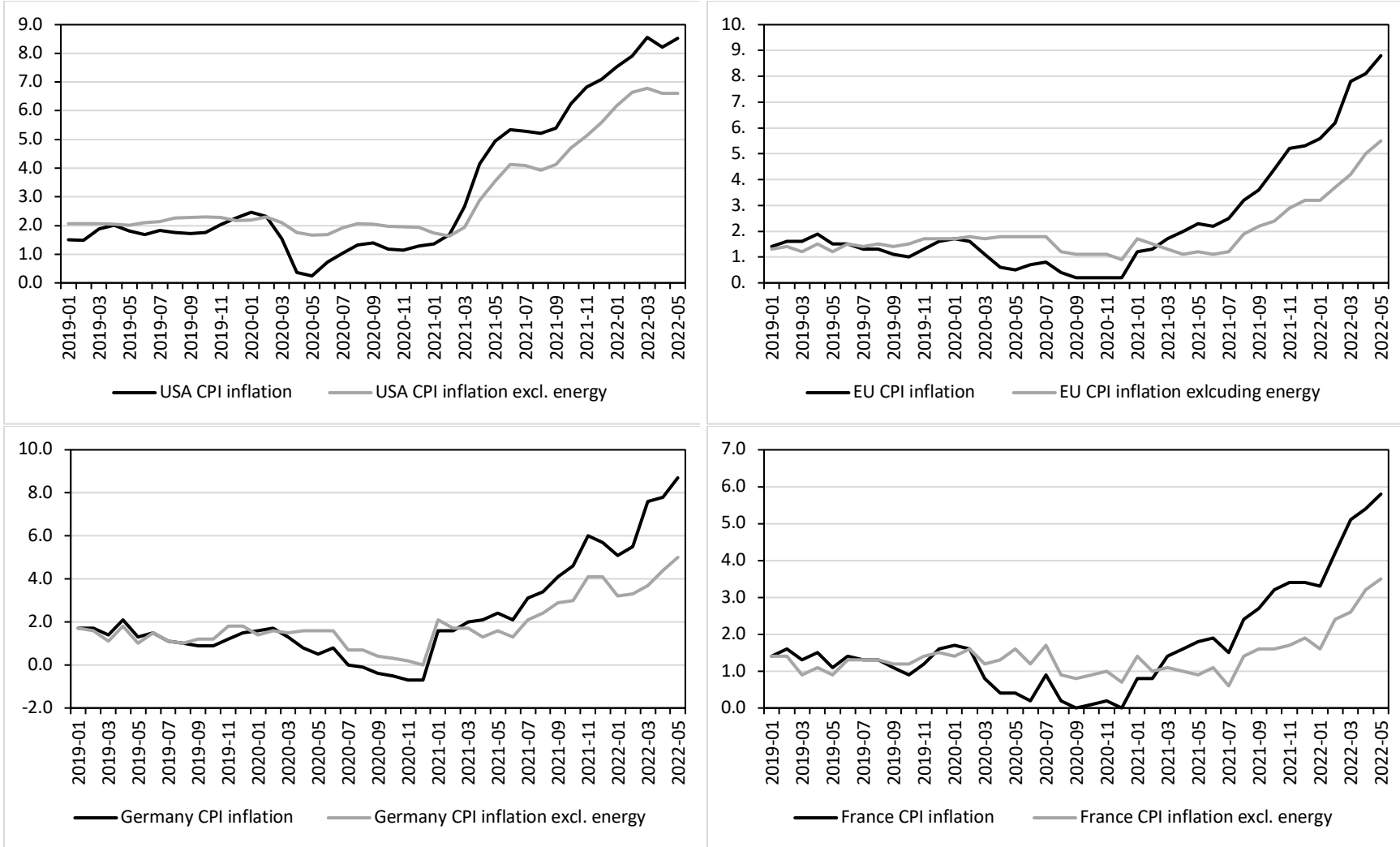
While the import inflation is likely to subside in the near future (even if import prices continue to remain high)<sup>7</sup>, higher import costs are contributing to rising prices and nominal wages in the countries concerned. In the EU, where most wages are determined by longer-term collective wage agreements, the nominal wage adjustments take longer to materialize than in the US, where nominal wages are quicker to respond. This may explain why CPI inflation (excluding energy price inflation) in May 2022 is higher in the US than in the EU (**Figure 8**).

In response to the COVID-19 crisis, the governments of Canada, France, Germany, and the UK introduced fiscal support and relief measures to households, workers and firms. The (extraordinary) extent of fiscal support is illustrated in **Figure 10**: the government deficit of the UK amounted to 13.4% of GDP in 2020 and 8.5% of GDP in 2021, while the average public deficit in the EU was 6.9% of GDP in 2020 and 6.6% in 2021 (which is much higher than the 3% deficit norm set in the Growth and Stability Pact). The fiscal response of the US government stands out: it is considerably larger (as a percentage of GDP) than the fiscal reactions in Europe and Canada during 2020 and 2021.

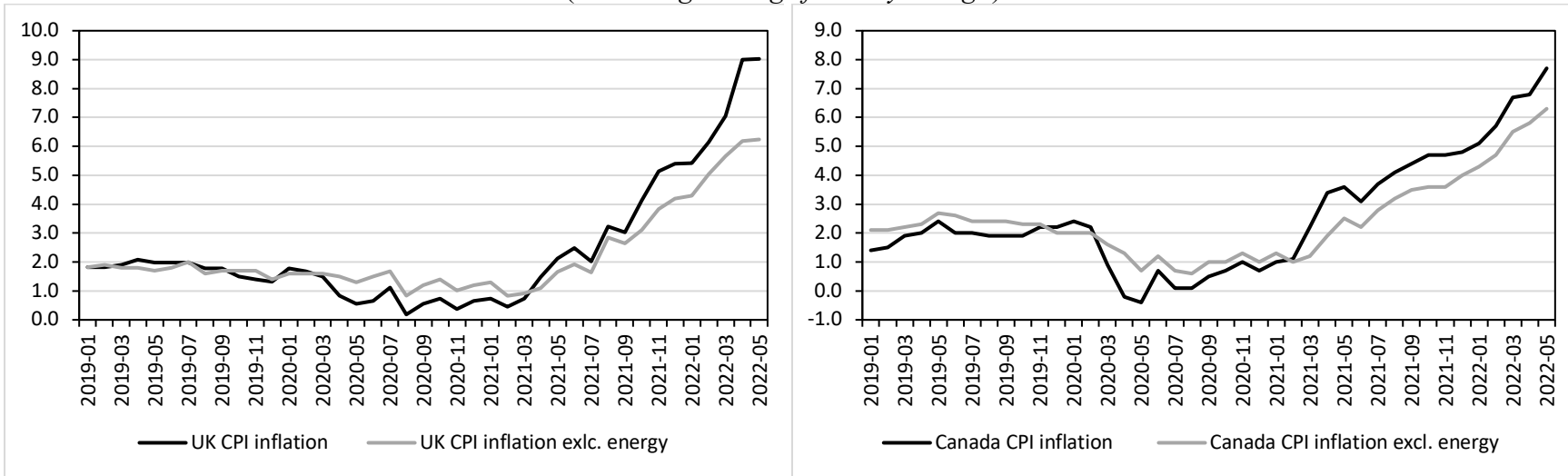
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<sup>7</sup> Energy and commodity prices are unlikely to rise by 50% or more per annum for many years in a row.

**Figure 8**  
 The rate of consumer price inflation in the U.S., the E.U., Germany and France (January 2019-May 2022)  
 (Percentage change from a year ago)

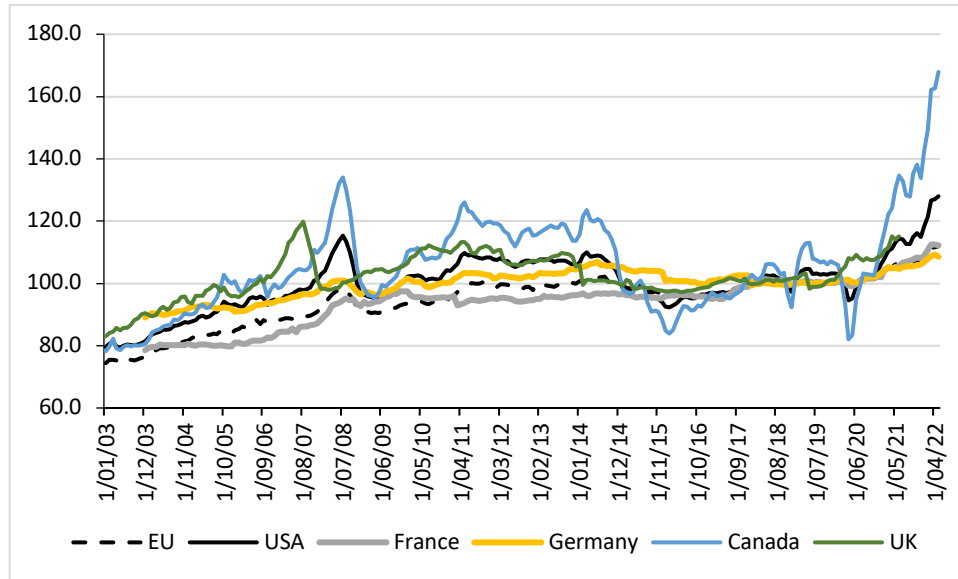


**Figure 8 (continued)**  
 The rate of consumer price inflation: the U.K. and Canada (January 2019-May 2022)  
 (Percentage change from a year ago)



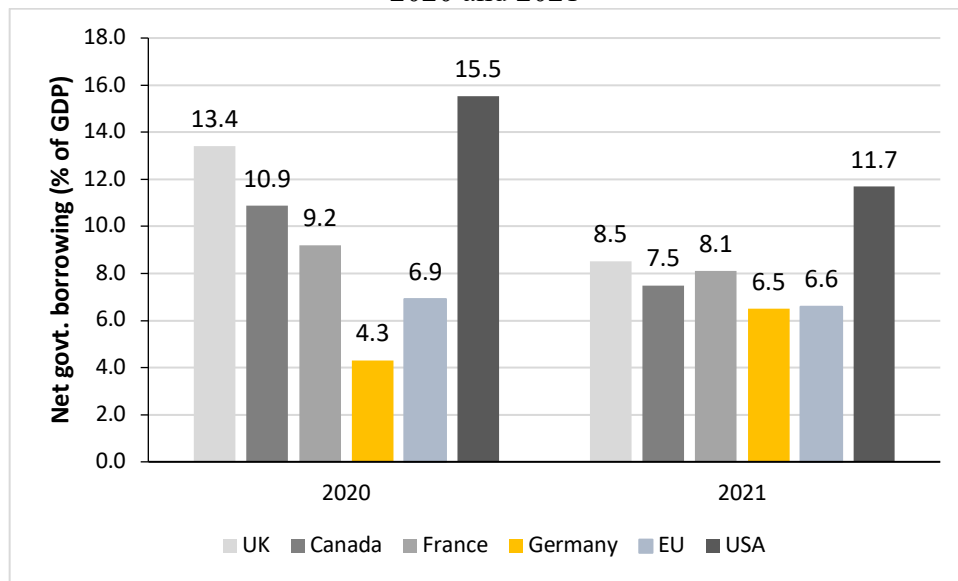
Sources: for the US: FRED data (*series* CPIAUCSL\_PC1); for the EU-27, France and Germany: Eurostat HIPC monthly data (annual rate of change); for the UK: Office for National Statistics: Consumer price inflation data; and for Canada: Statistics Canada: 12-month change in the Consumer Price Index (CPI) and CPI excluding gasoline.

**Figure 9**  
 Monthly import prices (all industries)  
 (January 2003 – May 2022; January 2019 = 100)



*Sources:* FRED database. *Notes:* The correlation coefficient between the CPI inflation rate and the change in the import price index (during January 2019-February 2022;  $n=38$ ) is 0.65 ( $t$ -value = 5.1) for France; 0.69 ( $t$ -value = 5.7) for Germany; 0.59 ( $t$ -value = 4.4) for the UK; 0.66 ( $t$ -value = 5.3) for the EU; and 0.79 ( $t$ -value = 7.8) for Canada.

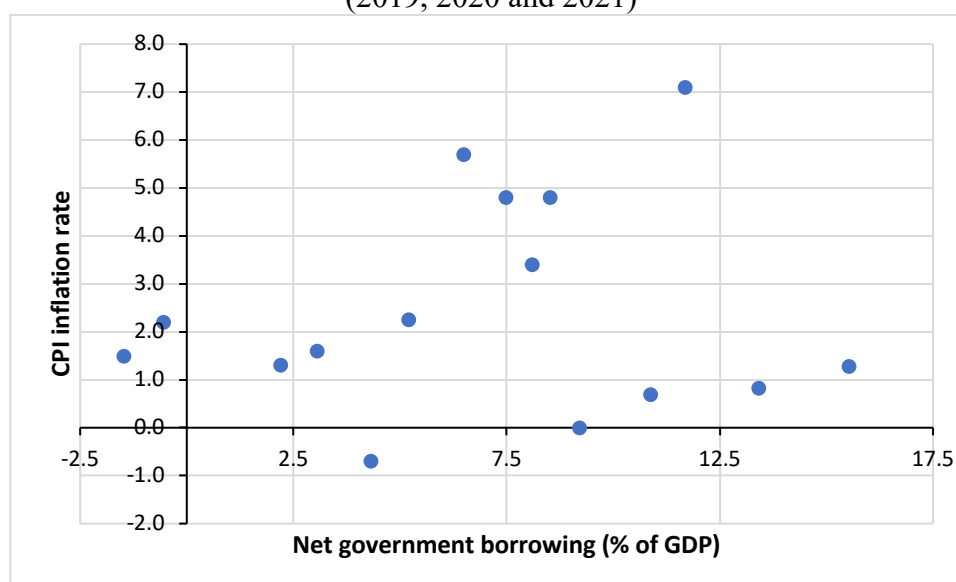
**Figure 10**  
 Net government borrowing (% of GDP),  
 2020 and 2021



*Sources:* for the US and Canada: FRED database; for the EU, France and Germany: AMECO database; and for the UK: Office for National Statistics.

However, the differences in the magnitude of fiscal responses to the corona-crisis are not showing up (yet) in differences in CPI inflation rates. This is shown in the scatter-plot of **Figure 11** which plots net borrowing of the government (as a percentage of GDP) against the CPI inflation rate during the years 2019-2021. The correlation coefficient between net government lending and the CPI inflation rate is 0.14 and is not statistically significant.

**Figure 11**  
Scatter-plot of net government borrowing (% of GDP)  
and the CPI inflation rate in Canada, France, Germany, the UK and the USA  
(2019, 2020 and 2021)



*Sources: see Figures 8 and 10.*

### 3.2 Inflation in major emerging economies

In **Figure 12** appear the monthly CPI inflation rates (during January 2019 – May 2022) of Argentina, Brazil, Chile, China, Egypt, India, Indonesia, Mexico, Nigeria, South Africa and Turkey.<sup>8</sup> It can be seen that the *Latin-American economies* experienced a significant acceleration in inflation: in Brazil, from around 4% in early 2019 to more than 12% in April-May 2022; in Chile, from about 2% in Spring 2019 to almost 11.5% in May 2022; in Mexico, from 4% in early 2019 to 7.7% in May 2022; and in Argentina, from 36% in November 2020 to more than 60% in May 2022. Likewise, the two *Middle-Eastern economies* are experiencing a surge in consumer price inflation: in Egypt, the CPI inflation rate increased from around 4-5% during May 2020 to

<sup>8</sup> Taken together, these 11 emerging economies generate 28% of global GDP. Around half of the world population lives in one of these eleven countries. Of course, China is the largest country: its share in global GDP is circa 17% and its share in world population is around 18%.

July 2021 to 13.5% in May 2022, while Turkish inflation rose from around 20% in Spring 2019 to more than 73% in May 2022 (see also Ha *et al.* 2022).

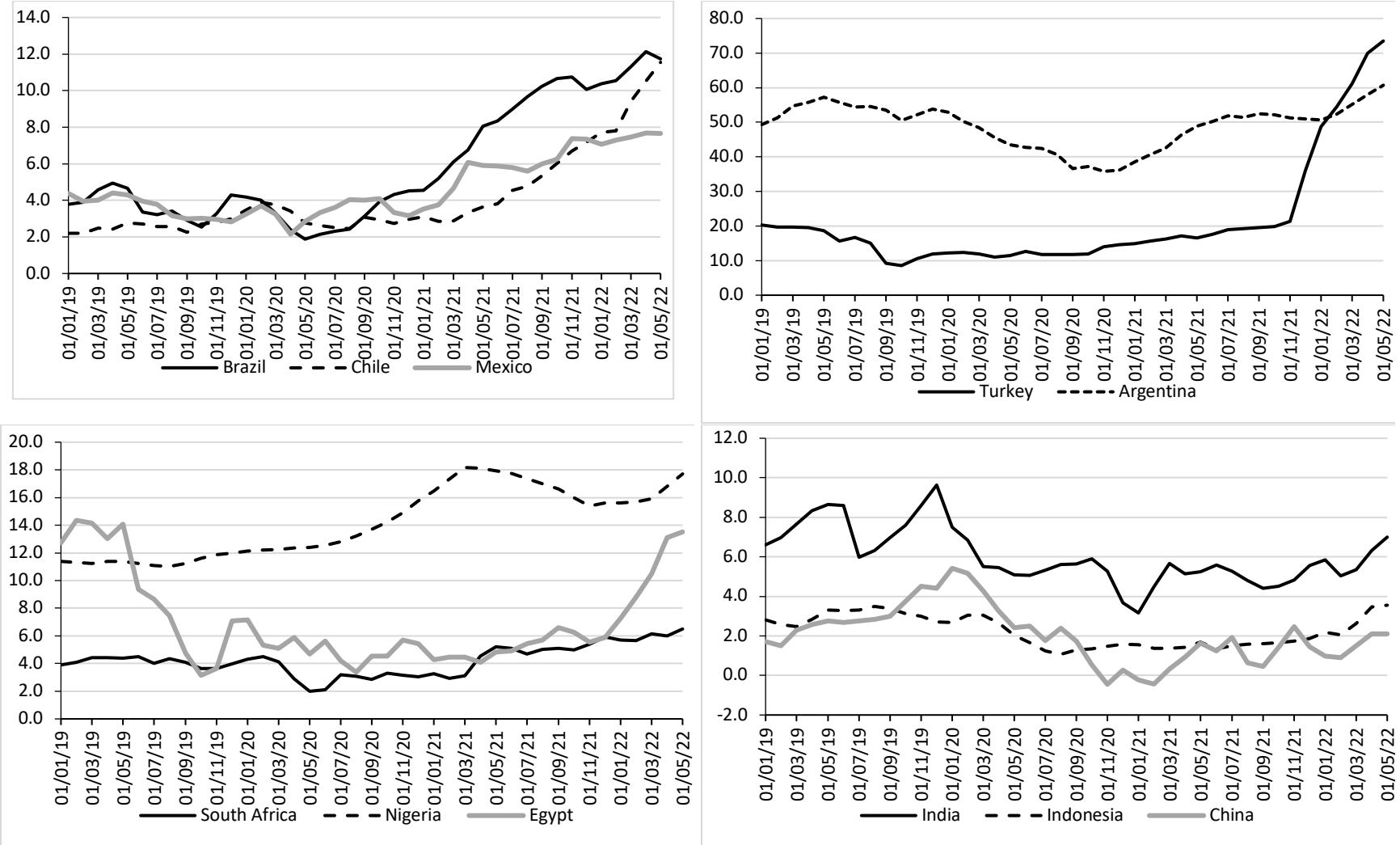
Turning to the other economies in my sample, inflation rates in Nigeria and South Africa rose from 11.4% to 17.7% and from 4% to 6.5%, respectively, between January 2019 and May 2022. CPI inflation in India has been slowly but steadily increasing since January 2021 and reached 7% in May 2022, which is higher than the Reserve Bank of India's mandated upper inflation limit of 6%. The primary drivers of consumer inflation in India have been higher food and fuel prices; the year-to-year rate of food price inflation in India in March was 7.7%, while fuel prices increased by 7.5%.

Only in China and Indonesia inflation is not (yet) showing clear signs of acceleration (**Figure 51**). China has been regulating the prices of energy, commodities and food in order to stabilize production costs and guarantee food security for its population. Another reason is that the recent COVID-19 lockdowns are cooling down China's economy and inflation. A more structural reason for China's low inflation rate lies in the high rate of household savings, which is around 23 percent of GDP (and 15 percentage points higher than the global average; see Zhang *et al.* 2018).<sup>9</sup>

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<sup>9</sup> Chinese household savings are high because of demographic factors, income inequality and growing concerns over housing affordability, in a context in which the closed capital account forces households to keep their savings in the Chinese banking system. The flip side of high household savings is low consumption growth.

**Figure 12**  
 The rate of consumer price inflation in major Emerging Economies (January 2019-May 2022)  
 (Percentage change from a year ago)



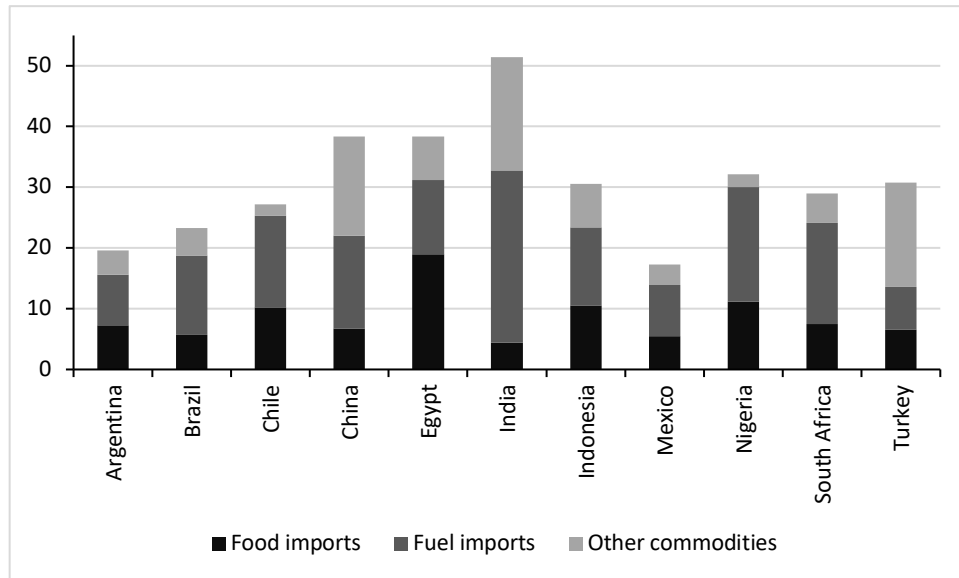


**Figure 12:** *Sources:* for Brazil, China, Chile, India, Indonesia, Mexico, South Africa, and Turkey: FRED data; for Argentina: World Bank *World Development Indicators* database; for Nigeria: National Bureau of Statistics (Composite Consumer Price Index); and for Egypt: Central Bank of Egypt (Inflation Data).

CPI inflation in Indonesia has remained relatively low as well. Indonesia followed the example of the US and the EU during the pandemic and had its central bank monetize a portion of its debt in order to fund fiscal stimulus in 2020 and 2021. Yet Indonesia's CPI inflation rate has risen to only 3.6% in May 2022. The main reason for this is that the Indonesian economy is not as tightly integrated into international supply chains as is the case with other emerging economies, especially in energy. Indonesia, a major oil and coal producer, has so far been able to use its state-owned energy corporations including Pertamina and PLN to insulate its economy from big swings in global energy prices. "In fact, if [these companies] lose money that is probably okay as long as higher energy prices aren't being passed through to Indonesian consumers," concludes James Guild (2021). Until now, price controls are doing the job of containing Indonesia's consumer price inflation.

The emerging economies in **Figure 12** are all relatively large commodity importers: on average, commodities make up slightly less than one-third of their imports (in US\$ terms) during 2018-2020 (**Figure 13**). The share of commodities in China's and Egypt's imports is 38% and more than 50% of India's imports are (primary) commodities including food and fuel. As a result, higher commodity prices carry over into higher domestic prices via imports. Recent econometric estimates (using data for 55 economies during the past five decades) by Ha *et al.* (2019) suggest that an increase in oil prices of 50% (which is approximately the increase over the course of 2021) has been associated with statistically significantly higher inflation of around 4.4 percentage points, with a lag of about two years. Using a panel-data model for 72 countries over 1970-2015, Choi *et al.* (2018) similarly find that a 50 percentage-point increase in global oil inflation is associated with a rise in domestic inflation by about 3.5 percentage points cumulatively within two years after the shock. These findings indicate that a considerable part of inflation in the emerging economies during 2021-22 has been caused by higher commodity (oil) prices.

**Figure 13**  
Commodity import dependence (2018-2020)  
(Commodity imports as percentage of total imports)

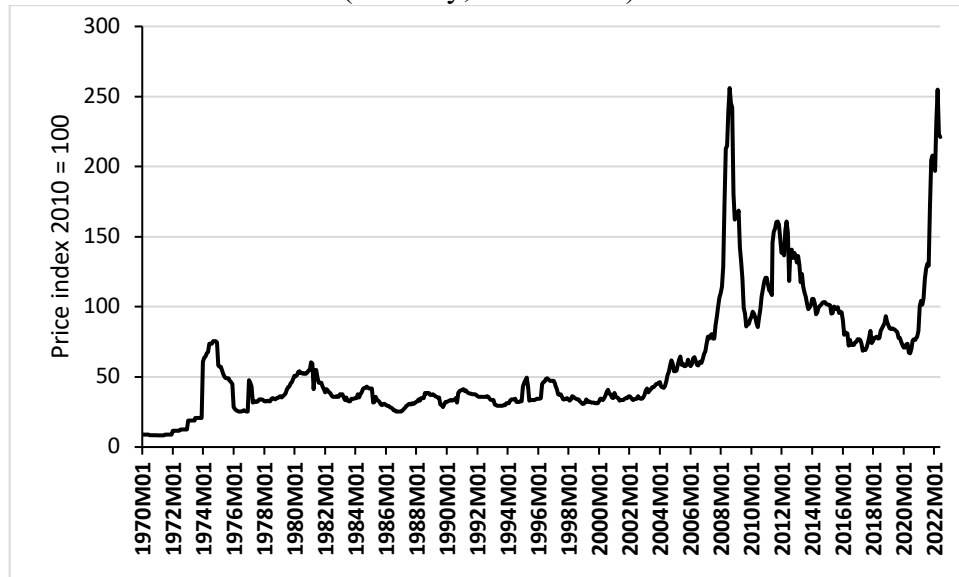


*Sources:* UNCTADStat. Primary commodities refer to SITC 0 + 1 + 2 + 3 + 4 + 68 + 667 + 971; food imports refer to SITC 0 + 1 + 22 + 4; and fuel imports refer to SITC 3.

On average, food imports constitute around 9% of the imports of the emerging economies in **Figure 13**—and 19% in Egypt and 11% in Nigeria. This creates vulnerabilities when global food prices are rising. The *FAO Food Price Index* hit an all-time high in April 2022 and the Food and Agriculture Organisation (FAO) warns that the world is rapidly approaching a global food crisis.

One reason for the food price inflation is that agricultural production costs are rising, because fuel prices and energy prices are rising. The prices of the raw materials used to produce fertilizers—ammonia, nitrogen, nitrates, phosphates, potash and sulphates—are all increasing, as is the price of gas (a key input that accounts for 70%-90% of the operating costs for making fertilizer), and as a result, chemical fertilizer prices rose by 112% between March 2021 and June 2022 (**Figure 14**). Fertilizer prices have approached their (unsustainable) historical peak level of September 2008, reached during the previous world global food crisis of 2007-08.

**Figure 14**  
 The fertiliser price index, January 1970-June 2022  
 (Monthly; 2010 = 100)



Sources: World Bank Commodity Price data (The Pink Sheet).

Russia's war in Ukraine is creating global shortages of fertilizers. In 2021, Russia was the world's top exporter of low-cost nitrogen fertilizers (accounting for around 14% of global fertilizer exports) and the second-largest supplier of both potassic and phosphorous fertilizers, according to the FAO. In response to the global fertilizer shortages, China has suspended its fertilizer exports until June 2022 to ensure domestic availability amid food security concerns; China's exports of DAP (diammonium phosphate) and urea account for approximately one-third and one-tenth of global trade, respectively. Russia itself restricted nitrogen and phosphate fertilizer exports for six months, effective December 1, 2021. Moreover, the US, the EU, the UK and Canada announced new sanctions on Belarus, which are disrupting the supplies of state-owned Belarusian potash fertilizer producer, OJSC Belaruskali, the world's second largest potash supplier. As a result, major buyers of Chinese, Russian and Belarusian fertilizer supplies, including Brazil and Turkey, are left scrambling for product. Many farmers, and especially the millions of smallholders in the developing nations who produce a third of the world's food, will have little choice but to reduce fertilizer usage in 2022 (and probably longer).

Directly, Russia's war in Ukraine is creating one of the worst disruptions to the global supply of wheat, maize (corn) and sunflower seed oil in a century. In 2019, Russia and Ukraine together exported more than a quarter of the world's wheat, with Russia's share in world exports of wheat being 18%. Egypt and Turkey are big importers of wheat and more than 70% of their wheat imports would normally come from Russia and Ukraine. Russia temporarily banned grain exports to its fellow members of the Moscow-led Eurasian Economic Union (EEU) -- Kazakhstan, Kyrgyzstan, Belarus, and Armenia -- in March 2022; in April, the Kazakh government will limit its wheat exports for 3 months. On May 14<sup>th</sup>, India banned all exports of wheat, as a scorching heat wave

damaged wheat output and domestic prices are rising fast. Global buyers were banking on supplies from India, the world's second-largest wheat producer, and before the ban, India had planned to export a record 10 million tons of wheat in 2022.

Shortages of wheat, maize and sunflower seed oil will impact countries in the Middle East (Egypt, Lebanon, Syria and Turkey), but also in the Baltic region, Northern Africa (Somalia, Sudan and Tunisia) and Eastern-Europe. Indirectly, via higher food prices, the impact will be felt globally. Egypt's national stock of wheat has declined to only 11 weeks of supplies, while the country has a large, poor population surviving on bread priced below cost (Stevenson 2022). The humanitarian and political damage done by the food crisis will be considerable, and developments in Egypt's may serve as an illustration of these negative impacts:

“In the first weeks of the war, the price of bread produced outside the state-run bakeries rose by 50 per cent. The government moved to cap prices, but the rising cost of wheat has already become a great burden on the treasury. The Egyptian pound has lost 15 per cent of its value. In March alone, the government more than once had to raise the toll for ships passing through the Suez Canal. On 23 March [2022], Egypt sought assistance from the IMF.

By April, the government had raised the price of petrol, the latest in a series of price hikes encouraged by the IMF since 2016. Factory bosses in large Egyptian companies have been forcing wage cuts on workers whose unions were liquidated or hollowed out after the 2013 coup. The government has been negotiating new wheat supply deals with Bulgaria, Germany and India but it will still be paying elevated prices. It has had to request aid from the rich Gulf states. [...] In the meantime, the control exercised by the Egyptian security apparatus has been sufficient to prevent the stirring of any real opposition. To challenge the state is to risk ending up in the massive prisons the army has been building in the Sinai Peninsula following a decade of military repression.” (Stevenson 2022).

Food price inflation poses significant challenges for households in developing economies, because these households are spending as much as one third to one half of their budgets on food (**Figure 15**). The lowest- and low-income households are much more vulnerable to food price inflation than the higher-income households (**Figure 15**).

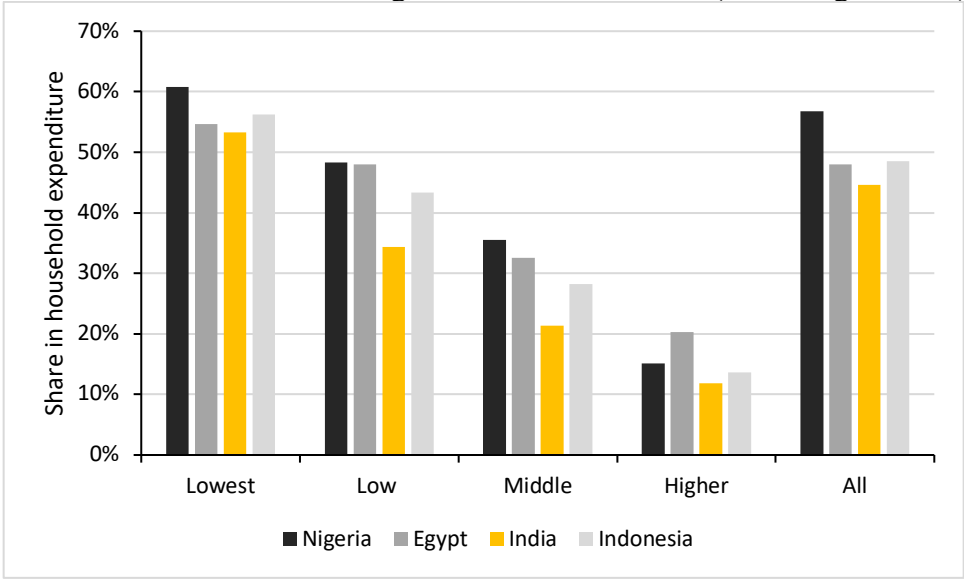
Higher food prices imply sharp decreases in real incomes for the majority of low-income workers, whose wages are not indexed to inflation, and push millions of households into poverty. According to World Bank economists Gerszon Mahler *et al.* (2022), higher food prices alone will push an additional 75 million to 95 million people into living in extreme poverty in 2022, compared to pre-pandemic projections. Oxfam (2022) warns that higher food and energy prices and persistent crisis conditions may raise the number of people living in extreme poverty by 263 million in 2022.

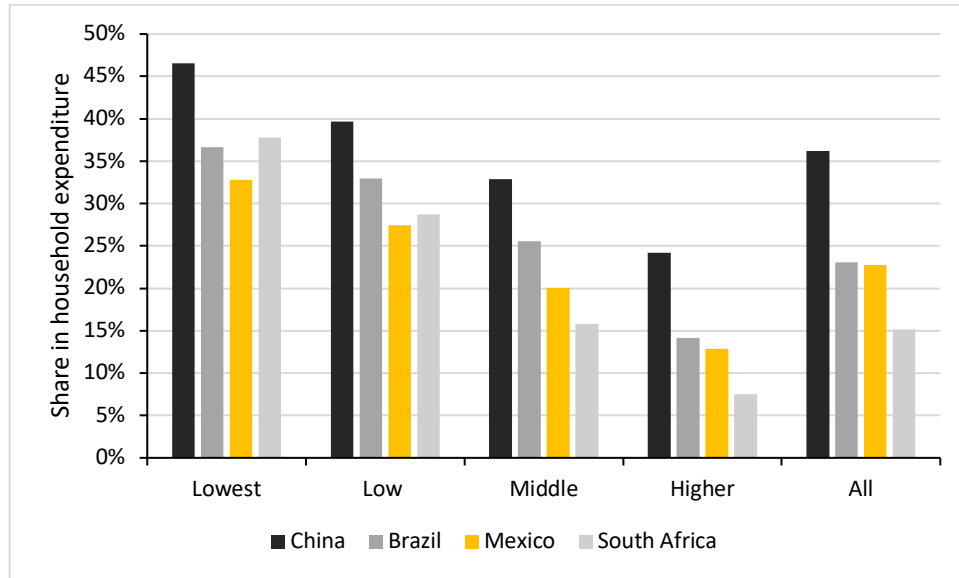
Higher food prices force households in the emerging economies to lower their spending on non-food items—and, hence, demand for manufactured goods and services will go down. The result is a slowdown of non-agricultural growth, if not a recession—and the ‘stagflation’ may well trigger social unrest and food riots, especially in foreign-exchange-constrained countries such as Egypt

and Nigeria that are net food importers—Ngozi Okonjo Iweala, the head of the *World Trade Organization*, warns that “we should be very worried”.

Most emerging economies are particularly vulnerable to negative energy price shocks, particularly when their external financing needs are significant, and their international reserves are low. Brazil, Chile, China, India, South Africa and Turkey are dependent on net energy (fuels) imports (**Figure 16**) and are therefore at risk to higher global energy prices. The fuel trade deficit (in absolute terms) of these six emerging economies can be seen to rise following an increase in the Brent crude oil price. An OLS regression indicates that the fuel trade deficit of these six economies increases by a full 1 percentage point of GDP following an increase in the Brent crude oil price by \$45 per barrel—which is roughly the oil price increase during January 2020 and March 2022.

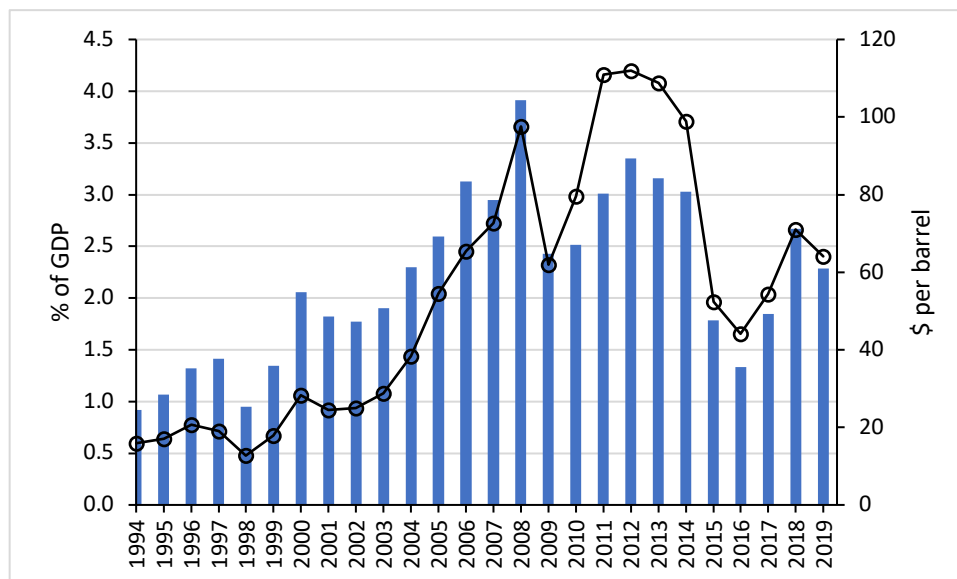
**Figure 15**  
 Share of food & beverages in total household expenditure:  
 Lowest-, Low-, middle- and higher-income households (Percentages; 2010)





*Source:* World Bank Global Consumption Database. *Notes:* The four levels of consumption (lowest, low, middle, and higher) are based on global income distribution data, which rank the global population by income per capita. The lowest consumption segment corresponds to the bottom half of the global distribution; the low consumption segment to the 51th–75th percentiles; the middle consumption segment to the 76th–90th percentiles; and the higher consumption segment to the 91st percentile and above. These thresholds were used to establish the four consumption segments: Lowest—below \$2.97 per capita a day; Low—between \$2.97 and \$8.44 per capita a day; Middle—between \$8.44 and \$23.03 per capita a day; and Higher—above \$23.03 per capita a day.

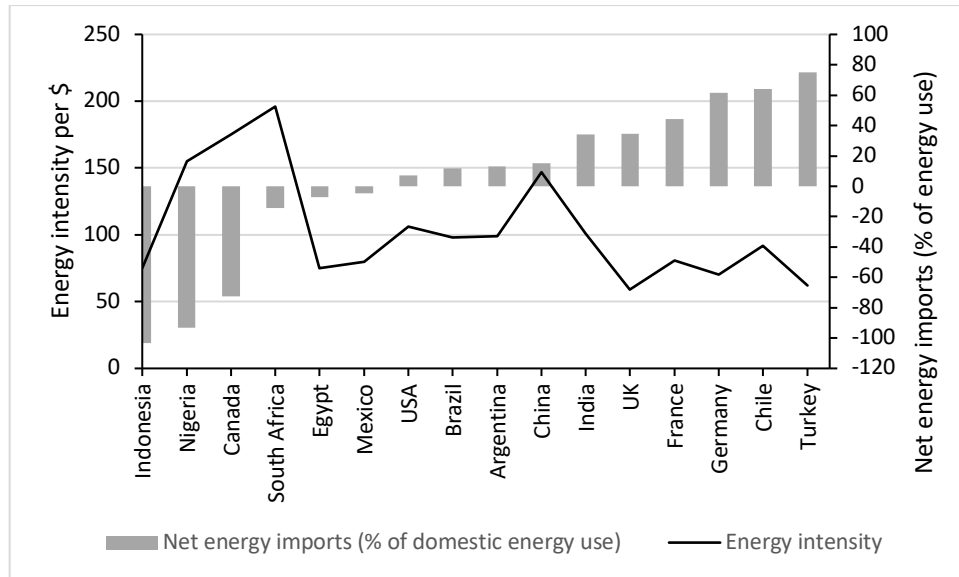
**Figure 16**  
 The fuel trade deficit as % of GDP:  
 Average of Brazil, Chile, China, India, South Africa and Turkey (1994-2019)



*Sources:* World Bank WITS database; World Bank Commodity Price data (The Pink Sheet).  
*Note:* the six emerging economies were net fuel importers during 1994-2019. *Note:* The linear regression coefficient of Brent crude oil price on the fuel trade deficit (during 1994-2019) is 0.02 ( $t$ -value = 9.7;  $R^2$ -adjusted = 0.79).

The increase in the (fuel) trade deficits of these net energy-importing countries can trigger depreciating exchange rates and higher inflation. Ultimately, higher energy prices lead to lower real income and demand, and a slowing of economic growth. The vulnerability to energy price shocks has two structural sources. First, *energy intensity* is relatively high in China, India, Nigeria and South Africa (**Figure 17**). To illustrate, it takes about two-and-half-times more energy to produce one unit of GDP in South Africa than in Mexico, while it takes twice as much energy to generate one unit of GDP in China and Nigeria than in Indonesia. Elevated energy prices will contribute more to higher production costs and cost-of-living inflation in the economies with higher energy intensities.

**Figure 17**  
Energy intensity and energy import dependency



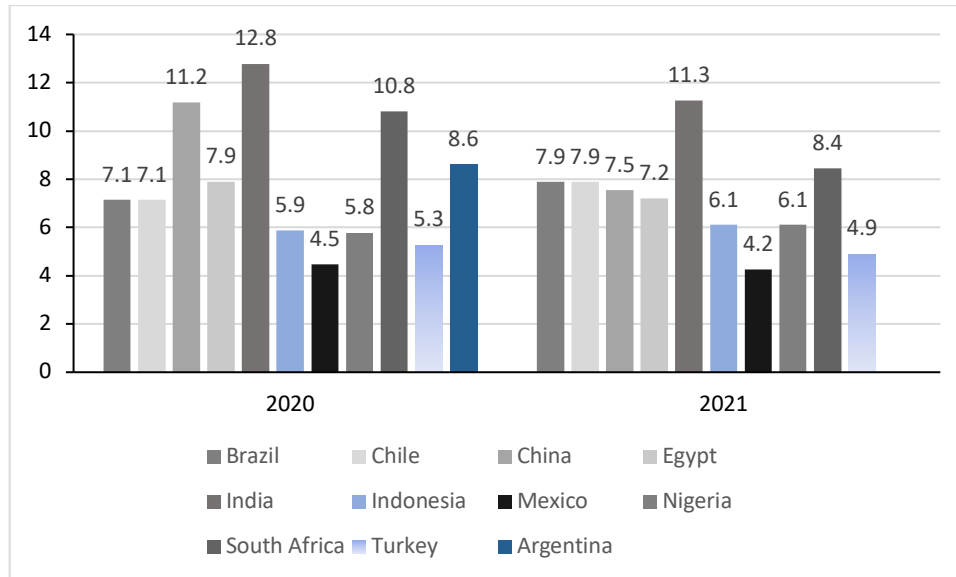
*Sources:* Net energy imports (as a percentage of energy use) in 2014-15: World Development Indicators; energy intensity (in TOE) per \$: OECD statistics.

Second, while Indonesia, Nigeria, South Africa, Egypt and Mexico are net energy exporters, other countries including India, Chile and Turkey rely strongly on (net) imports to meet their energy needs and have a structural fuel trade deficit. Turkey is importing around three-quarters of its energy supply, but it is the least energy-intensive of the emerging economies. A high dependence on net energy imports makes the trade balances and exchange rates of Chile and Turkey vulnerable to higher energy prices and domestic CPI inflation.

In the wake of the COVID-19 crisis, higher spending on social protection and lower revenues from taxation led to higher public budget deficits in the 11 emerging economies (**Figure 18**). Government deficits in 2020 (in 2021) varied between 4.5% (4.2%) of GDP in Mexico to 12.8% (11.3%) of GDP in India. The largest category of direct fiscal relief was direct cash transfers—on average, such transfers amount to 30% of monthly GDP per capita, for an average of three months.



**Figure 18**  
Net government borrowing (% of GDP), 2020 and 2021



*Sources:* for Argentina, Brazil, Chile, China, India, Indonesia, Mexico, Nigeria, South Africa, and Turkey: FRED database and IMF World Economic Outlook October 2021 database; for Egypt: Central Bank of Egypt database.

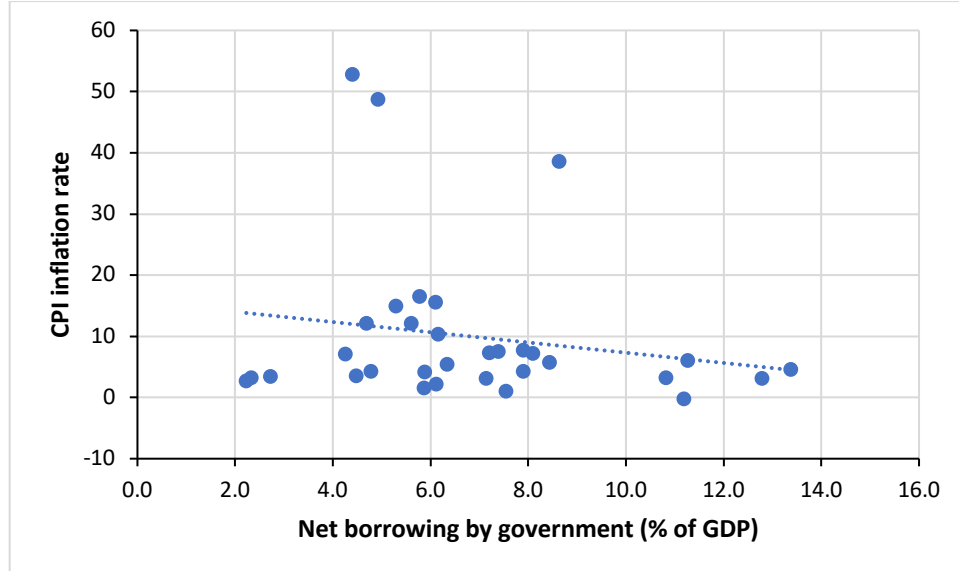
Indonesia expanded the coverage of its cash transfer and cash-for-work programs from pre-COVID-19 levels; Indonesia’s cash schemes covered more than 158 million people (or 60% of the population). Indonesia further allocated more than \$1 billion to fund public works schemes that benefited more than 600,000 workers.

India increased free rations of food under its Public Distribution System for a period of six months, covering 800 million people, and expanded its public works scheme, the *Mahatma Gandhi National Rural Employment Guarantee Act* (MGNREGA). The MGNREGA employed 39 million people in June 2020 (compared to an average of 23.6 million during 2013-2019).

In Brazil, *Bolsa Familia*, a conditional cash transfer program, was expanded to include an extra 1.2 million people, and a new temporary cash transfer program was launched, which targeted low-income informal workers and self-employed workers and covered almost a third of Brazilians; in 2020, spending on this program was around 4% of GDP, reaching almost a third of Brazilians.

Similarly, the South-African government increased payments for existing cash transfer recipients and introduced corona-emergency aid for formal-sector and informal-sector workers who were unable to work during the lockdowns.

**Figure 19**  
Scatter-plot of net government borrowing (% of GDP)  
and the CPI inflation rate in 11 Emerging Economies (2019, 2020 and 2021)



*Sources:* see Figures 20 and 26. The 11 emerging economies are: Argentina, Brazil, Chile, China, Egypt, India, Indonesia, Mexico, Nigeria, South Africa and Turkey.

Unlike most other countries, China has largely refrained from providing direct financial support for its citizens, rather focusing its COVID-19 relief almost exclusively on sustaining private businesses (through new loans, repayment deferrals and delaying social insurance contributions obligated by employers) and government infrastructure investment. Chinese state-owned enterprises (SOEs), which employ upwards of 30 percent of the country’s workers, have been directed to sacrifice their short-term profits and revenues for the sake of maintaining employment and incomes.

The Mexican government adopted a similar approach: it emphasized existing labor laws and prohibited layoffs, suspensions, or reductions in hours worked in response to the COVID-19 crisis. The Mexican government provided financial support to one million people with small and medium-sized enterprises in formal and informal sectors and expanded its rural employment scheme, increasing its deficit by around 2 percentage points of its GDP.

Again, the differences in the magnitude of fiscal responses to the corona-crisis in this group of 11 emerging economies is not showing up in differences in their CPI inflation rates. This is shown in the scatter-plot of **Figure 19**. The correlation coefficient between net government lending and the CPI inflation rate is -0.18 and not statistically significant.

#### **4. Global collateral damage due to US monetary tightening**

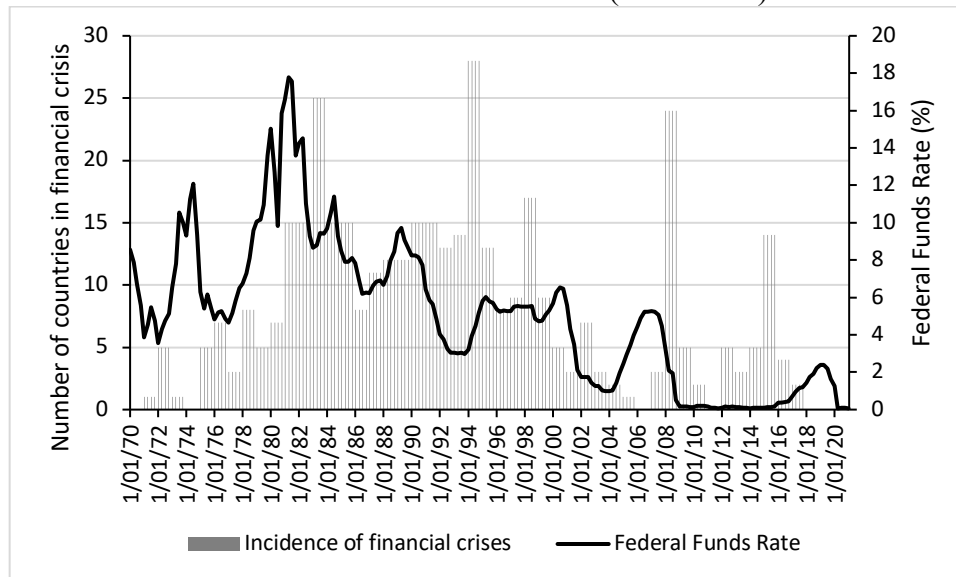
Monetary policy tightening in the US is set to stymie growth across the emerging economies, particularly those that are closely integrated into the global financial system. Historically, monetary tightening in the US has meant bad news for many (emerging) economies, especially those countries with large unhedged foreign exchange liabilities and/or a high import inflation

passthrough, because higher US interest rates increase their external debt burdens, trigger currency depreciations and financial outflows, and generally cause a significant tightening of financial conditions (UNCTAD 2022; IMF 2022).

In the worst case, as **Figure 20** shows, higher US interest rates are associated with a greater incidence of financial crises in the rest of the world, as happened during the early 1980s (following the Volcker disinflation) and (again) in and after 2008. The impact of Fed tightening will be more severe for vulnerable emerging economies with high public and private debt, substantial foreign exchange exposure, a high dependence on food and fuel imports and higher current-account deficits (UNCTAD 2022).

According to estimates of Fed economists Iacoviello and Navarro (2019), an increase in US interest rates of 1 percentage point reduces real GDP by 0.5 percent in the advanced economies and by 0.8 percent in the emerging economies, after three years.<sup>10</sup> These effects are comparable to the domestic effects of a one-percentage-point increase in the US interest rate, which (according to Fair 2021) lowers US GDP by almost 1 percent after 11 quarters. Drastic increases in the US interest rate by 2 to 3 percentage points will therefore depress the already stalling economic recovery in the emerging economies by another 1.6 to 2.4 percentage points.

**Figure 20**  
Federal Funds Rate versus Incidence of Financial Crises  
in Countries other than the US (1970-2017)



*Sources:* Fed funds rate data are from FRED Database. Financial crisis data are from Laeven and Valencia and run through 2017.

<sup>10</sup> Using a SVAR model, Fed economists Akinci and Queralto (2021) obtain broadly similar results: an increase in US interest rates by 1 percentage point is found to lower US real GDP by 0.5 percentage points and real GDP of emerging economies by 0.45 percentage points.

However, in light of the dislocations caused by the war in Ukraine, the sharp increase in commodity and energy prices, and the persistence of the global supply chain chaos, it is reasonable to expect that the collateral damage to the emerging economies of monetary tightening in the US will be even larger than these estimations suggest (UNCTAD 2022; Martin 2022).<sup>11</sup> In these profoundly unsettling circumstances, rising risk premia on the financial liabilities of the emerging economies will trigger a flight to safety, currency depreciations vis-à-vis the US dollar and drastic monetary tightening in the emerging economies themselves.<sup>12</sup> As is illustrated by **Figure 21**, a weaker US dollar is commonly associated with *higher* net financial flows to the emerging economies with open financial markets, whereas a stronger US dollar is associated with *lower* net portfolio flows to the emerging economies (or even a reversal of flows<sup>13</sup>). Hence, as monetary policy tightens in the US, policy makers in the emerging economies will be forced to as well tighten domestic policy in an attempt to prevent a financial outflow (Gudmundsson *et al.*, 2022).

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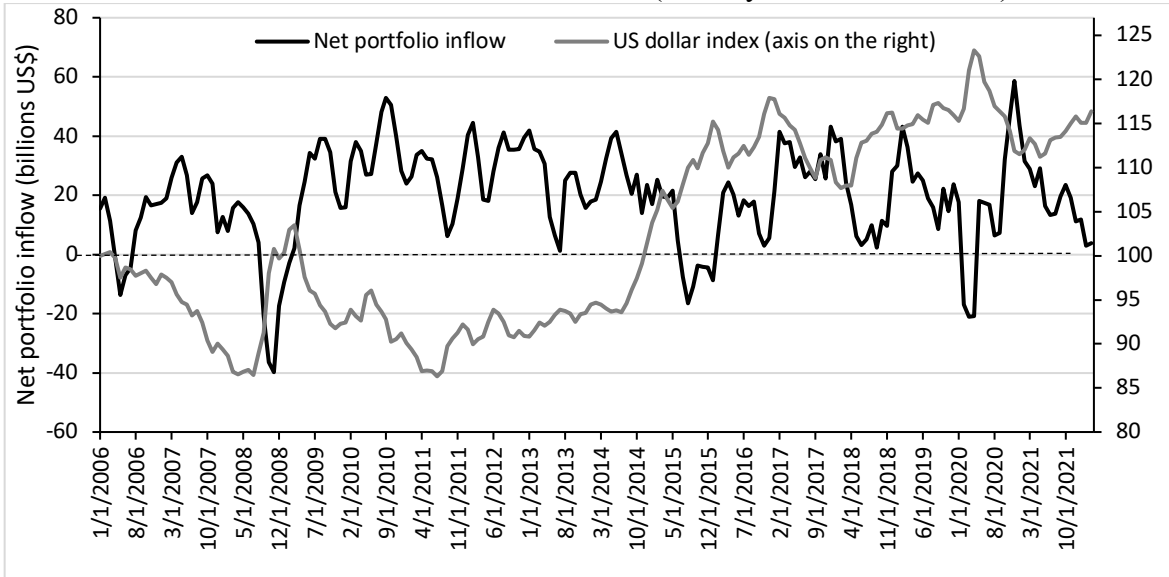
<sup>11</sup> In 2013, “the slightest hint by Ben Bernanke [...] that monetary tightening was around the corner was enough to send many emerging market economies into a tailspin. The prospect of higher borrowing costs led to capital outflows and currency instability that battered Indonesia, Brazil, India, South Africa and Turkey with particular severity.” (Martin 2022).

<sup>12</sup> The US securities markets are the largest and deepest in the world, offering investors a wide choice of different securities with low liquidity risk, a low sovereign risk, low credit risk and no currency risk.

<sup>13</sup> In March 2020, portfolio investors pulled a record \$83.3 billion from stocks and bonds out of the emerging economies due to the uncertainty over the coronavirus spread and the ensuing recession. The net outflow from the emerging economies in March 2020 in **Figure 21** is a three-months average and amounts to \$21 billion.

**Figure 21**

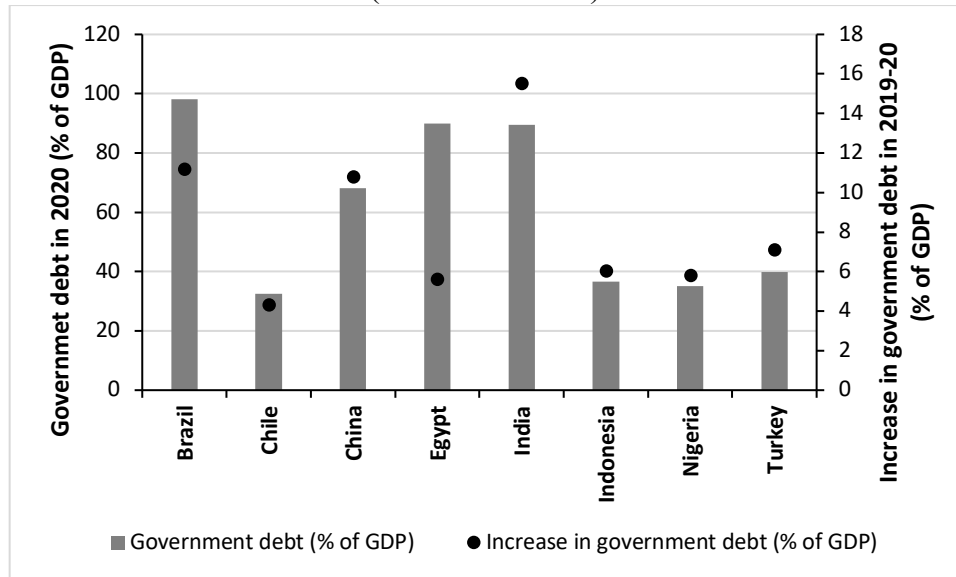
Net portfolio flows to emerging economies (in billions of US\$) and the Nominal Broad Dollar Index (January 2006-March 2022)



*Sources:* Nominal Broad Dollar Index (January 2006 = 100) from FRED Database. An increase in this index indicates a dollar appreciation. Net (equity/debt) portfolio inflows to emerging economies (in trillions of US\$) are from IMF (2020) *Global Financial Stability Report* (Figure 3.3) and Institute of International Finance *Capital Flows Tracker*. Net portfolio inflows are a three-months moving average (smoothed). The (statistically significant) correlation coefficient is -0.22 ( $n = 195$ ;  $t$ -value = -2.94).

The global macroeconomic tightening comes at a particularly perilous moment for many emerging economies, which due to the COVID-19 emergency did experience a considerable increase public and private debt (Bortz *et al.* 2021). Due to the fiscal spending on COVID-19 relief measures, public debts increased considerably in all emerging economies during 2020: by between 4.3 percentage points of GDP in Chile and 15.5 percentage points of GDP in India (see **Figure 22**). Public debts are scaling new heights—exceeding 80% of GDP in Brazil, Egypt and India.

**Figure 22**  
General government debt in the emerging economies in 2020  
(Per cent of GDP)

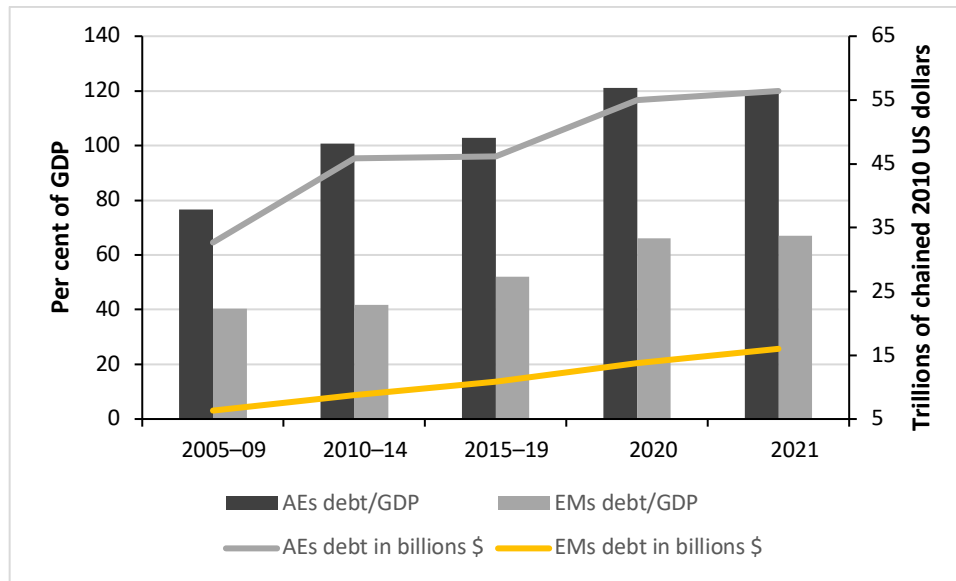


*Source: IMF (2022) Global Debt Database.*

The average public debt to GDP ratio for the emerging economies in 2020 was 66% in 2020, up from an average value of 52% during 2015-19 (**Figure 23**). IMF (2022a) forecasts suggest that the public debt to GDP ratio in the emerging countries will rise to 74% in 2026. As a result, interest payments as a ratio of government revenue in the emerging economies have increased to around 12½% in 2020 (IMF 2022), which means that one out of eight dollars in tax revenue is directly channeled to the owners of the government debt. Monetary tightening by one percentage point will increase debt-servicing cost of emerging economies by 0.66 percentage point of GDP (on average) and this will eat up another 5% of tax revenues.<sup>14</sup> Higher interest rates squeeze the fiscal policy of these economies even further.

<sup>14</sup> I am assuming the average tax-to-GDP ratio of the emerging economies is 13%, as in the case of Brazil and Mexico.

**Figure 23**  
Public debt in the Advanced Economies (AEs) and Emerging Market economies (EMEs), 2005-2021



Source: IMF (2022a) *Global Financial Stability Report*, April, Figure 2.1.

The vulnerability to higher interest rates does not only concern the governments of the emerging economies: households and non-financial corporations have also increased their indebtedness in recent years. The IMF (2022a) estimates that about 60 percent of low-income developing countries are experiencing (private) debt distress or are close to it. Based on IMF data, **Figure 24** presents evidence on total (private and public) indebtedness for Brazil, Chile, China, Egypt, India, Indonesia, Nigeria and Turkey. China stands out: Chinese household debt in 2020 amounts to 62% of GDP, while the debt of non-financial corporations is 139% of GDP. In the same year, households in Brazil and Egypt have debt equal to 37% of GDP, while Chilean households have liabilities worth 48% of GDP. In 2020, corporate debt amounts to 116% of GDP in Chile and 72% of GDP in Turkey. The average total debt to GDP ratio of these seven economies has increased from 112% in 2010 to 160% in 2020. Households, firms and governments have become more vulnerable to higher interest rates—and the risk of a balance-sheet-deleveraging recession is non-negligible.

The constraints on monetary and fiscal policy in the emerging economies will be tightened further by the (likely) appreciation of the US dollar as the Fed hikes rates. Currency depreciations for the emerging economies will add to domestic inflation, while at the same time increasing the financing costs of debt denominated in US dollars. The evolution of external indebtedness in ten of our emerging economies is depicted in **Figure 25**. Between 2010 and 2020, the external debts of households, corporations and government (as a percentage of GDP) increased across the board<sup>15</sup>:

<sup>15</sup> According to UNCTAD (2022, p. 20), the external debt to GDP for developing countries rose from 57.4% in 2011 to 69.5% in 2020, partly as a result of the declines in GDP during the COVID-19 crisis in 2020.

by more than 20 percentage points in Brazil, Mexico and Turkey; by 25 percentage points in South Africa; and by 35 percentage points in Argentina. Between 2011 and 2020, the external debt of the ten emerging economies included in **Figure 25** rose by \$2.5 trillion and these countries transferred \$791 billion in debt servicing to external creditors in 2020 alone. In combination with weak export growth, caused by the global COVID-19 recession, the emerging countries' capacity to service their external debt deteriorated in 2020; the debt-service-to-GDP ratio increased in Brazil, Egypt, Mexico, Nigeria, Turkey and South Africa.

A dollar appreciation will not just make it more difficult to service the (higher) external debts, but higher debt-servicing costs will crowd out foreign exchange needed to pay for essential imports and a deterioration of the credit rating of the external debt will push up the yields on the government bonds of these economies. Bortz *et al.* (2020) analyze the channels through which external shocks impact the domestic economies of the developing countries, making explicit the hierarchical nature of the global financial system.

As a result, the (already restricted) macroeconomic policy space for emerging economies to respond to the challenges of rising prices of food and fuels, deepening poverty and increasing hunger and malnutrition will become more constrained the more strongly monetary policy in the US is tightened. The timing for this tightening of the fiscal and monetary policy space could not be worse: many governments will be forced to withdraw essential public support schemes which were introduced during the pandemic, just when rising costs of living begin to push millions of people into poverty and destitution.

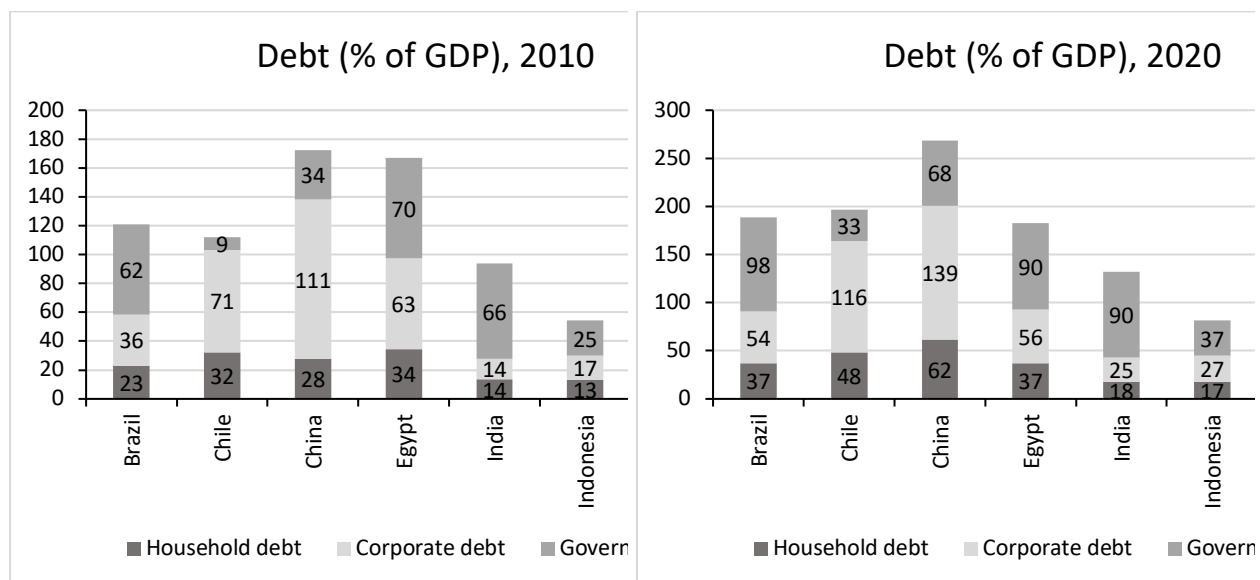
An increase in US interest rates will lead to an appreciation of the US dollar, which will move global demand away from US goods and towards goods produced in other economies (assuming exchange rates are flexible). While the stronger US dollar may lead to (export-led) expansion in the advanced economies (such as Germany and France), many emerging economies will experience net contractionary effects of the nominal depreciation of their currencies (Hirschman (1949) and Krugman and Taylor (1978))—mostly because the stronger dollar will make the essential imports of food, fertilizers and energy more expensive, raising their trade deficits and contributing to higher domestic inflation, which by crowding out demand for domestically produced (non-essential) goods and services will weaken domestic investment and economic growth (see **Section 5**).

Evidence covering 21 emerging economies during 1990Q1—2019Q4 by BIS economists Boris Hofmann and Taejin Park (2020) shows that there is a strong negative correlation between the value of the dollar and (detrended) growth in the emerging economies. Specifically, Hoffman and Park (2020) find that a one percentage point appreciation of the dollar against a broad basket of currencies dampens economic growth in the emerging economies by 0.3 to 0.6 percentage points. A stronger US dollar has negative effects especially on real investment and real exports in the emerging economies, primarily because the stronger dollar weakens the balance sheets of dollar borrowers whose liabilities rise relative to assets. The result is a weaker credit position of and higher risk premia for (exporting) firms in those emerging economies with relatively large external (dollar-denominated) debts (Akinci and Queralto 2021). These firms will suffer from a general tightening of global dollar credit supply, including for trade credit. At the same time, domestic financial conditions will become tighter, as global and domestic financial investors exit and



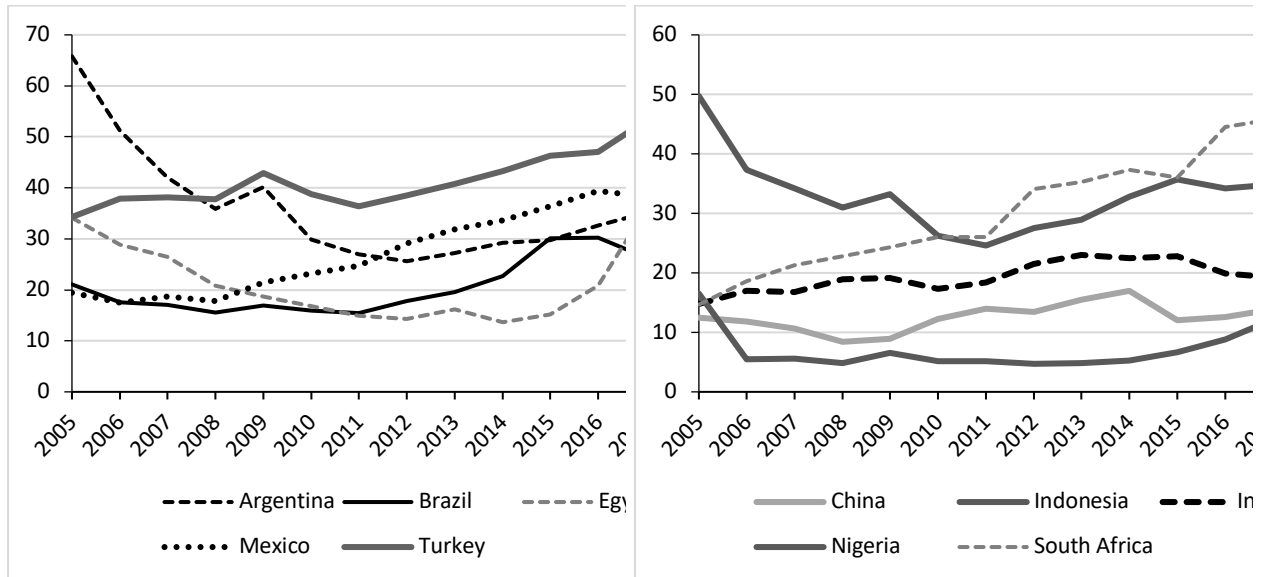
relocate their funds to the US (see **Figure 20**). Similar findings based on data for a panel of 13 emerging economies (1996-2018) are reported by Shoushma (2019).

**Figure 24**  
Total debt (as % of GDP) in major Emerging Economies (2010 versus 2020)



Source: IMF Global Debt Database <https://www.imf.org/external/datamapper/datasets/GDD>.  
Corporate debt is the debt of non-financial corporations.

**Figure 25**  
External debt (as % of GDP) in major Emerging Economies (2005-2020)



Source: World Development Indicators, World Bank.

The ability of central banks in the emerging economies to manage these vulnerabilities and the negative spill-over effects of monetary tightening in the US will in large part depend on their access to US dollars in order to manage their exchange rates (UNCTAD 2022, p. 28). This, in turn, depends on the position of the emerging economy in the global two-tier system of currency swaps that emerged in the wake of the global financial crisis of 2008. In this system, the Federal Reserve acts as the unofficial lender-swapper of last resort, selectively giving (permanent) swap access to central banks of high-income nations and a few emerging economies such as Brazil and Mexico. Other countries can access US dollars via the *Foreign and International Monetary Authorities* (FIMA) repo facility, which provides dollar liquidity to other foreign central banks in exchange for US Treasury securities as collateral (UNCTAD 2022, p. 28).

The liquidity stresses that are likely to emerge in the wake of a drastic hike in US interest rates, in a context of disrupted global supply chains, international conflict and building climate stress, “will exceed the willingness of the Federal Reserve in its recently adopted role of unofficial lender-of-last-resort”, writes UNCTAD (2022, p. 3). “The issuance of \$650 billion of new SDRs in August 2021, of which around \$275 billion were allocated to developing countries, was a welcome development, but well short of the amounts [of liquidity support] required” (UNCTAD 2022, p. 3). In addition, the IMF should reduce the punitive surcharges it demands of vulnerable debtors, which add a considerable burden to their already unsustainable debt burdens (Martin 2022).

The global collateral damage of higher US interest rates will be likely be substantial. It is, also because of the negative global spill-over effects, not obvious that tighter monetary policy in the US

is the correct response to inflation driven by supply-side bottlenecks and geopolitical conflict. In all scenarios, the Federal Reserve faces the unenviable task of balancing its national mandate and its de facto global function.

## 5. Global stagflation

Monetary tightening by the Federal Reserve and the ‘tapering’ off of its quantitative easing program led to a strengthening of the US dollar relative to the national currencies of the emerging economies (UNCTAD 2022). As is illustrated in **Figure 26**, the national currency to US dollar exchange rate has increased in the majority of the eleven emerging economies (included in the analysis) during 2021-22. The Turkish Lira lost 87% of its value in terms of the US dollar during May 2021-May 2022<sup>16</sup>, while the Argentinean Peso depreciated by 20% (relative to the greenback), the Egyptian Pound lost 18% of its value and Chile’s Peso and the South African Rand depreciated by 13%. The Indian Rupee lost 6% of its value in terms of the US dollar over the same period.

According to textbook open-macroeconomics, a stronger US dollar, by way of its effects on trade, is a net gain for the developing economies, as described by the Mundell-Fleming model and assuming that the Marshall-Lerner condition holds. The initial increase in the price of foreign goods, denominated in US dollars, relative to home goods is presumed to generate an excess demand for home goods—and hence, the devaluation of the home currency is expected to be expansionary.

The Mundell-Fleming story, however, ignores the fact that the gain in net export competitiveness, created by the dollar appreciation, comes with considerable downsides. First, a weaker national currency relative to the US dollar raises a country’s import bill and adds to domestic inflation. Higher (US) interest rates and a stronger dollar also mean that debt-servicing costs go up for the emerging countries, and rather quickly so, because almost one-third of the debt of developing economies currently involves variable interest rates (Estevão 2022).

Second, the dollar appreciation makes the relative foreign-exchange positions of emerging markets more precarious—since the currency they need to strengthen their reserves, to invoice their exports and imports, and to service their external debts now comes at a higher price. In fact, over 80 per cent of all international trade is invoiced in dollars, according to the Federal Reserve (Bertaut, von Beschwitz and Curcuru 2021)—and this implies that a more expensive dollar will make international trade more costly for the developing world.

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<sup>16</sup> Turkey’s exchange rate depreciation, which has helped to push up Turkish inflation to more than 80%, is a self-made crisis (Karaganis 2022): in order to fuel economic expansion, Turkey accepted high levels of foreign currency-denominated debt, even if its foreign currency reserves are low relative to that debt. On top of this, President Erdogan pressured the Turkish central bank to lower the interest rate in the face of rising inflation. According to Erdogan, who has been widely and rightly criticized for over-expanding executive authority and jailing opposition leaders and journalists, interest is “the mother and father of all evil” and high interest rates are a cause of high inflation.

Furthermore, when interest rates were low, emerging market economies ramped up their external borrowing (**Figure 25**), issuing more dollar-denominated debt; almost 80 per of the foreign currency debt of low- and middle-income countries is denominated in US dollars (**Figure 27**). A big story here is that non-US banks lend and borrow US dollars (Aldasoro and Ehlers 2018).<sup>17</sup> A large share of US dollar liabilities of non-US banks are cross-border (51% at end-June 2018), implying that the location where US dollar funding is raised is different from the location of the funding provider. As a result, a stronger US dollar will stifle not just world trade growth, but also cross-border lending, damaging balance sheets of developing nations and their private actors (Bortz *et al.* 2021; UNCTAD 2022).

Thirdly, an appreciation of the US dollar also instantly lowers credit and investment growth in the emerging economies themselves. This effect arises because a stronger dollar and a depreciating national currency will raise the domestic currency value of the dollar-denominated liabilities of banks in these economies relative to their assets. The solvency of the banking system will be compromised, and this will make it more difficult for the banking system to extend credit to firms and individuals to finance investment and spending—even if interest rates would remain unchanged. But clearly interest rates will rise, as risk premia on the financial liabilities of banks and corporations in the emerging economies rise, triggering a flight to safety, further currency depreciations vis-à-vis the US dollar (resulting in higher inflation) and monetary tightening by the central banks in the emerging economies themselves (UNCTAD 2022).

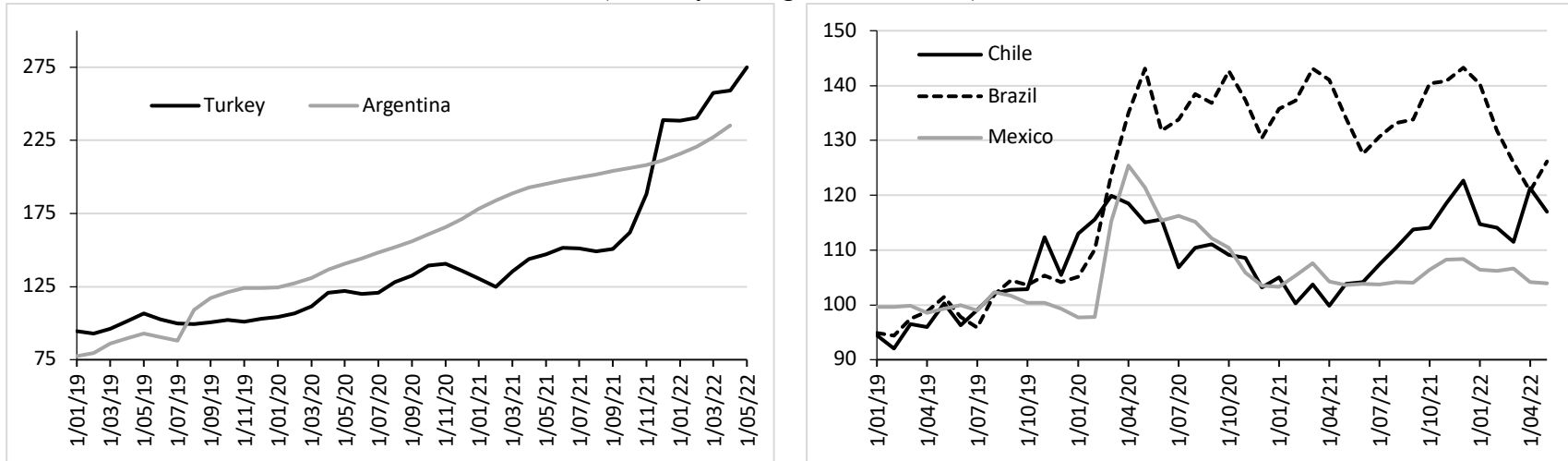
With rising inflation, tightening monetary and financial conditions and elevated debt levels considerably limiting policy space, the emerging economies are facing increasingly stronger stagflationary headwinds (World Bank 2022)—and even if World Bank President David Malpass exudes optimism that “policy makers are in a better position today [than in the 1970s] to stave off stagflationary headwinds” (World Bank 2022, p. xvi), his optimism appears unfounded, as not only the Federal Reserve, but central banks all over the globe are on their way to repeat the policy mistakes of the early 1980s, raising rates rapidly and likely excessively in the most widespread tightening of monetary policy for more than two decades (Romei 2022).

However, UNCTAD (2022, p. 22) sounds the alarm that “it is not obvious [...] that tighter monetary and fiscal policies [in developed countries] are the correct response to inflation driven by supply-side bottlenecks”, because these policies “may have disastrous repercussions for developing countries if it triggers appreciation of the dollar.” UNCTAD’s concern is well taken: an appreciation of the US dollar tends to be contractionary as well as inflationary for the developing economies. Tightening by the Federal Reserve will have non-trivial repercussions for the global economy—and for structural reasons (as the next section explains) the developing nations will likely suffer considerable damage to their economies.

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<sup>17</sup> Internationally active non-US banks have substantial US dollar assets; at end-June 2018, they stood at \$12.8 trillion (\$14.0 trillion including net off-balance sheet positions), according to BIS data (Aldasoro and Ehlers 2018).

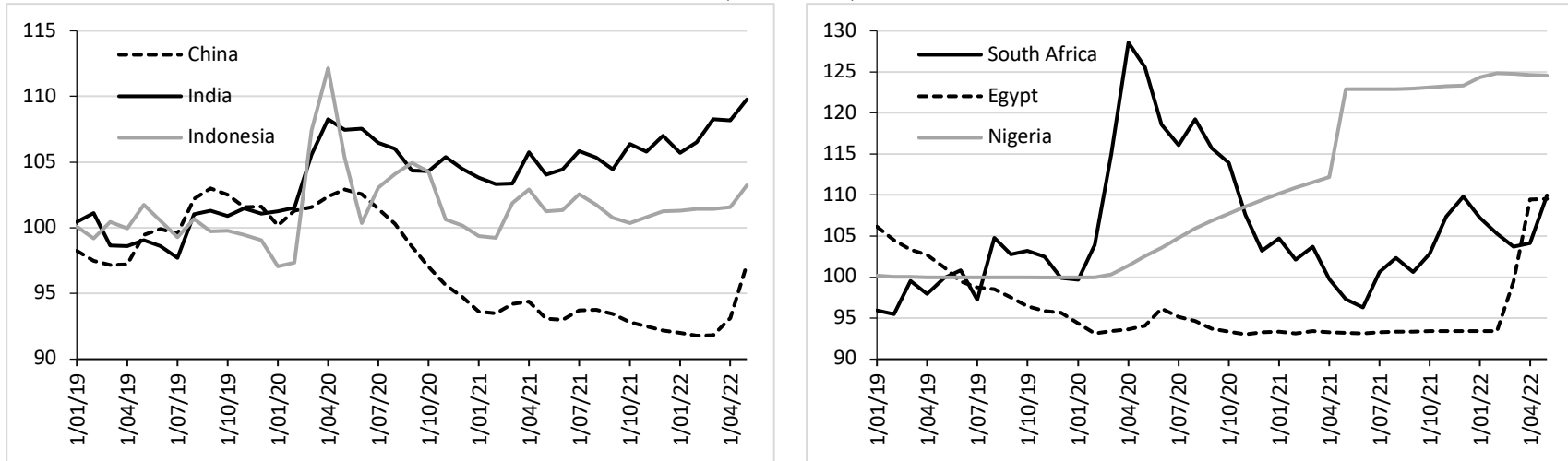
**Figure 26**  
National currency to US dollar exchange rate, January 2019-May 2022  
(Monthly averages; 2019 = 100)



*Source:* FRED database (series *CCUSMA02TRM618N* and *ARGCCUSMA02STM*). An increase in the exchange rate constitutes a depreciation of the national currency relative to the US dollar. The Turkish Lira depreciated by 175% during 2019-May 2022. The Argentinean Peso lost 135% of its value in US dollar terms during 2019-April 2022.

*Source:* FRED database (series *CCUSMA02BRM618N*, *CCUSMA02MXM618N* and *CCUSSP02CLM650N*). The Brazilian Real depreciated by 26% during 2019-May 2022. The Mexican Peso lost only 4% of its value in US dollar terms during the same period, while Chile's Peso depreciated by 14% relative to the US dollar.

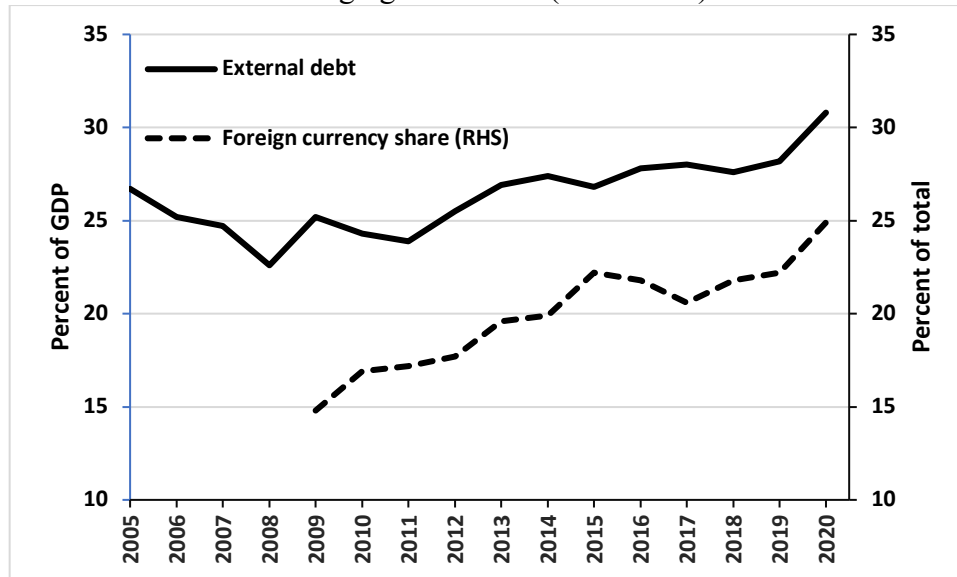
**Figure 26**  
National currency to US dollar exchange rate, January 2019-May 2022  
(Monthly averages; 2019 = 100)  
(concluded)



Source: FRED database (series *CCUSSP02CNM650N*, *CCUSSP02INQ650N* and *CCUSSP02IDM650N*). China's Renminbi appreciated with 3% vis-à-vis the US dollar during 2019-May 2022, while the Indian Rupee and the Indonesian Rupiah depreciated by 10% and 3%, respectively.

Sources: For South Africa: FRED series *CCUSMA02ZAM618N*. For Egypt, monthly data from the Central Bank of Egypt. For Nigeria, daily data from the Central Bank of Nigeria. The South African Rand and the Egyptian Pound depreciated by 10% compared to US dollar during 2019-May 2022; during the same 29 months, Nigeria's Naira depreciated by 25%.

**Figure 27**  
External debt and foreign currency share of government debt:  
Emerging economies (2005-2020)



*Source:* World Bank (2022), Figure SF1.5.C. *Note:* External debt (per cent of GDP) is based on GDP-weighted average of up to 137 emerging market and developing economies. Foreign currency share of government debt is an average of up to 36 emerging market and developing economies.

### 5.1 Devaluation and stagflation: a Keynesian macro model

Recent analyses point to the negative impacts of a US dollar appreciation on the economic performance of the developing countries that operate through various financial transmission channels (Bortz *et al.* 2021; BIS 2022)—including via higher debt-servicing costs, higher (invoicing) costs of international trading, and domestic credit constraints (resulting from the impairment of banks’ balance sheets following the rise in domestic currency value of the dollar-denominated liabilities of banks in these economies relative to their assets). In addition, once the US and the global economy goes into recession (following the monetary tightening by the Federal Reserve), export growth will collapse, which will further increase the debt-servicing problems for the developing economies.

However, while these pressures operating via these financial transmission channels are certainly relevant, there exist arguably equally pertinent, domestic real-economy mechanisms through which a devaluation may lead to stagflation in many emerging economies. These real-economy causes of contractionary devaluation arise from (i) the *structural nature* of the trade deficit, in the short run, in many emerging economies; and (ii) the (negative) impact on aggregate demand of a *redistribution of income* from wages to profits. These two real-economy channels have been

modeled explicitly by Paul Krugman and Lance Taylor (1978). I believe that the mechanisms highlighted in their model remain relevant for many developing economies.

To see this, let us consider their short-run model in more detail. Krugman and Taylor assume that the economy under consideration has an export sector producing for the world market and a home good sector producing for domestic demand. The economy is a small economy (relative to the global economy) and the prices of exports and imports are given in foreign currency. Home goods prices are determined by a mark-up on unit labor cost and the unit cost of imported intermediate inputs used to sustain domestic production. The nominal wage rate is fixed in domestic currency.

In the short run, the responsiveness of exports and imports to relative (home-world) price changes is assumed to be negligible. This is not unrealistic in the short run, when the trade deficit is 'structural', because the substitution effects of the devaluation take time to materialize. Export volume can be increased elastically, because the economy operates with slack. Imports enter with a fixed coefficient into home goods production. The interest rate is kept constant by the monetary authority; this is assumed because we can then focus on the income effects of devaluation.

The price of home goods  $P_H$  is given by

$$(1) \quad P_H = (\alpha_{LH}W + \alpha_{MH}P_M)(1 + \pi)$$

where  $\alpha_{LH}$  = labor intensity per unit of home goods output;  $\alpha_{MH}$  = (intermediate) import intensity of home goods output;  $W$  = the nominal wage;  $P_M$  = the home domestic price of imports; and  $\pi$  = a mark-up factor.

Prices of imports ( $P_M$ ) and exports ( $P_X$ ) are determined by world prices and the exchange rate  $e$ :

$$(2) \quad P_X = e P_X^*$$

$$(3) \quad P_M = e P_M^*$$

Recipients of income may be divided into two classes: those who receive wages and those who receive profits or rents. The nominal income of each class is determined as follows:

$$(4) \quad Y_W = (\alpha_{LH}H + \alpha_{LX}X)W$$

$$(5) \quad Y_\pi = \pi (\alpha_{LH}W + \alpha_{MH}P_M) H + (P_X - \alpha_{LX}W) X$$

Demand for home goods  $H$  may be written as:

$$(6) \quad H = c_W \left( \frac{Y_W}{P_H} \right) + c_\pi \left( \frac{Y_\pi}{P_H} \right) + I(r) + A$$

where  $c_W$  = the average propensity to consume out of wage income;  $c_\pi$  = the average propensity to consume out of profit income;  $I$  = real investment;  $A$  = real autonomous expenditure (which includes government spending and autonomous consumer expenditure);  $r$  = the interest rate, which I assume to be held fixed. In line with available evidence, it is assumed that  $\frac{\partial I}{\partial r} < 0$ , *i.e.*, a higher



interest rate lowers (business) investment. I further assume that  $c_W > c_\pi$ , which reflects the fact that the propensity to save out of profits is larger than the propensity to save out of wages (Krugman and Taylor 1978, p. 450).

Finally, for simplicity of exposition, the demand for imports is defined as:

$$(7) \quad M = \alpha_{MH}H$$

Equation (7) assumes that all imports are intermediate goods that are used up in home goods production; there are no direct imports of final goods.

Equations (1)-(7) constitute a standard Keynesian open-economy model. It is straightforward to derive the reduced-form equations for home goods production:

$$(8) \quad H = \frac{1}{\vartheta} \times \left( \frac{(c_W - c_\pi) \alpha_{LX}WX + c_\pi P_X X}{P_H} + I(r) + A \right)$$

where  $\vartheta = 1 - \frac{c_W \alpha_{LH}W}{P_H} - \frac{c_\pi \pi}{1 + \pi} > 0$ . It follows that the multiplier effects of an exogenous rise in investment are:  $\frac{\partial H}{\partial I} = \frac{1}{\vartheta} > 0$ , and  $\frac{\partial M}{\partial I} = \alpha_{MH} \vartheta > 0$ .

Using this model, Krugman and Taylor (1978) show that a currency devaluation will be contractionary in the following two cases.

*Case 1: Devaluation from an initial trade imbalance.* Devaluation raises the export price and the import price. If trade is balanced, and the terms of trade are not changed, these price changes offset each other. But if imports exceed exports, the net effect is a decline in real income within the home economy. To illustrate the point, assume that  $c_W = c_\pi = c$  (which eliminates within-country distributional effects). Following Krugman and Taylor, one can derive the elasticity of home goods output with respect to the exchange rate as follows:

$$(9) \quad \frac{\partial H}{\partial e} \times \frac{e}{H} = \beta \times \frac{P_X X - P_M M}{P_H H}$$

where  $\beta = \left(\frac{c}{\vartheta}\right) \left(1 - \frac{P_M M}{P_H H}\right) (1 + \pi)$ .

Because  $(1 + \pi)P_M M = (1 + \pi)P_M \alpha_{MH}H < P_H H$ ,  $\beta$  is positive. This means that output of home goods  $H$  (and hence real GDP and employment) falls in response to an increase in the exchange rate  $e$  if the country has a trade deficit  $P_X X - P_M M < 0$ . The larger the initial trade deficit, the greater the contractionary outcome.

*Case 2: Distributional effects.* Devaluation redistributes income from wages to profits and rents. First, higher (intermediate) import prices raise the price of home goods and if nominal wages are fixed in the short run, the real wage goes down. Secondly, export earnings in domestic currency terms go up, producing windfall profits (as per equation (5)). If, as is widely believed, the propensity to consume out of profit income is lower than the propensity to consume out of wage income ( $c_\pi - c_W < 0$ ), any redistribution of income from wages to profits will lower aggregate demand—and therefore home goods output  $H$ . Following Krugman and Taylor (1978), we can

solve for the elasticity of home goods output with respect to the exchange rate, under the assumption that trade is balanced (or  $P_X^*X = P_M^*M$ ):

$$(10) \quad \frac{\partial H}{\partial e} \times \frac{e}{H} = \left( \frac{c_\pi - c_W}{\vartheta} \right) \left( \frac{Y_W}{Y} \times \frac{P_M^*M}{Y} \right) (1 + \pi)$$

where  $Y = Y_W + Y_\pi$  is total income. It can be seen that a devaluation lowers home goods output in the short run if  $(c_\pi - c_W) < 0$ . (If the consumption propensities are equal, devaluation has no short-run effect on output and employment). Note that similar contractionary effects can be observed in response to shifts in income distribution from low-income groups (having a relatively high propensity to consume) to high-income groups (with a much lower consumption propensity).

To persuade the reader that the two real-economy channels are empirically important, I apply the model to the emerging economies appearing in **Figure 26**, with the exception of China and Indonesia (which experienced no or only a very small devaluation vis-à-vis the US dollar). The numerical illustrations, using mostly national accounts data for 2019, appear in **Table 1**. Note that the nominal devaluation that is imposed on the model, varies for each country and is in line with the actual devaluation that occurred during 2021-22 (relative to the average exchange rate in 2019). The range is wide—from a 4% devaluation in Mexico to a devaluation by 175% in Turkey. The size of the devaluation matters for the size of the observed macroeconomic impacts.

Six economies (Argentina, Brazil, Chile, Mexico, Turkey, South Africa) had a trade surplus (in 2019). It follows from the elasticity defined in equation (9) that a devaluation raises home output, real GDP and employment. However, because the devaluation redistributes income from wage-earners to profit-recipients and rentiers and because the propensity to consume out of profits is lower than that out of wages, home output does fall in all six economies (as follows from equation (10)). Home output  $H$  declines by 8.6% in Turkey and by almost 7% in Argentina in response to currency devaluations by more than 100%.<sup>18</sup> As a result, real GDP declines, while nominal GDP rises in response to the higher (import-price) inflation. The devaluation is inflationary: the average size of the exchange-rate pass-through on the GDP deflator is 0.34.

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<sup>18</sup> A word of caution: in countries such as Argentina and Brazil (which have a large agricultural export sector, earning dollars, and large, import-dependent industrial sector that caters mostly to the domestic market), the devaluation triggers further distributional adjustments which affect the eventual outcome. See Ocampo and Taylor (1998).

**Table 1**  
Macroeconomic effects of a devaluation: Simulation results  
(Percent changes)

	Argentina	Brazil	Chile	Egypt	India	Mexico	Nigeria	S. Africa	Turkey
<i>Percent change in:</i>									
$e$	135.0	26.0	17.0	10.0	10.0	4.0	25.0	10.0	175.0
$H$	-6.9	-3.4	-1.7	-1.9	-0.8	-0.4	-2.5	-0.7	-8.6
$P_H \times H$	19.6	1.4	3.6	1.8	1.9	1.8	3.2	2.5	60.8
$M$	-6.9	-3.4	-1.7	-1.9	-0.8	-0.4	-2.5	-0.7	-8.6
nominal GDP	26.5	2.0	4.9	1.7	2.0	2.1	2.9	3.2	73.6
GDP deflator	28.5	4.9	5.4	3.8	2.7	2.2	5.8	3.3	75.9
real GDP	-1.5	-2.8	-0.5	-2.0	-0.7	-0.1	-2.7	-0.1	-1.3
real $Y_W$	-26.9	-7.6	-6.4	-5.2	-3.3	-2.4	-7.6	-3.7	-47.0
real $Y_\pi$	34.7	6.0	8.2	1.0	3.1	1.2	6.8	4.4	32.3
exchange rate pass-through	0.2	0.2	0.3	0.4	0.4	0.5	0.2	0.3	0.4
<i>Model parameters and variables:</i>									
$\alpha_{LH}$	0.54	0.61	0.625	0.43	0.560	0.334	0.656	0.556	0.392
$\alpha_{MH}$	0.15	0.14	0.289	0.26	0.210	0.391	0.198	0.268	0.300
$\alpha_{LX}$	0.40	0.46	0.469	0.32	0.42	0.251	0.492	0.417	0.294
$c_W$	0.60	0.90	0.6	0.90	0.6	0.6	0.6	0.8	0.5
$c_\pi$	0.20	0.50	0.2	0.50	0.3	0.2	0.2	0.5	0.1
$\pi$	0.47	0.39	0.375	0.57	0.44	0.666	0.344	0.444	0.608
$I$	68.10	289.20	64.2	55.20	880.2	268.7	113.9	62.2	190.6
$A$	165	150	46	54	494	325	110	26	286
$X$	80	264.9	78.3	53	529	492.7	63.7	106.1	248.1

*Source:* Author's calculations. The data on gross domestic investment ( $I$ ), exports ( $E$ ), nominal GDP are from World Development Indicators (WDI), World Bank. The coefficient  $\alpha_{LH}$  and the mark-up rate  $\pi$  are from ILO data on the labor income share. Coefficient  $\alpha_{MH}$  has been calculated based on WDI data. Data on nominal exchange rate depreciations are from FRED database, the Central Bank of Egypt, and the Central Bank of Nigeria. Data on  $c_W$  and  $c_\pi$  for Argentina, India, Mexico, South Africa and Turkey are from Onaran and Galanis (2012). *Notes:* the value for  $I$ ,  $A$  and  $X$  are billions of US dollars (in 2019 prices). Coefficient  $\alpha_{LX}$  has been set at 75 per cent of coefficient  $\alpha_{LH}$ . Autonomous demand  $A$  has been calibrated in such a manner that the equilibrium level of real GDP in each country corresponds to the actual level of real GDP in 2019. The world prices for exports and imports and the nominal wage have been set to equal one. An increase in the nominal exchange rate represents a devaluation of the national currency relative to the US dollar.

Egypt, India and Nigeria had a trade deficit in 2019. For these three countries, the devaluation is contractionary, because it reduces net real income in the economy directly (as indicated by equation (9)). In addition, demand and output are depressed following the redistribution of income from wages to profits, triggered by the devaluation. Real GDP in India declines by 0.7% in response to a devaluation of the Rupee by 10%; real GDP in Egypt and Nigeria declines by 2% and 2.7% in response to nominal devaluations of 10% and 25%, respectively. In all cases, inflation increases.

It is also clear from **Table 1** that devaluations depress the labor income share and raise the profit share. More in general, income inequality rises due to a devaluation, because workers are not in a position to protect their (real) wages against the import inflation, while (exporting) firms see their profits rise (Cravino and Levchenko 2017). The increase in income inequality lowers aggregate demand and thus contributes to the contraction. The results in **Table 1** show, therefore, that devaluations are not just ‘expenditure-switching’, but may well be ‘expenditure-reducing’ as well as inflationary. In other words, devaluations, triggered by an appreciating US dollar, strengthen the stagflationary headwinds facing the developing economies.

These headwinds will only become stronger when central banks raise the interest rate in order to stop foreign and domestic financial investors from transferring funds abroad. Higher interest rates will lower business investment as well as the spending of (highly) indebted households. If governments also decide to tighten fiscal policy, cutting expenditure, the outcome of stagflation will be guaranteed: domestic demand will go down so strongly that it is extremely unlikely to be offset, particularly in the short run, by a devaluation-induced increase in exports.

Krugman and Taylor (1978) draw out a key policy lesson: given that the trade deficit is a ‘structural problem’, which cannot be eliminated in the short run, the only way to correct this problem, and reduce the vulnerability of the developing countries to external (exchange rate) shocks, will involve policies designed to expand, diversify and upgrade the traded goods sector. These policies will have to include industrial policy, preferential credit, public investment, multiple exchange rates and capital controls (Storm 2015). Devaluation alone will not succeed in bringing about the structural change to reduce the balance-of-payments problem, not even in the medium run.

However, structural change requires time—it does not constitute an immediate solution to the growing stagflationary pressures on the developing economies today. Worse, and in contrast to the unwarranted optimism of World Bank President Malpass, capital flight, growing uncertainty and the absence of an international lender of last resort (that provides external finance in the direst of situations) are coercing the developing countries to tighten monetary policy and impose fiscal austerity—in the hope that these measures will stabilize financial markets, curb financial outflows and halt the devaluation.

The outcomes of monetary tightening and spending cuts are predictable and perverse: attempts to stabilize the economy in the face of a devaluation that combine monetary tightening and fiscal ‘consolidation’ will be piling contraction on contraction, and lead to a steeper decline in output than expected. “Devaluation should in many cases be accompanied by measures to *increase* demand,” conclude Krugman and Taylor (1978, p. 455). However, a government deficit can only

support demand for home goods against unavoidable leakages of purchasing power abroad through the trade gap, if the state imposes (temporary) controls on financial outflows.

In addition, in the absence of large enough international reserves holdings, the developing nations continue to be constrained in their access to US dollar liquidity (Bortz *et al.* 2021). Many developing economies face external debt problems and if they are to navigate the stagflationary headwinds, they will need sustained global policy coordination and (liquidity) support for coping with their impacts (see UNCTAD 2022; Gallagher and Kozul-Wright 2022).

## 5.2 Global stagflation: Echoes of the 1970s?

In early June 2022, the World Bank announced that it is slashing its forecast for global economic growth in 2022 to 2.9%, down from 5.7% in 2021. This is the sharpest deceleration in a post-recession recovery in 80 years. The World Bank's baseline scenario projects a slight re-acceleration of global economic growth in 2023, but in the event of a severe tightening of monetary policy by the US Federal Reserve, the extension of the energy embargo triggered by the Ukraine war and continuing COVID issues in China, the rate of global growth could fall to as low as 1.5 percent.

The supply-side disruptions in global commodity chains, wars in key commodity-producing regions, slowing economic growth, fears of tightening monetary policy and turbulence in stock markets and above-target (and rising) inflation are the dominant features of the world economy today. To many observers, these features eerily resemble the stagflationary 1970s (see World Bank 2022; BIS 2022; Wolf 2022), which, as is well known, did not end well. The ruthless monetary tightening in the US by Paul Volcker's Federal Reserve, combined with brutal labor market deregulation, brought down US inflation, but at the cost of two successive American recessions, a global recession, and a wave of debt crises in developing countries, especially in those of Latin America and Africa, which morphed into two decades lost to economic development. The policy turn was also followed by a fundamental reorientation in macroeconomic thinking—as Keynesian economics was buried in favor of New-Classical economics dressed up as New Keynesian economics (Storm 2021).

Ever since, 'stagflation' has become synonymous with crisis, doom and macroeconomic policy failure—an outcome that macroeconomists want to avoid at (almost) any cost. Doom specialists, including Nouriel Roubini, predict a worse outcome than in the 1970s, arguing that the inflation in 2022 is due to a supply (not a demand) shock, debt levels are much more elevated, and governments have basically used up all the 'fiscal ammunition' at their disposal (Roubini 2022). Cutting through the hype, the World Bank's (2022) *Global Economic Prospects* report attempts to provide a systematic review of the similarities and differences between the stagflation of the 1970s and the current conjuncture.

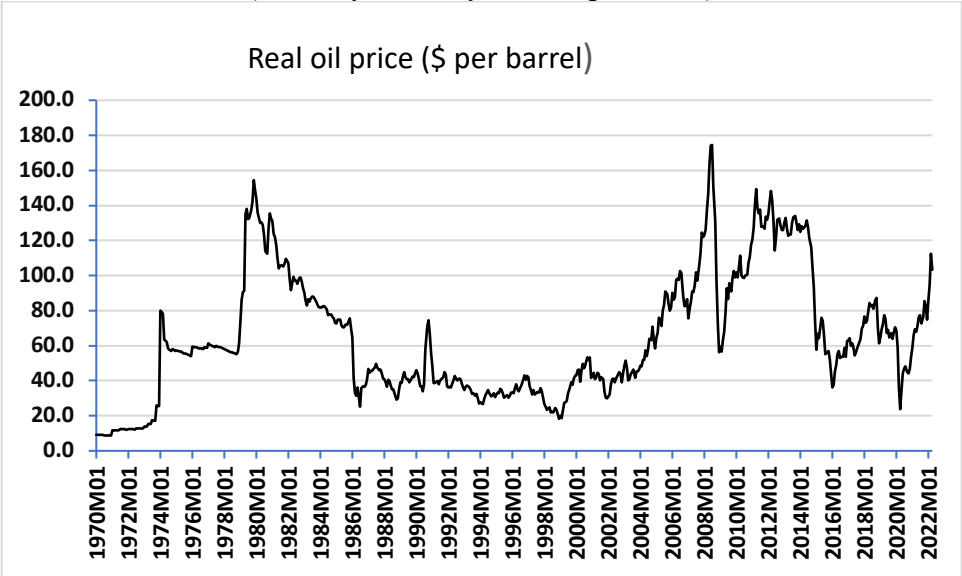
It is clear that the echoes of the 1970s are loud: higher than expected inflation, large shocks to the supply-side of the global economy and weakening growth. But there are also important differences between the two time-periods. For instance, the recent commodity price increases, when measured

in real terms, have, so far, been smaller than in the 1970s (BIS 2022, p. 6). Consider the real increase in global oil prices in **Figure 28**:

“... oil prices quadrupled (in US dollar terms) in 1973-74 and doubled in 1979-80. As of May 2022, oil prices have roughly tripled from their lows of early 2020 and doubled since early 2021, but to a level that is still only about two-thirds of those in 1980.” (World Bank 2022, p. 61).

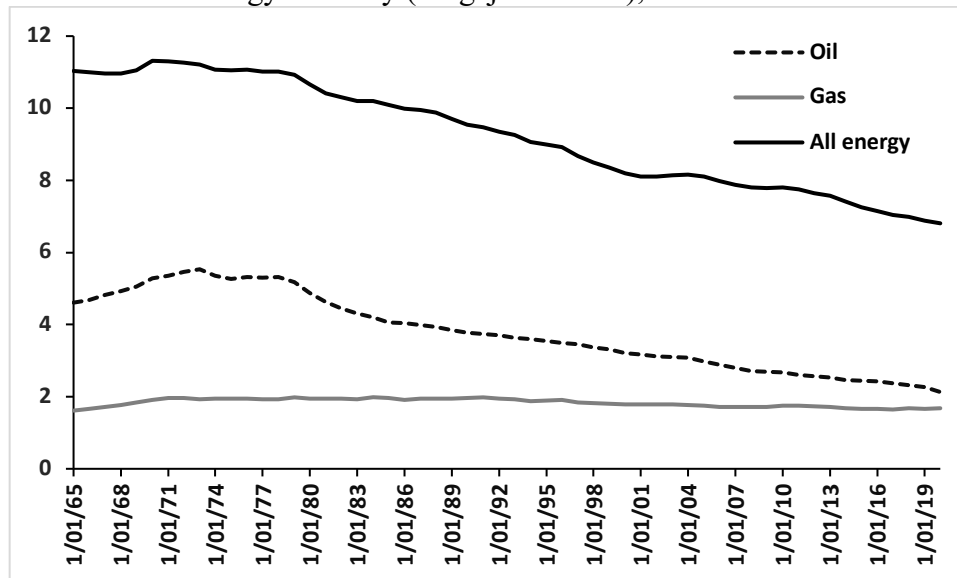
In addition, the energy intensity of GDP has declined considerably since the 1970s (**Figure 29**). Oil-importing countries have, to some extent, substituted oil for renewable energy sources including solar PV and wind energy. As a result of this structural change, the inflationary impact of higher energy prices has been reduced.

**Figure 28**  
Real price of oil (US \$ per barrel)  
(Monthly; January 1970-April 2022)



Source: World Bank (2022), Figure SF1.4.A. Note: Deflated by the US CPI.

**Figure 29**  
Energy intensity (Megajoule/GDP), 1965-2020



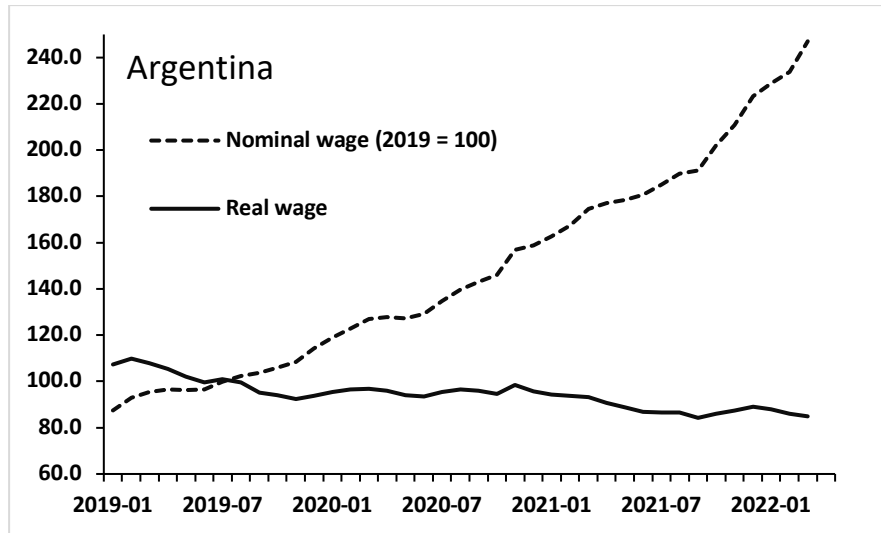
Source: BIS (2022), Graph A2.A.

A second notable difference is that global inflation in 2022, measured in terms of core inflation, is still less broad-based (across all industries) than it was in the 1970s.<sup>19</sup> In 1979-80, the global headline inflation rate and the global core inflation were similar: 15.2% versus 15.3%, respectively. But in 2022, the global core inflation rate is 2.8%, whereas the global headline inflation rate is much higher, at 7.5%.<sup>20</sup> Thirdly, and this is not emphasized strongly enough in World Bank (2022), nominal wage growth in most emerging countries is not keeping up with CPI inflation and, hence, real wages are stagnating or declining. This is shown for Argentina, Brazil, Mexico, South Africa and Turkey in **Figure 30**. Consider Argentina where nominal wages in March 2022 were 147% higher than the average wage in the base-year 2019, but real wages nevertheless *declined* by as much as 15%, because the CPI index rose by more than 190% over the same period. Similarly, for Brazil, where nominal wages increased by almost 14%, but real wages *declined* by 7.2% during 2019-April 2022.

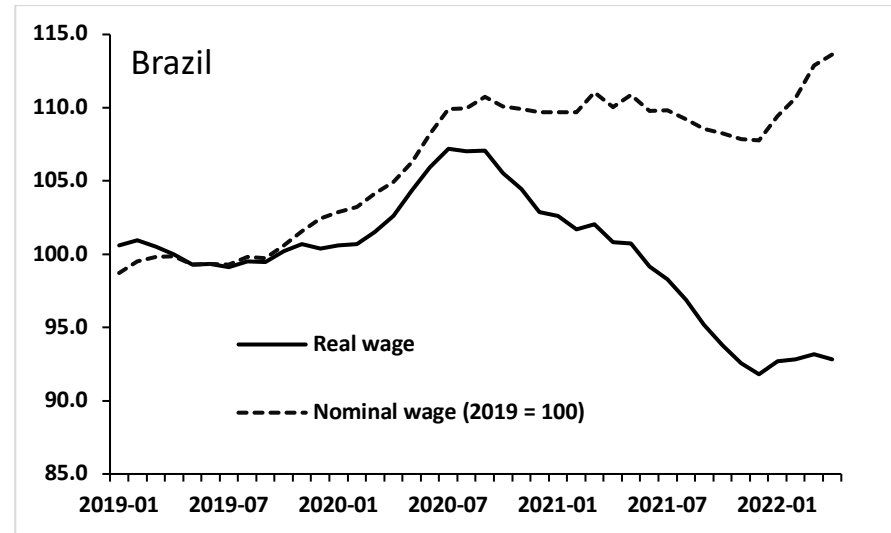
<sup>19</sup> However, according to BIS (2022, p. 3), inflation in the emerging economies is rapidly becoming more broad-based.

<sup>20</sup> The global inflation rates are an average for 66 countries, using CPI data for January to April 2022. Because it includes higher prices for food, the current surge in headline inflation is causing major problems, especially for the poor.

**Figure 30**  
 Nominal and real wages, January 2019-May 2022  
 (Monthly averages; 2019 = 100)



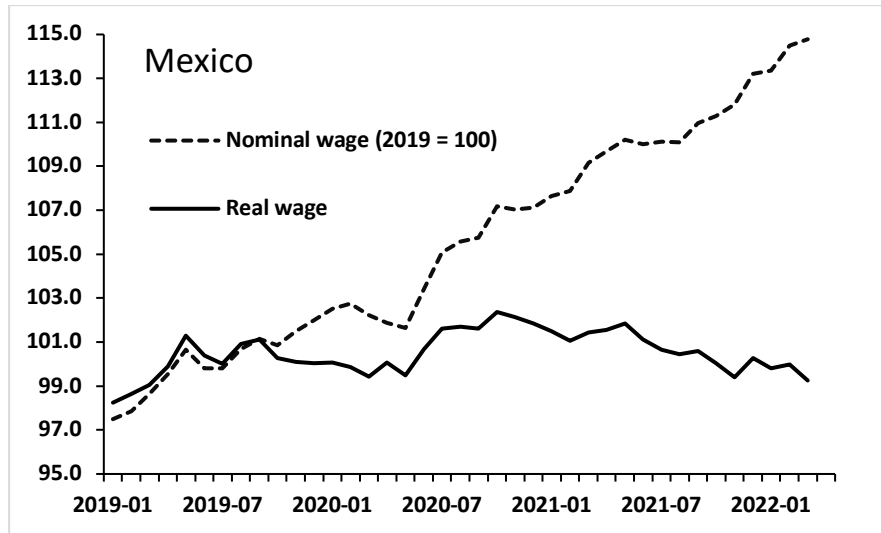
*Sources:* Monthly nominal wage index: The National Institute of Statistics and Censuses (INDEC); CPI: FRED database (series *ARGCPALTT01IXNBM*). *Note:* Monthly nominal wages are deflated using the monthly CPI.



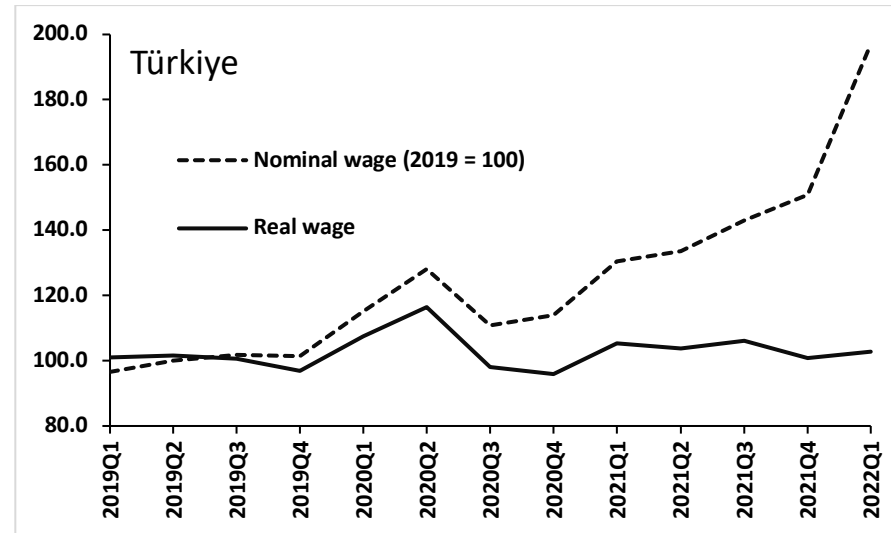
*Sources:* Monthly earnings: Instituto Brasileiro de Geografia e Estatística (IBGE); CPI: FRED database (series *BRACPIALLMINMEI*). *Note:* Monthly nominal wages are deflated using the monthly CPI.



**Figure 30**  
 Nominal and real wages, January 2019-May 2022  
 (Monthly and quarterly averages; 2019 = 100)

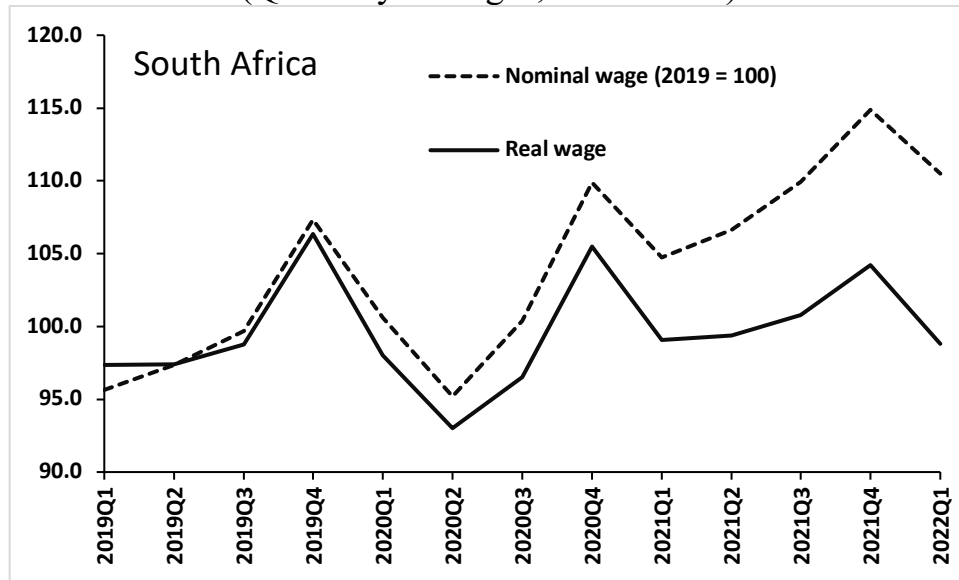


*Sources:* Monthly average nominal earnings per hour worked in manufacturing: OECD Statistics; CPI: FRED database (series *MEXCPIALLMINMEI*). *Note:* Monthly nominal hourly earnings are deflated using the monthly CPI.



*Sources:* Hourly nominal labor cost index: Turkish Statistical Institute; CPI: FRED database (series *TURCPIALLQINMEI*). *Note:* Quarterly nominal wages are deflated using the quarterly CPI.

**Figure 30 (concluded)**  
 Nominal and real wages, January 2019-May 2022  
 (Quarterly averages; 2019 = 100)

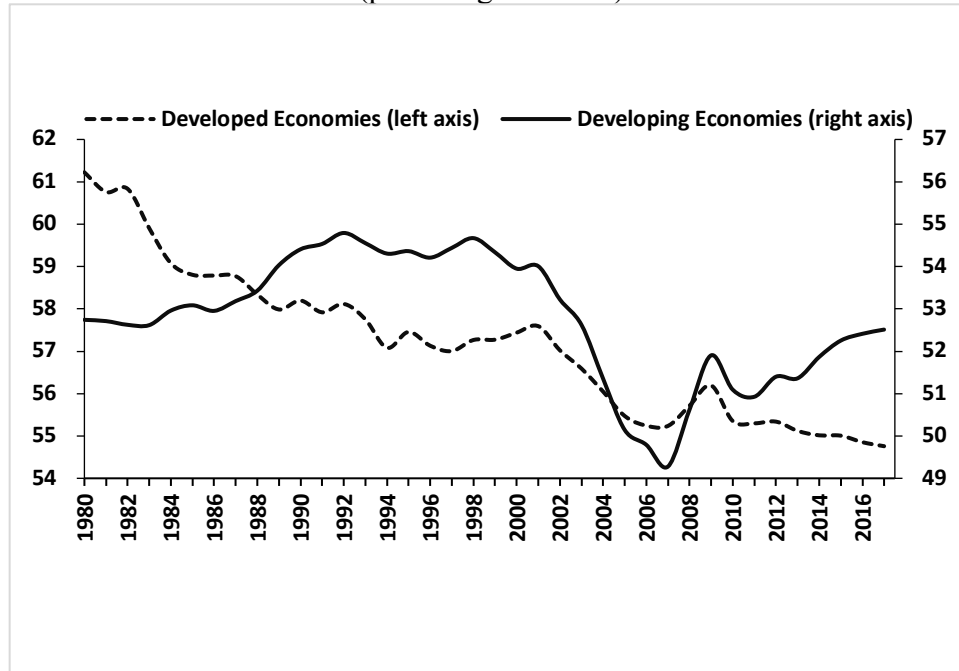


*Sources:* Quarterly gross earnings per employee in the registered sector: Statistics South Africa; CPI: Statistics South Africa. *Note:* Quarterly nominal earnings are deflated using the CPI.

In Mexico, average nominal wages in manufacturing rose by almost 15% during 2019-March 2022, but real manufacturing wages declined by 0.7%, because of higher CPI inflation. South-African real wages in the first quarter of 2022 were 1.2% lower than the average real wages during 2019—again, CPI inflation is out-running nominal wage increases in 2022. In high-inflation Turkey the average nominal wage nearly doubled during 2019-2022Q1, but this led to only a small increase in the average real wage by 2.7% over the same period.

As real wages are declining or stagnating, it is evident that inflation is not being driven by a wage-price spiral—unlike in the 1970s. This is not surprising given the decline of organized labor and workers’ bargaining power in the emerging economies in recent decades—which is also showing up in the secular decline in the labor income share in these countries (see **Figure 31**). This decline in worker power in the developing world has gone hand in hand with the growth and deepening of global supply chains, largely under the control of globe-spanning multinational corporations—usually headquartered in the triad (United States, Western Europe, and Japan). These multinationals have the power to impose strict (cost and delivery) conditions and often unreasonable demands (for flexibility) upon their suppliers, through which they manage to exploit the workforce, disempower governments, undermine regulation, and to extract maximum value through a process of unequal exchange (Suwandi 2019).

**Figure 31**  
Labor share (percentage of GDP): 1980-2017



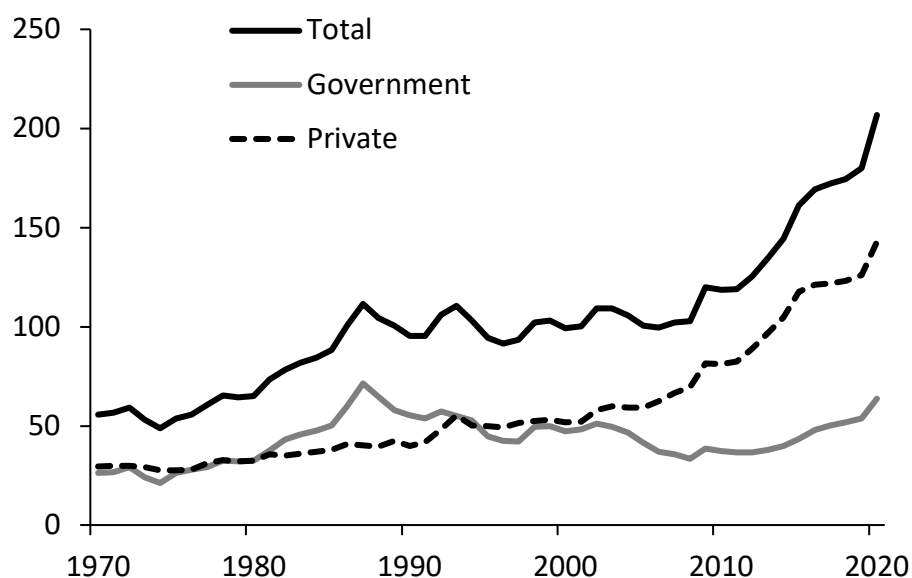
*Source:* Storm and Capaldo (2019), Figure 5. Data are from United Nations Global Policy Model database. *Notes:* Labor share is calculated as ratio of the sum of compensation of employees and mixed income to GDP; developing countries do not include economies in transition.

A fourth structural difference between the 1970s and the current conjuncture concerns the significantly higher indebtedness of the emerging economies (**Figure 32**). In 1980, total debt of the emerging market and developing economies (EMDEs) stood at 65% of their GDP, and half of this debt was sovereign debt and the other half was private-sector debt. When the US Federal Reserve brutally tightened monetary policy in the late 1970s and early 1980s in response to rising inflationary pressures in the US, it triggered the ‘Third World’ debt crisis of the 1980s.

However, as **Figure 32** illustrates, the initial conditions today are worse than in 1980s as it concerns external indebtedness of the EMDEs. In 2020, after the largest, fastest and most broad-based increase in indebtedness by EMDEs in the past 50 years, total debt of the EMDEs amounted to 207% of their GDP. More than two-thirds of these debts are private-sector liabilities, while the share of public debt in total debt is 31%. Low global (real) interest rates during the 2010s encouraged a surge in EMDE debt, especially in Latin America and Sub-Saharan African countries. Much of these debts are denominated in foreign currency and are commercial and short-term (**Figure 27**). Many emerging economies are facing tighter financial conditions against a backdrop of high debt, and seventeen emerging and developing countries already experienced a downgrading of their sovereign debts in the first five months of 2022. Monetary tightening by the Federal

Reserve thus carries a considerable risk of triggering a new domino chain of financial crises in the EMDEs (World Bank 2022, p. 61).

**Figure 32**  
Debt in Emerging Market and Developing Economies (EMDEs)  
(Percent of GDP)



*Source:* World Bank (2022), Figure SF1.5.A. *Note:* GDP-weighted averages based on a sample of up to 153 emerging market and developing economies.

However, according to both World Bank (2022) and BIS (2022), there is also important good news: according to these multilateral institutions, monetary policy frameworks are now (on average) more credible and more exclusively focused on price stability than those of the 1970s, when central banks in the developing countries often had to deal with competing objectives, did not have operational independence from their governments, and sought to maintain exchange rate pegs to anchor inflation. In the 1970s, central banks made the mistake of being accommodative for too long, attributing (high) inflation to special (supply-side) factors and underestimating the strengthening of a wage-price spiral. In addition, the financial sector of many developing countries was ‘repressed’, as subsidized or government-owned banks kept nominal interest rates artificially low and tried to direct credit to priority industries—while at the same time cross-border financial flows were subject to controls.

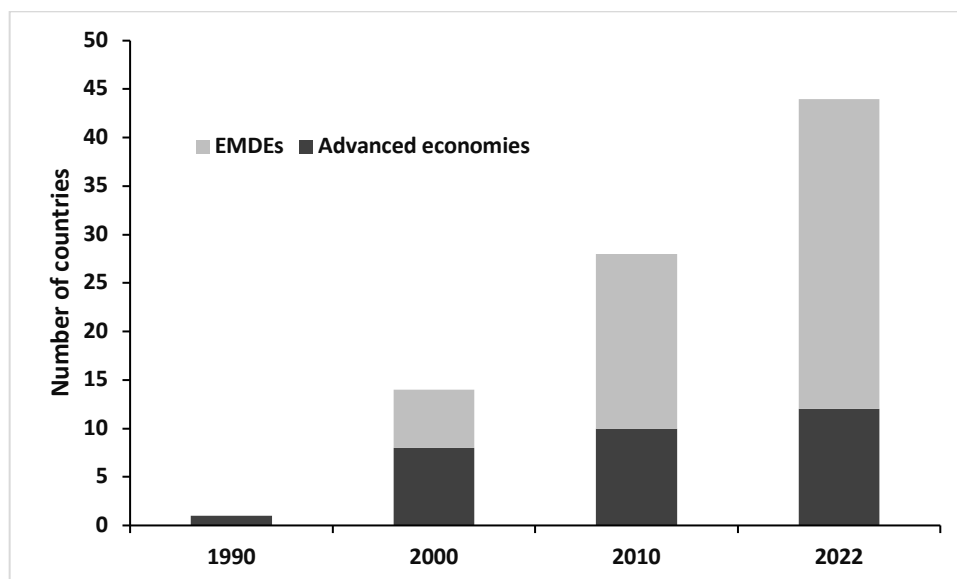
In contrast, central banks now have clear mandates for prioritizing inflation targeting (**Figure 33**) and follow supposedly ‘transparent’ monetary policy rules, and this has—arguably—helped them to establish credibility when it comes to inflation control. It is claimed by World Bank (2022, p. 63) that, as a result of this ‘revolution’ in monetary policy-making, inflation expectations have

become better anchored, due to which core inflation has become less sensitive and more resilient to (unexpected) inflation shocks. However, “a key lesson from the 1970s is,” according to World Bank (2022, p. 64), “that central banks need to act in a pre-emptive manner to avoid a loss of confidence in their commitment to maintaining low inflation [...] and to prevent a de-anchoring of inflation expectations.”

For BIS (2022, p. 26), the task for central bankers is equally clear:

“The new inflationary environment has changed the balance of risks. Gradually raising policy rates at a pace that falls short of inflation increases means falling real interest rates. This is hard to reconcile with the need to keep inflation risks in check. Given the extent of the inflationary pressure unleashed over the past year, real policy rates will need to increase significantly in order to moderate demand. Delaying the necessary adjustment heightens the likelihood that even larger and more costly future policy rate increases will be required, particularly if inflation becomes entrenched in household and firm behavior and inflation expectations.”

**Figure 33**  
Number of countries with inflation-targeting central banks

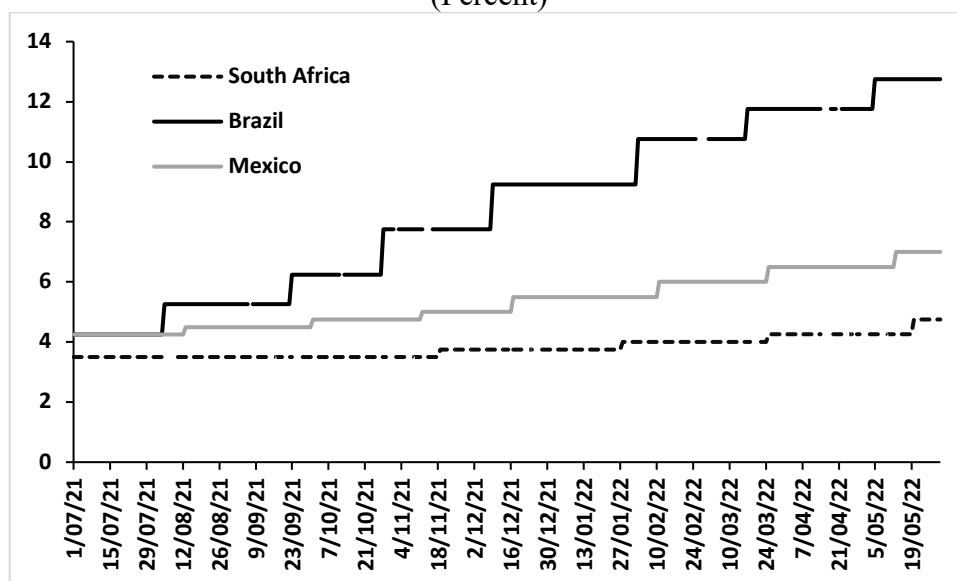


*Source:* World Bank (2022), Figure SF1.7.A. *Note:* EMDEs are the emerging market and developing economies

In several emerging economies, central banks responded quickly to rising inflation. In Latin America, the central banks of Brazil and Mexico had already raised policy rates several times by the end of 2021 (**Figure 34**). South Africa’s central bank began to increase the interest rate at the end of 2021. In Asia, where inflation was generally lower, policy tightening occurred later and more gradually. Still, by early 2022 most central banks in the developing economies are winding down accommodation (BIS 2022, p. 5).

But many developing economies are highly exposed to stagflationary risks—because of high debts, their open (‘liberalized’) capital accounts, and their vulnerability to high commodity and energy prices. To navigate these risks, both BIS (2022) and World Bank (2022) are calling for a calibration of monetary policy levers to get ahead of inflation, arguably ‘without stifling the recovery’—and to do so, communicating monetary policy decisions clearly, leveraging credible monetary policy frameworks, and safeguarding central bank independence will be critical” for the emerging economies. A key question is whether this will indeed be enough to engineer a ‘soft landing’ (*i.e.*, a monetary policy tightening cycle that ends without a recession).

**Figure 34**  
Nominal interest rate increases in the emerging economies,  
July 2021 - May 2022  
(Percent)



Source: BIS (2022), Graph 7.A.

A recent analysis of 129 monetary policy tightening episodes during 1985-2018 by BIS (2022) investigates which factors are associated with a soft landing. The results, reported in **Table 2**, show that hard landings are more likely when monetary tightening is preceded by a build-up of (household) indebtedness—as is the case now. Hard landings are also historically associated with low real interest rates prior to the start of the tightening cycle. Specifically, as is shown in **Table 2**, the average real interest rate at the start of tightening cycles that end in hard landings is 0.4%,

compared with 1.4% at the start of those that end in soft landings. Real interest rates were relatively low at the start of the current tightening cycle. Hence, the initial conditions, at the start of the monetary policy tightening in 2022, do not augur well, and a hard landing looks unavoidable.

High debts complicate the process of monetary policy tightening—because higher interest rates will strain indebted households and firms and raise concerns about the longer-term fiscal sustainability of the public finances in the developing countries. Governments could heighten the pressure on central banks to keep their stance more accommodative than appropriate (in view of their inflation target) and delay the already lengthy return of central bank balance sheets to more normal levels (BIS 2022). Independent central banks should resist such pressures and prioritize achieving a low and stable inflation rate as their core monetary policy objective, according to World Bank (2022) and BIS (2022). Rather than seeking the support of central bankers, fiscal policy makers should focus on cleaning up the public finances. “Policy makers need to address investor concerns about long-run debt sustainability by strengthening fiscal frameworks, enhancing debt transparency, upgrading debt management functions, and improving revenue collection and spending efficiency,” concludes World Bank (2022, p. 69). Furthermore, BIS (2022, pp. 29-30) and World Bank (2022, pp. 69) urge governments to refrain from imposing trade restrictions and price controls, which arguably tend to distort markets and have adverse consequences for growth and poverty reduction.

**Table 2**  
Soft versus hard landings

	Variable:	Soft landings	Hard landings
<i>Conditions at the start of the tightening cycle</i>	Inflation (%)	2.6	4.1
	GDP growth (%)	2.6	2.7
	Real policy rate (%)	1.4*	0.4*
	Real policy rate increase (%)	0.8	1.3
	Change in household credit-to-GDP ratio (% pts)	2.8*	6.4*
<i>Conditions during tightening</i>	Tightening duration (quarters)	4.9*	5.9*
	Change in inflation (%)	-1.1	-0.2
	Change in real GDP growth (%)	-0.7*	-3.8*

*Source:* BIS (2022), Table C1, p. 25. Notes: Averages for a panel of 35 economies and 129 policy tightening cycles during 1985-2018. Growth rates are in per cent and changes in percentage points. The asterisks indicate the statistical significance of the difference between soft and hard landing episodes at the 5% level. The number of observations for the different rows varies between 46 and 64 for soft landings, and between 50 and 65 for hard landings.

However, the sad fact is that these policy recommendations by the World Bank and the BIS to ‘help’ the developing economies navigate the stagflationary waves of 2022 closely resemble the dominant policy recommendations of the early 1980s, which proved hugely costly in terms of economic growth, inequality and poverty. Important lessons remain unlearned by global policy makers and national central bankers—and this remarkable incapacity to learn from (earlier) macroeconomic policy errors is caused by ‘cognitive blinders’ that prevent decision-makers from understanding what has actually happened.

The primary cognitive blinder hindering adequate understanding is the widely shared belief and confidence in monetary policy's ability to reduce output volatility and ensure stable and lasting growth in capitalist economies in a *neutral* manner, *i.e.*, without affecting potential output growth of the economy under consideration (Goodfriend 2007; Blanchard 2018). **Section 5.4** casts doubt on both the supposed effectiveness and neutrality of monetary policy in the emerging economies. But I first review, in the next section, recent empirical evidence of the effectiveness of monetary policy in several of these countries.

### 5.3 Monetary tightening cannot engineer a soft landing

Implicit in the analyses of World Bank (2022) and BIS (2022) is the assumption that interest rate increases will be *effective* in bringing accelerating inflation down to its target rate. As a truism, this assumption is correct: if central banks raise interest rates brutally enough, aggregate demand will be asphyxiated, the economy concerned will go into recession and inflation will be brought down. But the collateral damage of this kind of inflation control will be large, both in short run (in terms of higher unemployment and increased poverty) and in the long run, because the damage done in the short run will spill over into permanent, long-run damage: the monetary policy error may cause the growth rate of potential output to decline (Paternesi Meloni *et al.* 2022).

Hence, the real question is whether monetary tightening can *safely* bring down inflation, *i.e.*, without generating prohibitively high economic and social damages. The empirical evidence for the emerging economies suggests that a soft landing is unlikely to be possible. **Figure 35** presents published evidence, mostly provided by central bank economists, on the responses of the inflation rate and real GDP to a one-percentage-point hike in the policy interest rate in Brazil, China, India, Mexico, Nigeria and South Africa. **Table 3** summarizes the cumulative impacts after four quarters (one year) and eight quarters (two years). Based on **Table 3** and on **Figure 35**, the following two conclusions can be drawn.

First, the impact of a one-percentage-point increase in the interest rate on the inflation rate is relatively small after four quarters—inflation in Nigeria and South Africa is reduced by just 0.1 percentage point; in Mexico, inflation declines by 0.2 percentage points and in China by 0.5 percentage points. India is the exception: a one-percentage point hike in the nominal interest rate reduces (wholesale price) inflation by 1.4 percentage points.

The cumulative impacts on inflation are larger after two years, which indicates that monetary tightening works with considerable time lags. However, even after eight quarters, the cumulative



effects of higher interest rates are estimated to be small relative to the current surge in inflation. Consider the case of South Africa where the CPI inflation rate (on a year-to-year basis) rose to 6.5% in May 2022. South Africa’s central bank sets the inflation target at 4.5% in 2022 (with a tolerance margin of 1.5 percentage points on either side). Suppose we assume that the South African central bank decides to raise the interest rate in order to lower inflation by 2 percentage points from 6.5% to 4.5% over the next two years. To do so, it has to increase the interest rate by 4 percentage points—from 4.75% in May 2022 (Figure 9) to 8.75%.

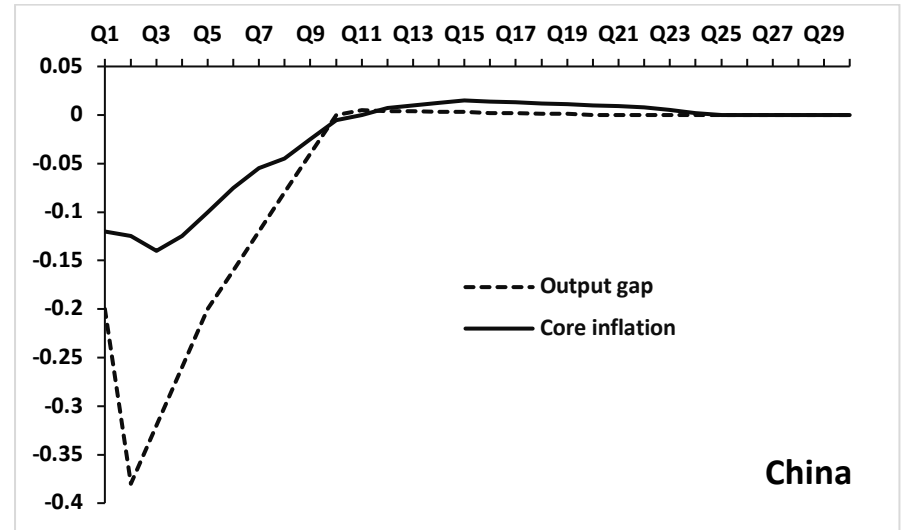
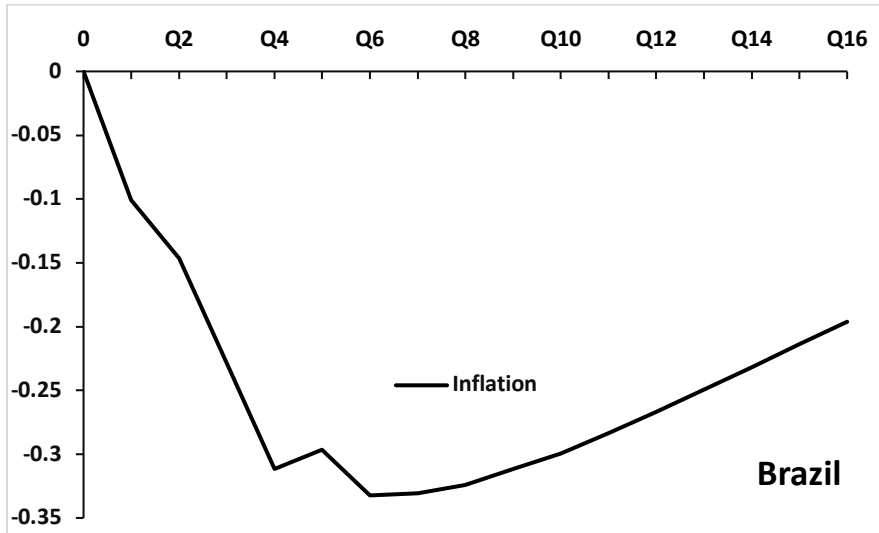
**Table 3**  
Cumulative impacts of a 1 percentage point increase in the interest rate

	<b>Brazil</b>	<b>China</b>	<b>India</b>	<b>Mexico</b>	<b>Nigeria</b>	<b>South Africa</b>
<b>Inflation rate (% pts)</b>						
<i>After 4 quarters</i>	-0.8	-0.5	-0.1	-0.2	-0.1	-0.1
<i>After 8 quarters</i>	-2.1	-0.8	-0.2	-0.6		-0.5
<b>Real GDP (% change)</b>						
<i>After 4 quarters</i>		-1.2	-0.2	-0.7	-0.4	-0.5
<i>After 8 quarters</i>		-1.7	-1.1	-1.5		-0.9
<b>Sacrifice ratio</b>						
(After 8 quarters)		2.1	5.5	2.5		1.8

*Source:* see sources to **Figure 10**. *Note:* The ‘sacrifice ratio’ reflects the collateral damage, defined in terms of the decline in real GDP, that is associated with the degree of monetary tightening that is needed to reduce the inflation rate by one percentage point.

**Figure 35**

Impulse responses to a one-percentage point increase in the interest rate  
(Percent changes)

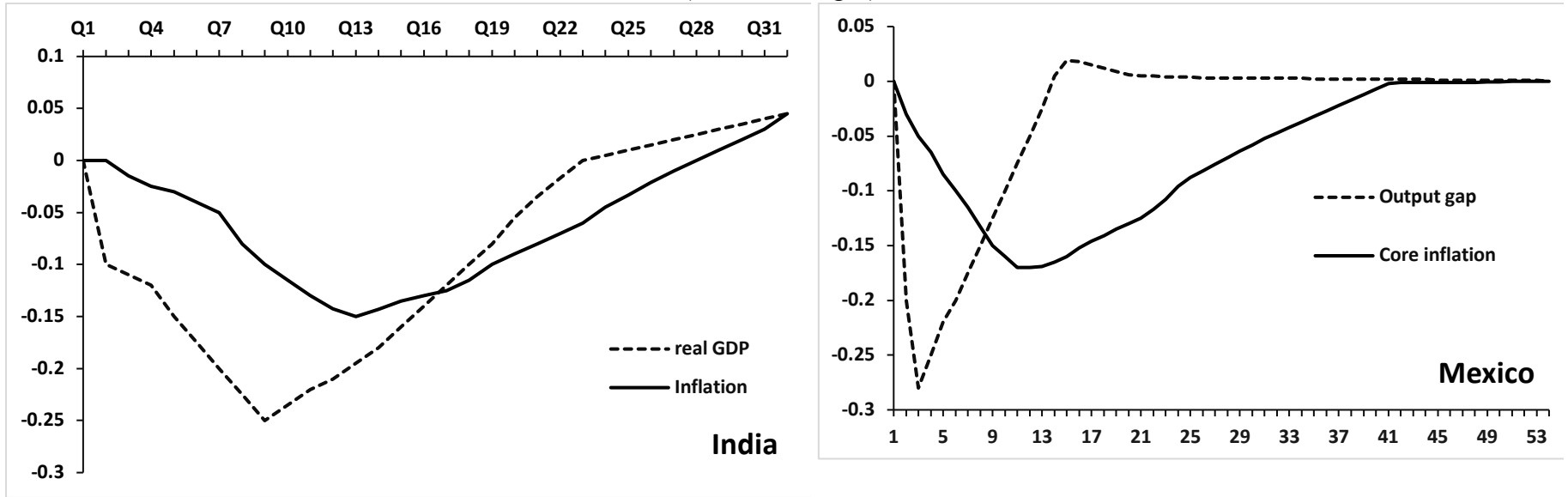


*Source:* Banco Central do Brasil (2021), Figure 2b. *Notes:* An increase in the nominal interest rate by one percentage point is projected to a cumulative decline in Brazilian inflation of 0.8 percentage points after 4 quarters and of 2.1 percentage points after 8 quarters.

*Source:* Blagrove *et al.* (2013). *Notes:* An increase in the nominal interest rate by one percentage point is projected to lead to a cumulative decline in Chinese inflation of 0.5 percentage points after 4 quarters and of 0.8 percentage points after 8 quarters. Real GDP is projected to decline by (circa) 1.2 percentage points after 4 quarters and by around 1.7 percentage points after 8 quarters. The numbers are (close) approximations, because the graph is based on a visual reproduction of the original figure.

**Figure 35**

Impulse responses to a one-percentage point increase in the interest rate  
(Percent changes)

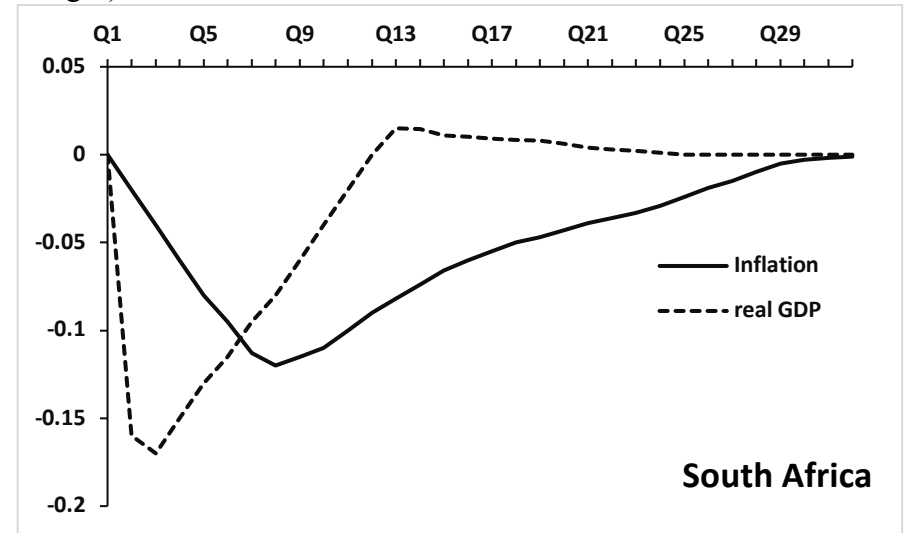
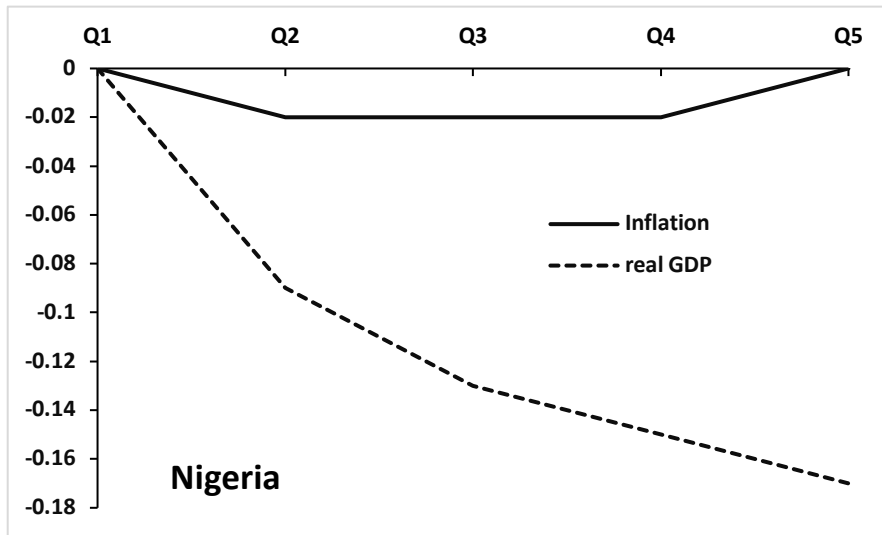


Source: Kapur (2018). Notes: An increase in the nominal interest rate by one percentage point is projected to lead to a cumulative decline in Indian inflation of 0.1 percentage points after 4 quarters and a cumulative decrease of 0.2 percentage points after 8 quarters. Real GDP is projected to decline by 0.3 percentage points after 4 quarters and by 1.1 percentage points after 8 quarters. The numbers are (close) approximations, because the graph is based on a visual reproduction of the original figure.

Source: Cortés Espada and Ramos-Francia (2008). Notes: An increase in the nominal interest rate by one percentage point is projected to lead to a cumulative decline in Mexico's core inflation of 0.15 percentage points after 4 quarters and of 0.6 percentage points after 8 quarters. Real GDP is projected to decline by 0.7 percentage points after 4 quarters and by 1.5 percentage points after 8 quarters. The numbers are (close) approximations, because the graph is based on a visual reproduction of the original figure.

**Figure 35 (concluded)**

Impulse responses to a one-percentage point increase in the interest rate  
(Percent changes)



*Source:* Rapu *et al.* (2017). *Notes:* An increase in the nominal interest rate by one percentage point is projected to lead to a cumulative decline in Nigerian inflation of 0.1 percentage points after 4 quarters. Real GDP is projected to decline by 0.4 percentage points after 4 quarters.

*Source:* Botha *et al.* (2017). *Notes:* An increase in the nominal interest rate by one percentage point is projected to lead to a cumulative decline in South African inflation of 0.1 percentage points after 4 quarters and of 0.5 percentage points after 8 quarters. Real GDP is projected to decline by 0.5 percentage points after 4 quarters and by 0.9 percentage points after 8 quarters. The numbers are (close) approximations, because the graph is based on a visual reproduction of the original figure.

Likewise, Mexico's Banxico targets inflation at 3%, plus or minus one percentage point. The CPI inflation rate in Mexico in May 2022 is 7.7%. Suppose that Banxico decides to increase the interest rate to lower CPI inflation by 3.6 percentage points. This will require an increase in the interest rate by 6 percentage points and it will take a full two years, in which inflationary pressure likely rise further, to achieve this target.

In sum, small increases in interest rates will not do enough to bring down demand and (rising) inflation in the emerging economies in a significant way. Much higher increases in interest rate may work, but still take two years or more to make dent in inflation—while also doing damage to real GDP.

This brings me to the second conclusion. The cumulative impact of a one-percentage-point increase in the interest rate on real GDP is considerably larger (in absolute terms) than on inflation (**Table 3**). The collateral damage of inflation control, which comes in the form of a recession and higher unemployment, is non-negligible. For example, an increase in the interest rate by 4 percentage points will lower South Africa's real GDP by 3.6 percentage points after two years, while Mexico's real GDP will be depressed by 4 percentage points.

The cost of monetary tightening can be defined in terms of the 'sacrifice ratio', which gives the decline in real GDP, that is associated with the degree of monetary tightening that is needed to reduce the inflation rate by one percentage point. The sacrifice ratio is around 2 for China, Mexico and South Africa—meaning that a one-percentage-point reduction in the inflation rate comes at a social cost of (more than) a two-percentage-point decrease in real GDP. The 'sacrifice ratio' for India is 5.5.

Because bringing down inflation will require large increases in interest rates and since this will significantly depress real GDP and 'sacrifice ratios' are high (**Table 3**), it is not unreasonable to conclude that central banks in the emerging countries cannot *safely* bring down inflation by means of monetary tightening. This outcome becomes even more likely in case of a simultaneous and un-coordinated monetary tightening by central banks in many emerging economies—Keynes' fallacy composition applies in this case, at huge social cost to the populations of the emerging and developing economies.

#### **5.4. Monetary policy is not neutral**

It is also realistic to conclude that the collateral damage of (drastic) monetary tightening is underestimated by the sacrifice ratios in **Table 3**. There are sound reasons to believe that the damage done in the short run will spill over into permanent, long-run damage: (ruthless) monetary policy tightening will likely cause the growth rate of potential output to decline.

This contradicts a key feature of establishment macroeconomics: a strong belief that monetary policy is 'neutral', and cannot and does not affect the long-run course of the economy. Most economists assume that *long-run potential growth* of the economy is determined by the exogenous forces of demography (*i.e.*, the growth of the effective labor force) and of technology (*i.e.*,

exogenous total-factor-productivity (TFP) growth)—and most believe that monetary policy does not influence these two exogenous supply-side drivers. Hence, it follows that

“..... monetary policy is ‘neutral’ or nearly so in the longer term, meaning that it has limited long-term effects on “real” outcomes [....].” (Bernanke 2015)

In this belief that it is possible to neatly separate short-run growth, which is determined by aggregate demand, and long-run potential growth, which is driven by demography and technology, one can argue that it is the task of monetary policy to stabilize the macroeconomy and maintain price stability over the (short-run) business cycle, keeping the actual unemployment rate close to the ‘natural’ rate or, alternatively, keeping actual output close to potential (trend) output. This assumption underlies the strong confidence in monetary policy's ability to reduce output volatility and ensure stable and lasting growth in capitalist economies (Goodfriend 2007; Blanchard 2018).

**Figure 36** illustrates how monetary policy is used for macroeconomic stabilization according to the consensus view. The dashed line in the figure represents (steadily growing) *potential* real GDP, which is a theoretical construct used to estimate the value of the output that the economy would have produced if labor and capital had been employed at their maximum sustainable rate—that is, consistent with stable inflation. This means that *potential* output is defined as:

$$(11) \quad y_P = (1 - u_N) \times L \times \lambda$$

where  $y_P = \text{real potential output}$ ;  $u_N =$  the ‘steady-inflation’ unemployment rate;  $L =$  the (effective) labor force; and  $\lambda =$  the level of labor productivity. Note that an increase in  $u_N$  will lower the level of *potential* real GDP (Storm and Naastepad 2012).

The *growth* rate of potential GDP depends on the growth rate of the (effective) labor force and the pace of productivity growth—which are both assumed to evolve independently of changes in aggregate demand. Rewriting equation (11) in terms of growth rates, we obtain the following expression for potential economic growth:

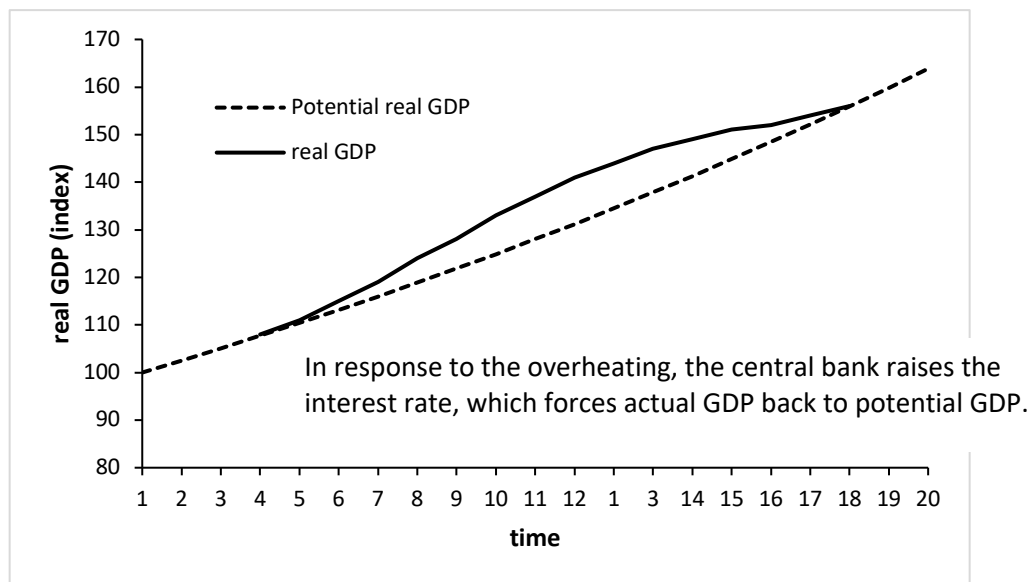
$$(12) \quad \hat{y}_P = \hat{L} + \hat{\lambda}$$

$u_N$  is constant, because it is assumed that central bankers are capable of keeping actual unemployment close to its ‘natural’ rate in the long run by means of monetary policy. Hence, equation (12) gives the growth rate of potential real GDP as a function of the exogenous forces of ‘demography’ ( $\hat{L}$ ) and of ‘technology’ ( $\hat{\lambda}$ ).

Suppose the economy experiences a positive ‘demand shock’ in period 5: actual real GDP rises above potential real GDP, and, at the same time, actual unemployment falls below the ‘natural’ unemployment rate. Inflation begins to rise, and as the real interest rate declines and nominal wage growth increases, the economy starts overheating. In response, the central bank raises the nominal interest rate by as much as is needed and for as long as is required, to depress aggregate demand, forcing (higher) actual real GDP to converge to (unchanged) potential real GDP. In **Figure 36**, in period 18, monetary tightening has successfully completed its task to stabilize inflation by bringing actual growth back to steady-inflation potential (‘trend’) growth. A similar convergence can be observed in the impulse response functions appearing in **Figure 35**: both inflation and real GDP

go down in response to the one-percentage point hike in the nominal interest rate, but then—over time—converge back to their steady-state values. The assumption of ‘neutrality’ makes it possible to neatly separate short-run growth, which is determined by aggregate demand, and long-run potential growth, which is driven by demography and technology

**Figure 36**  
Potential growth and actual growth:  
Monetary policy stabilizes the business cycle



**Figure 36** neatly illustrates the challenge of macroeconomic stabilization facing central bankers—which looks almost as ‘scientific’ as the engineering task of keeping and steering a communication satellite in a geostationary orbit (with a perigee of about 180 kilometers, an apogee of about 36,000 kilometers and an inclination of 19.3 degrees), while it is constantly being pulled by the moon’s and the sun’s gravity.

Viewed like this, monetary policy makers act as benevolent social engineers—endowed with effective policy instruments and the wisdom to stabilize an otherwise unstable macroeconomy.<sup>21</sup> Not surprisingly, central bankers and their ‘useful’ macroeconomists (Galbraith 1973) cherish the theoretical assumption that monetary policy is ‘neutral’, because it helps them to de-politicize monetary policy making and absolves them, rather conveniently, from any responsibility for the long-run course of the economy (which, in this story, depends solely on ‘demography’ and

<sup>21</sup> See Storm and Naastepad (2012) for a critique of this kind of benevolent paternalism.

‘technology’, as in **Figure 36**). It is no coincidence that the long-run ‘neutrality’ of monetary policy is a cornerstone of the DSGE models, commonly employed by central banks.<sup>22</sup>

The problem is, however, that monetary policy is not neutral, but has been found, in the recent literature, to have had significant long-term effects on ‘real’ outcomes including potential growth and the distribution of income.<sup>23</sup> In other words, the assumption that monetary policy is ‘neutral’ has been empirically falsified.<sup>24</sup> The reasons why monetary policy may have permanent, long-run effects are not difficult to fathom—and the main mechanisms through which monetary tightening might damage potential economic growth have been known for already more than 60 years. It is rather remarkable how long it has taken establishment macroeconomics to rediscover these age-old mechanisms.

Higher interest rates lower aggregate demand which, in turn, leads to reduced capital formation by firms. The decline in investment lowers the economy’s capital stock and productive potential as well as depresses the rate of technological progress and productivity growth, because technological change is embodied in new capital goods (Storm and Naastepad 2012; Girardi *et al.* 2020). In addition, lower demand leads to lower labor productivity growth. As Joan Robinson (1956, p. 96) explained,

“The rate of technical progress is not a natural phenomenon that falls like the gentle rain from heaven. When there is an economic motive for raising output per man the entrepreneurs seek out inventions and improvements. Even more important than speeding up discoveries is the speeding up of the rate at which innovations are diffused. When entrepreneurs find themselves in a situation where potential markets are expanding but labor hard to find, they have every motive to increase productivity.”

Conversely, when entrepreneurs find themselves in a situation where potential markets are stagnating, they will not innovate.

Accordingly, the supply side of the economy depends on aggregate demand. Endogenous demand-led technological progress can be formalized in terms of the Kaldor-Verdoorn relationship, which states that faster output growth causes faster labor productivity growth (Storm and Naastepad 2012). As a result, the ‘steady-inflation’ rate of unemployment ( $u_N$  in equation (11)) rises in response to the decline in capital formation—and the change in productivity growth and in the steady-inflation rate of unemployment, in turn, affect potential output growth. Fontanari and

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<sup>22</sup> See Storm (2021) for a critique of the DSGE modeling paradigm.

<sup>23</sup> See Storm and Naastepad (2012), Blanchard, Cerutti and Summers (2015), Fatás and Summers (2018), Dovern, and Zuber (2020), Girardi, Paternesi Meloni and Stirati (2020), Cerra, Fatás and Saxena (2020), Jordá, Singh and Taylor (2020) and Paternesi Meloni, Romaniello and Stirati (2022).

<sup>24</sup> To be clear, most studies mentioned above assume that a negative demand shock (*e.g.*, due to strong monetary tightening) will lower potential output and increase inflationary pressure in the economy, whereas there is no suggestion that increased capital formation stimulated by a positive demand shock (and leading to higher potential growth) might dampen such inflationary pressures (Girardi *et al.* 2020). I see no reason for this asymmetry in responses; faster capital accumulation brings with it faster embodied technological progress which feeds into a higher growth rate of potential output (keeping all other factors constant).



Palumbo (2022) point out a similar mechanism by which real wage restraint permanently scars productivity growth and, hence, potential growth.

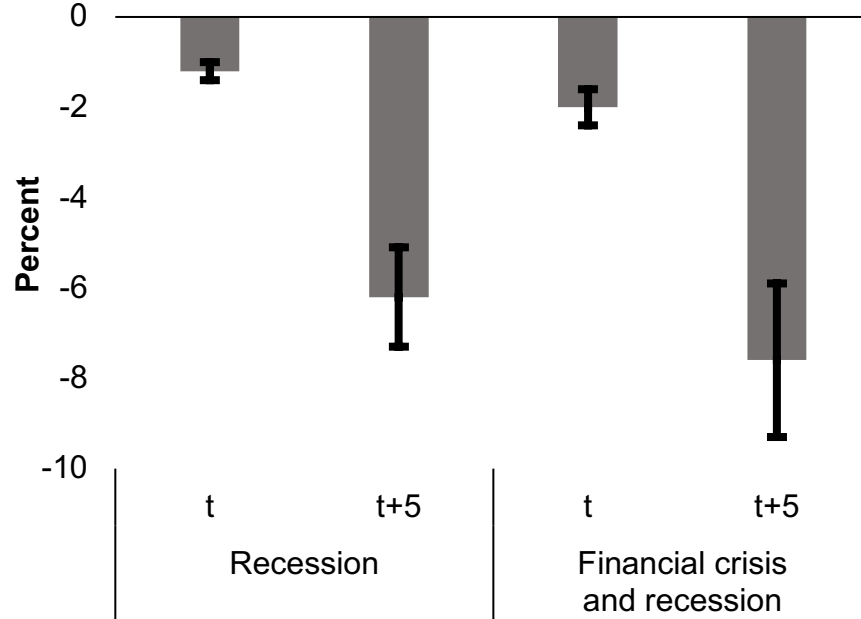
It follows that monetary policy is not neutral. Lord Kahn (1972, p. 139) issued this prophetic warning against restrictive monetary policy in his evidence given to the *Radcliffe Committee on Monetary Reform* in 1958:

“The economic waste in such a policy is particularly great if demand is regulated by restricting productive investment, as will be the main result of relying on monetary policy. Not only is there a loss of potential investment. But the growth of productivity is thereby curtailed, *thus narrowing the limit on the permissible rate of rise in wages and increasing the amount of unemployment required to secure observance of the limit.*” (Italics added).

Kahn warned against regulating aggregate demand, and business investment in particular, by means of monetary policy. The reason is that monetary tightening will *raise* the ‘steady-inflation’ rate of unemployment and, therefore, the unemployment gap—the difference between the (lowered) actual and the (heightened) ‘steady-inflation’ unemployment rate—rises as well. Higher interest rates are hurting potential real GDP by lowering endogenous demand-led productivity growth and by raising the inflation barrier, defined in terms of the ‘steady-inflation’ rate of unemployment.

World Bank (2020) recognizes that the emerging economies have been permanently ‘scarred’ by deep recessions (such as the one following the global financial crisis of 2008-09). According to estimates for 75 emerging market and developing economies (EMDEs) during 1982-2018 by World Bank economists Jongrim Ha, M. Ayhan Kose and Franziska Ohnsorge, ‘average’ recessions led to a loss of *potential output* of more than 6% after five years (**Figure 37**). Recessions that were accompanied by financial crises caused even larger long-term potential output losses in EMDEs: five years after a recession-cum-financial-crisis, potential output in EMDEs remained almost 8 percent below the baseline. However, even if these World Bank (2022) estimates point to considerable and permanent damage for the EMDEs caused by recessions, they need to be qualified in two important respects.

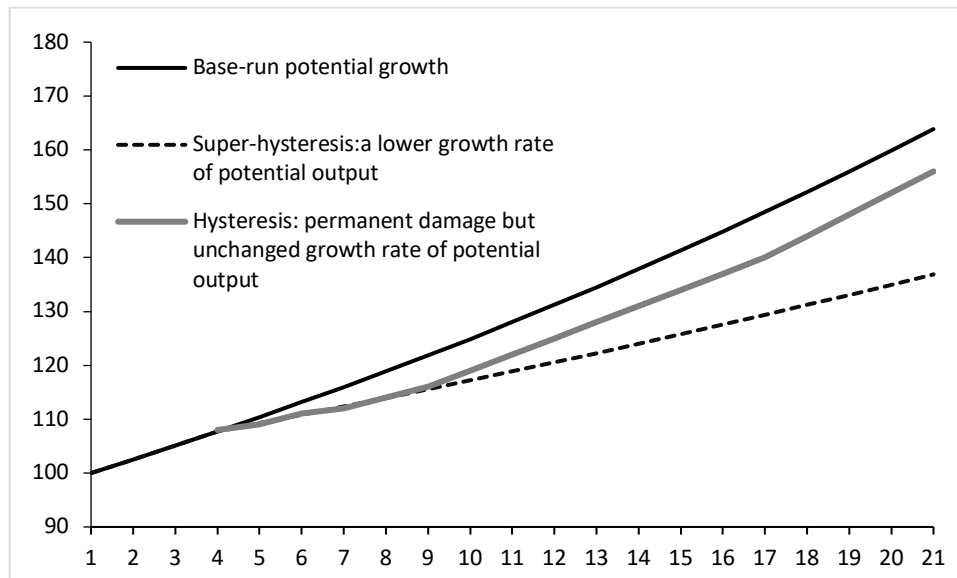
**Figure 37**  
Cumulative potential output response after recessions and financial crises



*Source:* World Bank (2020), Figure 3.1.3.B. *Note:* Charts show impulse responses for 75 emerging market and developing economies from a local projections model. The dependent variable is cumulative slowdown in potential output after a recession and financial crisis. Year  $t$  is the year of the event. Bars show coefficient estimates; vertical lines show 90 percent confidence bands.

Firstly, the estimation model of World Bank (2020) recognizes the occurrence of ‘hysteresis’, but is, by design, blind to the risk of ‘super-hysteresis’. In the case of hysteresis, potential real GDP is *permanently lowered* due to a recession, but continues to grow at the same rate as before the crisis; that is, labor force growth and labor productivity growth remain unaffected by the decline in capital formation and (as per equation (2)) the growth rate of potential output stays the same as before. The case of hysteresis is illustrated by the grey curve in **Figure 38**: due to the recession, potential output is permanently depressed (compared to the base run in which the recession does not occur), but the slope of the grey curve is the same as the slope of the curve representing the base-line.

**Figure 38**  
Hysteresis and super-hysteresis



*Source:* Constructed by the author.

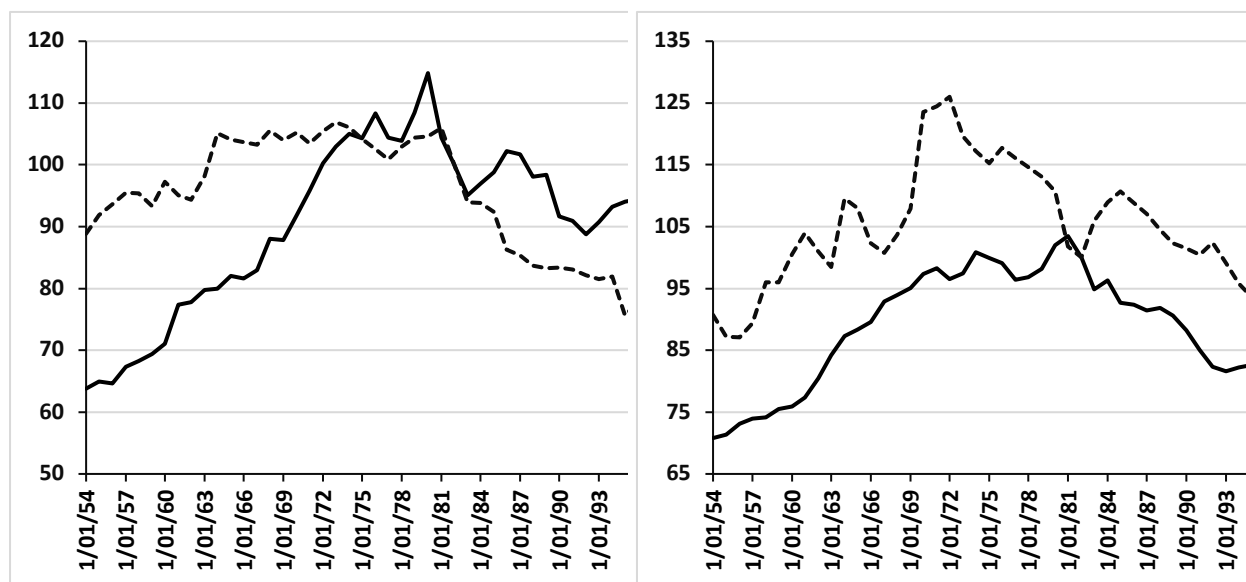
However, recessions may not only bring permanent damage to the *level* of potential output, but may hurt the *growth rate* of potential output as well (Blanchard, Cerutti and Summers 2015). This case of ‘super-hysteresis’ is illustrated by the dashed curve in **Figure 38**, the slope of which is smaller than the slope of potential output in the base run. The rate of potential output growth is lower following the recession, because the decline in capital formation (and in aggregate demand) lowers labor productivity growth via the Kaldor-Verdoorn relation. It can be seen that the (cumulative) permanent damage, caused by the recession, will be much larger in the case of ‘super-hysteresis’.

To illustrate the notion of super-hysteresis, **Figure 39** presents empirical evidence on the evolution of total factor productivity for Brazil, Egypt, Mexico and South Africa during 1954-2019. If we follow the neoclassical growth accounting model and read the changes in total factor productivity as an indicator of technological change, then we can see that Brazil, Mexico and South Africa were experiencing steady technological progress during the mid-1950s until the early 1980s, when the US Federal Reserve brutally tightened monetary policy, throwing the world economy into recession and multiple debt crises. Following the global recession and debt crises, total factor productivity in Brazil, Mexico and South Africa has exhibited a downward trend—indicating a secular stagnation of potential growth. This, in my view, represents an instance of super-hysteresis: a permanent scarring not just of the level of potential output, but of its growth rate as well. Total factor productivity in Egypt shows a similar secular stagnation during 1982-2019, but peaked already earlier (in 1972).

It can also be seen that total factor productivity in Brazil, Mexico and South Africa took another hit following the global financial crisis of 2008-09. Total factor productivity is estimated to have declined during 2008-2019 by almost 16% in Brazil, by 5.5% in Mexico and by 13% in South Africa. In Egypt, total factor productivity declined by 5.5% during 2008-2014, but by 2019 it had recovered to its level in 2008.

If further monetary tightening in the US during 2022-23 triggers a worse global recession than the one occurring during the 1980s, it is almost unavoidable that the *potential growth rate* in the developing economies will take a hit—and the permanent damage to economic development in these countries will be larger than the estimates by World Bank (2020) that appear in **Figure 37**. This permanent scarring of potential growth, in turn, will have dire implications for developing countries' indebtedness: the volume of supportable (or serviceable) debt must decrease. The risk of another, avoidable, round of EMDE's debt crises increases—and another 'decade lost to economic development' is on the cards, if the current phase of monetary tightening goes too far.

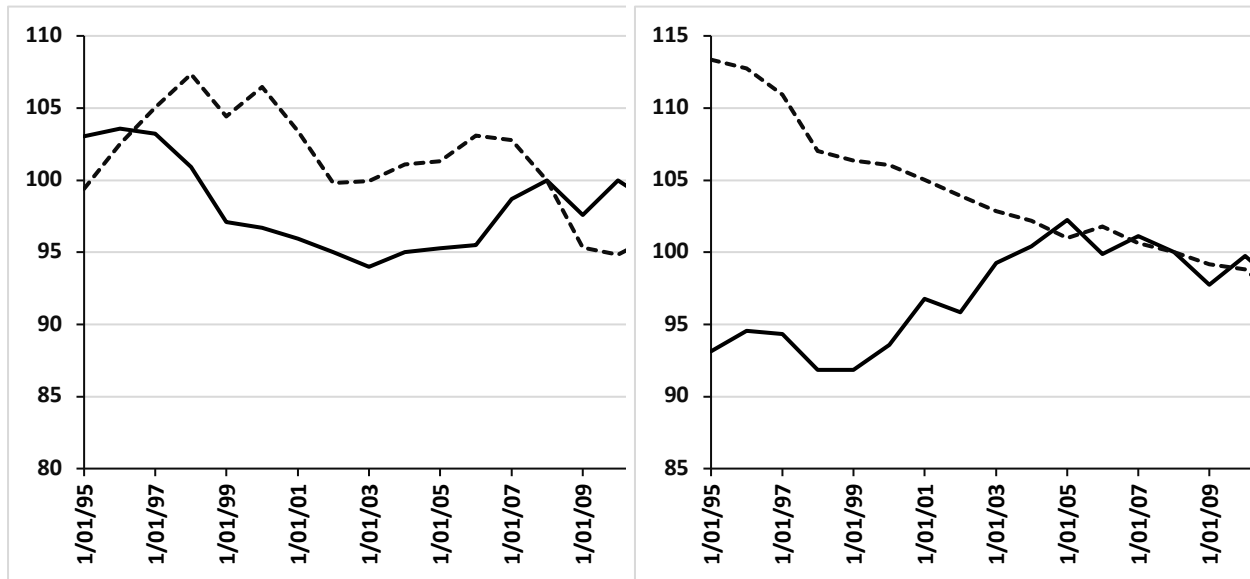
**Figure 39**  
Total factor productivity at constant national prices, 1954-2019  
(Index 1982 = 100)



Source: FRED database & Feenstra, Inklaar and Timmer (2015).

Source: FRED database & Feenstra, Inklaar and Timmer (2015).

**Figure 39**  
 Total factor productivity at constant national prices, 1995-2019  
 (Index 2008 = 100)



Source: FRED database & Feenstra, Inklaar and Timmer (2015).

Source: FRED database & Feenstra, Inklaar and Timmer (2015).

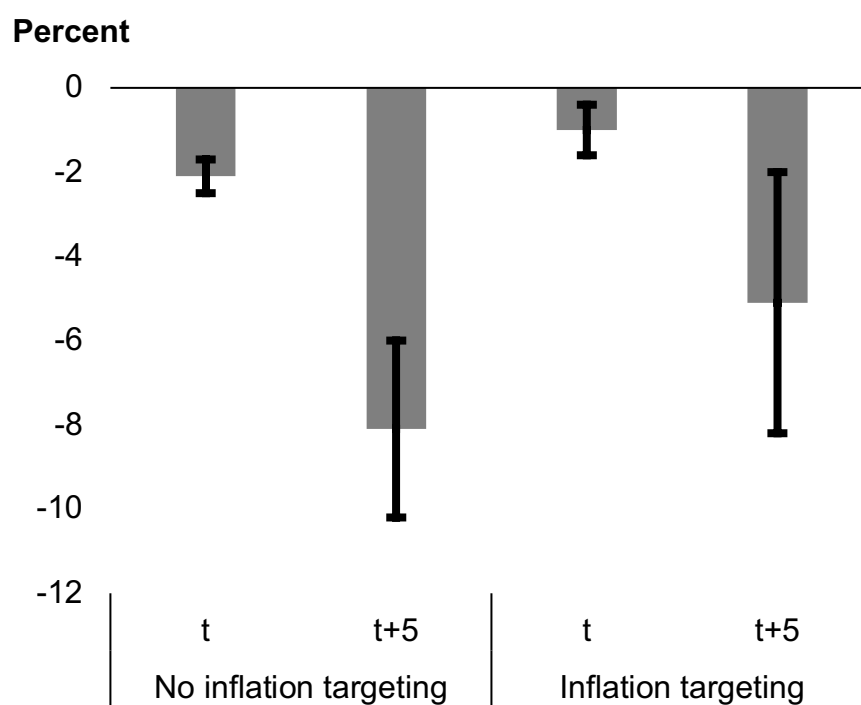
Secondly, the World Bank (2020) estimates of the cumulative permanent reductions in potential growth of the EMDEs have to be qualified in one more respect: the role played by monetary policy. World Bank (2020, p. 49) points to the *benign* role of inflationary targeting in stabilizing the economy, quite in line with the assumption that monetary policy is neutral in the long run and claiming that

“Long-term potential output losses are somewhat more modest for countries that enter the recession with fewer vulnerabilities. For example, [...] EMDEs with inflation-targeting monetary policy regimes suffered about one-half the potential output losses in recessions and financial crises than countries with other monetary policy regimes.”

The World Bank claim is based on the empirical evidence appearing in **Figure 40**. On the face of it, the evidence shows that the cumulative decline in potential output suffered 5 years after a recession is higher in absolute terms in those developing economies lacking an inflation-targeting monetary policy regime than in economies which have such regimes. The cumulative decline in potential output in the first group is estimated to amount to 8.1% after five years, compared to ‘only’ 5.1% in the second group.

The problem with this particular claim is that it is not evident that the difference between the mean cumulative potential output declines in the first group and the second group of countries is statistically significantly different from zero. It is noteworthy that World Bank (2022, p. 149) uses the qualifying adverb ‘somewhat’ in writing that output losses are *somewhat* more modest for countries engaging in inflation targeting. This toning down is necessary, because, as can be seen in **Figure 40**, there is considerable degree of overlap between the means and their associated standard errors, as indicated by the 90% confidence bands. Hence, based on a visual appraisal, it is doubtful whether the mean difference in cumulative potential output losses between countries with and without an inflation targeting regime is statistically significant. **Box 1** takes a more formal look and uses Student’s *t*-test to investigate the statistical significance of this mean difference. I find that the mean difference is not likely to be statistically significantly different from zero. This falsifies the claim of World Bank (2020) that having an inflation-targeting monetary policy regime helps developing countries to better navigate a recession.

**Figure 40**  
Cumulative potential output response after recessions and financial crises



*Source:* World Bank (2020), Figure 3.1.3.D. *Note:* Charts show impulse responses for 75 emerging market and developing economies from a local projections model. Dependent variable is cumulative slowdown in potential output after a recession and financial crisis. Year *t* is the year of the event. Bars show coefficient estimates; vertical lines show 90 percent confidence bands.

Having an inflation-targeting monetary policy regime does nothing to help countries mitigate the long-term damages of a recession—but in contrast, may make it more likely, on theoretical grounds, that countries experience super-hysteresis: after all, rigidly targeting inflation at whatever cost to aggregate demand and capital accumulation runs the risk of depressing the growth rate of potential output for a long time to come. Monetary policy, again, thus hurts the real economy and is not neutral. In effect, the central bank will have to raise the interest rate even more (than it already did), because potential growth has been compromised. In contrast to the typical assumption that the unemployment gap is closed by raising the actual unemployment rate to the (constant) ‘steady-inflation’ unemployment rate, the gap is closed by raising the actual unemployment rate to a higher ‘steady-inflation’ rate (Storm and Naastepad 2012). All this, of course, only increases the (avoidable) economic waste, as argued by Lord Kahn.

### Box 1

#### Test of difference between the means

According to the data of World Bank (2020), the mean cumulative decline in potential output (after 5 years) in the group of countries lacking an inflation-targeting monetary policy regime is  $\mu_1 = -8.1\%$ ; the 90% confidence interval is  $[-6.0; -10.2]$ . The mean cumulative decline in potential output (after 5 years) in the group of countries having inflation targeting is  $\mu_2 = -5.1\%$ ; the 90% confidence interval is  $[-2.0; -8.2]$ . The mean difference, therefore, is  $\mu_1 - \mu_2 = -3\%$ .

The z-score used for a 90% confidence interval is  $z = 1.645$ . The 90% confidence interval for the mean can be expressed as follows:  $\mu \pm \frac{1.645\sigma}{\sqrt{n}}$ , where  $\sigma =$  standard deviation and  $n =$  the number of countries in the sample. The total number of countries in the sample is 75. I assume that the number of countries without an inflation-targeting monetary policy regime is  $n_1 = 45$ , and the number of countries in the other group is  $n_2 = 30$  (**Figure 33**). Using the information on the confidence band widths and assuming that  $n_1 = 45$  and  $n_2 = 30$ , the values of the standard deviations  $\sigma_1$  and  $\sigma_2$  can be inferred. Using these values, one can perform a *t*-test to test for the statistical significance of the mean difference between the two

groups of countries as follows:  $t = \frac{\mu_1 - \mu_2}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}}$ , where  $\sigma = \frac{(n_1-1)\sigma_1^2 + (n_2-1)\sigma_2^2}{n_1 + n_2 - 2}$

with degrees of freedom  $df = n_1 + n_2 - 2$ . The *t*-value, thus calculated, is  $t = -1.37$ . The critical *t*-value for a two-tail test (at 10% significance) is 1.67. The difference in means between the two groups of economies is not statistically significantly different from zero (at 10%).

The problem is, however, that what is lost by erroneous monetary policy is *potential* investment, *potential* productivity growth and *potential* jobs—which are all not measured in the national accounts, because the counterfactual absent excessive monetary tightening did not happen. This is crucial, because once the central bank acts believing that its monetary policy actions are neutral and do not impact potential growth and the real economy in the longer run, it will shape the macroeconomy in the image of that incorrect model.

To conclude, the situation is very likely worse than most establishment economists think. Excessive monetary tightening by central banks may well aggravate the problem of inflation, because the higher interest rates will, by bringing down business investment and aggregate demand, lower productivity growth and raise the ‘steady-inflation’ rate of unemployment. The economic damage done in the short run will spill over into permanent, long-run damage, because the growth rate of potential output will decline (Paternesi Meloni *et al.* 2022). The tragedy is that this ‘economic waste’ is completely avoidable—as Richard Kahn told us already more than sixty years ago.

## 6. Are there other ways to bring down or manage inflation?

The resurgence of global inflation is due to extraordinary circumstances: our globalized and deregulated world economy, built on just-in-time supply chains and cheap, flexible and abundant labor, has broken down under the combined weight of the consequences of the COVID-19 pandemic and the Russia-Ukraine war. Both demand and supply collapsed in response to the public health emergency, but as demand has recovered faster than supply, economies have become ‘overheated’, not at full capacity, but at a level of output and employment considerably below long-term potential.

Economists are debating whether it is preferable to use monetary policy to lower demand to the (depressed) level of supply or, alternatively, to use other tools to eliminate the supply constraints and speed up the recovery of the global economy’s supply side. Establishment opinion, as firmly expressed by World Bank (2022) and BIS (2022), holds that central banks should do what is needed to bring down inflation, irrespective of the economic and social collateral damage done by (much) higher interest rates, because the alternative—accelerating inflation, the de-anchoring of inflation expectations, and the loss of central bank credibility when it comes to inflation fighting—is believed to be the ‘worst possible of all possible worlds.’ World Bank (2022) and BIS (2022) praise the stabilizing function of credible inflation-targeting central banks—and are convinced that the short-run economic costs of monetary tightening, even if it is going to be very significant and bringing much economic and social pain, outweighs the ‘irreparable’ damage to economic development of the EMDEs in the long run, which (in their view) would be caused by insufficiently increased, or delayed, interest rates. This is also the majority view of global banks and mutual funds.

The problem is that establishment opinion is based on wishful thinking—for two reasons. First, the empirical evidence is unambiguous (see **Figure 35**): to bring inflation down, central bankers in the EMDEs will have to raise interest rates very strongly, and this will, with certainty, trigger deep



recessions, whereas the cumulative impact on (rising) CPI inflation will be relatively limited. One probably cannot help but be reminded of the saying that ‘the surgery was successful, but the patient unfortunately died’—the collateral damage of the extent of monetary tightening required to make a dent on the inflation rate is prohibitively large, which implies that it is macroeconomically not a rational policy option. The second reason why World Bank (2022) and BIS (2022) engage in wishful thinking, is that their argument is based on the empirically discredited assumption that monetary policy is ‘neutral’ in the long run (see **Section 5.4**). It is not surprising that drastic monetary tightening will not cause permanent, long-term damage done to potential growth, if one assumes that monetary policy is neutral in the long run. Doing so is an act of delusion—and the only rational justification for this is that it constitutes a self-serving strategy which helps central bankers to pardon themselves, rather conveniently, from any responsibility for the (permanent) damage caused by their monetary policy decisions.

If we accept that monetary policy cannot *safely* lower inflation, we are lost in uncharted territory: conventional instruments of macroeconomic policy that were used to some effect in stable times, are no longer of use in this era of upheaval, accelerating inflation, growing shortages and uncertainty. To underscore the point that we are not in Kansas anymore, let me briefly recapitulate the paper’s main argument and findings.

First, inflation is mostly caused by disruptions in global supply chains, and hence, for most countries, inflation originates from abroad; it is not just rising commodity prices that matter, but also rising (container) shipping costs (Carrière-Swallow et al. (2022)).

Second, due to the Russia-Ukraine war and the sanctions on Russia, global energy and food prices have increased and are expected to remain elevated; this raises prices via the *marginal cost* and the *strategic complementarity channels*. Higher foreign prices give domestic firms the space and an excuse to raise profit margins, and in the US, but also in Europe and in some EMDEs, this has been contributing to accelerating inflation.

Third, real wages of workers in the advanced economies (Storm 2022) and in the EMDEs (**Section 5.2**) have declined, as nominal wage growth is not keeping up with rising CPI inflation. Hence, drawing historical parallels between the current inflation and the stagflation of the 1970s is not helpful; unlike in the 1970s and after decades of labor market deregulation and union bashing, workers across the globe are relatively powerless and incapable of protecting their real wages in this inflationary era (ILO 2021). While corporate profits in the 1970s were squeezed by higher energy and commodity prices and higher nominal wages, corporate (‘pandemic’) profits have been growing in 2022, especially for the larger firms with market power.

Third, well-connected *commodity-market speculators* with privileged information make (futures) market prices move by betting they will move, and are thus contributing to higher commodity and energy prices. The Russia-Ukraine war turned commodity-price speculation into a one-way bet.

Finally, inflation will very likely remain high for a long time after the ending of the COVID-19-caused disruptions of global commodity chains and the disturbances to global (commodity and energy) trade caused by the Ukraine war. One reason is the fragmentation of the world economy,

due to geopolitical tensions which are leading to a permanently belligerent multi-polar world.<sup>25</sup> The other reason is the acceleration of climate change, and its manifestations in increasingly frequent and more intense extreme weather events (Storm 2022). Central banks cannot bring this kind of inflation down at a socially acceptable cost by means of monetary policy.

Hence, and for as long as it takes, governments will have to use other instruments to bring down inflation as well as complementary policies to manage and soften the societal consequences of high inflation as well as fairly possible. It is important to persuade policy makers in central banks to hold back from excessive monetary tightening and to seriously consider alternative paths of action to lower inflation and handle its socio-economic consequences in socially desirable ways. I first discuss the use of strategic price controls.

### **6.1. Strategic price controls**

The surge in inflation is mostly due to the rapid run-up of prices in the goods sector (particularly durable goods). The COVID-19 shutdowns shifted demand, sustained in part by the corona stimulus checks, out of services and into goods (Storm 2022), while at the same time, causing a collapse of global supply chains in durable goods and industrial components. Hence, as we have seen, the supply-side bottleneck in meeting the surge in goods demand was largely not a shortage of labor, but rather shipping capacity, shipping costs and lockdown-related delays. Higher global energy and commodity prices are fueling inflation further.

Oligopolistic firms, often endowed with enormous pricing power vis-à-vis their customers, are making use of the (temporary but long lasting) shortages, production cost increases and market chaos by raising their profit mark-ups; corporate profit rates in the US have increased to their highest level since World War II (**Figure 4**).

Persistent supply-side bottlenecks are making it impossible for supply to meet demand, creating socially undesirable opportunities for corporate profiteering that is driving up prices. In these circumstances, temporary strategic price controls (Galbraith 1980), accompanied by supply-enhancing policy measures, can be used to eliminate corporate profiteering and prevent key prices (of energy and food) from shooting up. As Weber (2021) argues, such “price controls would buy time to deal with [supply-side] bottlenecks that will continue as long as the pandemic prevails. Strategic price controls could also contribute to the monetary stability needed to mobilize public investments towards economic resilience, climate change mitigation and carbon-neutrality.” Price controls should be accompanied by—what US Treasury Secretary Yellen has called—‘modern supply-side economics’ (Omeowkwe 2022).

Price caps on fuel, energy and basic food items will bring about a redistribution through the regulated price to lower-income consumers, and so achieve not just a more equal distribution of essential consumer goods, but also a more efficient allocation of resources than could be achieved in a non-regulated market (Dworczak, Duke Kominers and Akbarpour 2021). Price controls do not eliminate the root causes of inflation, but the unwanted effects of rising prices can be contained.

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<sup>25</sup> I am grateful to Tom Ferguson for pointing this out.

There is no doubt that we need energy price policies, because the entire economic system must be transformed to lower carbon emissions and mitigate climate change.

In response to the COVID-19 inflation, many governments in Europe, including those of Belgium, Hungary, Poland, Spain, Portugal and the UK, have resorted to regulating retail energy prices in order to protect consumers from rising energy prices (Sgaravatti *et al.*, 2022). The European Commission is considering the option of imposing a maximum regulated price for natural gas delivered to European consumers and companies in an attempt to deal with the expected “full disruption of Russian gas supplies” (Simon 2022). Price controls are widely employed in the emerging economies, especially in energy (electricity) and (basic) foodstuffs. The Chinese state has been imposing price controls on iron ore, copper, grain, meat, eggs and vegetables in its 14th five-year plan for 2021-25 to address abnormal fluctuations in prices, while also controlling electricity prices in ways to promote carbon reduction (Zhang *et al.*, 2021).

Strategic price controls are controversial. However, the key argument *against* (temporary) price controls is surprisingly weak (Tucker 2021). The standard (microeconomic) idea is that price controls block the market mechanism from doing what it is supposed to be doing: creating the (‘socially efficient’) relative price signals that reflect relative scarcities and trigger a reallocation of resources in favor of the production of those goods and services that are in excess demand. The problem with this conventional micro view is twofold.

First, it is based on the evidently false assumption that the prevailing market prices are socially efficient, which is not the case in an economy with oligopolistic markets. Accordingly, since the prevailing prices are in no way ‘socially efficient’, there is no *a priori* reason for believing that government controls will distort them; price controls could even ‘improve’ them (Galbraith 1980). Second, a reallocation of resources (driven by relative price signals) will take a considerable length of time in effecting adjustments to changes in supply or demand conditions, even if we assume that the price mechanism is capable of bringing it about. During this long period of market-led adjustment, the cumulative social and economic cost of high inflation, particularly of basic items such as food and energy, will be large, especially for the lower and middle-income groups. Worse yet, there are good reasons to assume that the proverbial market mechanism will be incapable of eliminating the sources of today’s inflation, which are lying in the COVID-19 caused disruptions of supply chains and the Ukraine war.

Economists who are calling on the Federal Reserve to raise interest rates in order to prevent inflation from spiraling out of control, implicitly recognize that the market mechanism cannot remove the excess demand quickly enough, so that inflation expectations may become unanchored and high inflation becomes entrenched, at great social and economic costs. To avoid this undesirable outcome, the Federal Reserve has ‘to do whatever it takes’: raising interest rates by as much as is necessary to stop inflation and keep inflation expectations anchored at 2%. It is somewhat ironic that the Fed’s control over the interest rate, a ‘macro price’, is not generally considered to be instance of price control.

However, the collateral damage of raising interest rates, which is both a blunt and relatively ineffective instrument to control inflation, will be unnecessarily large (Storm 2022)—as has been argued for the EMDEs in this paper. Worse, monetary tightening cannot and will not remove the

supply-side bottlenecks driving the inflation. As the Bank of England governor, Andrew Bailey (2021), pointed out, “monetary policy will not increase the supply of semiconductor chips, it will not increase the amount of wind [...] and nor will it produce more [Heavy Goods Vehicle] drivers. Moreover, tightening monetary policy could make things worse in this situation by putting more downward pressure on a weakening recovery of the economy.”

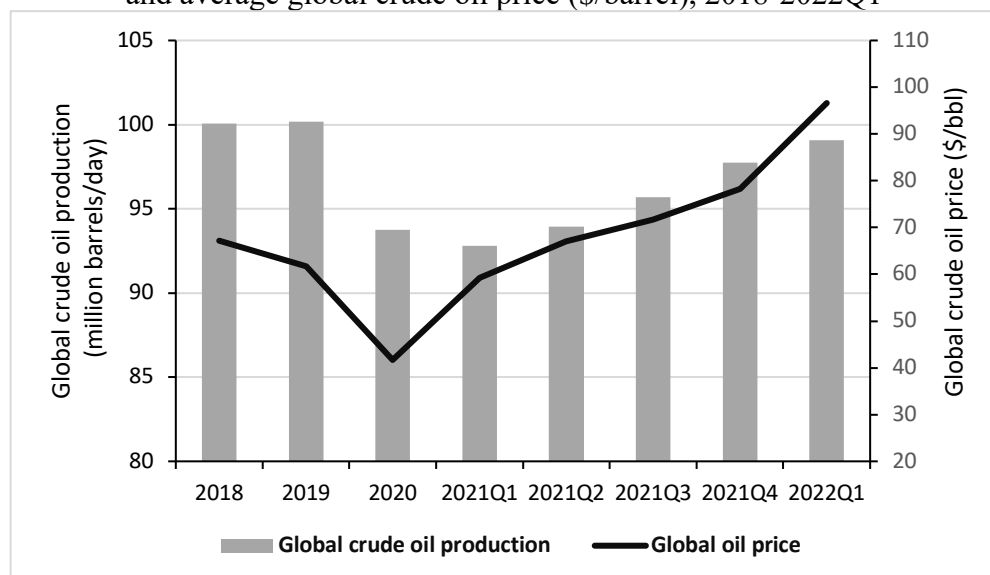
Let me be clear: this is not an argument for general price controls, but for regulation of the prices of *essential* goods or services in response to the specific shock of COVID-19. And yes, price controls will have negative side-effects and unintended consequences, just like any other intervention. But the collateral damage of temporary and strategic price controls will be smaller than that of *generic* monetary tightening, and, what is more, the burden will fall more heavily on the strongest shoulders (profiteering corporations and the rich) rather than on the weakest (workers losing their jobs).

## **6.2 Cracking down on commodity and energy price speculation**

Rising energy (oil) and commodity prices are key drivers of accelerating inflation. Speculation is pushing up energy and commodity prices—as we have seen in **Section 3.2**. Measures to strengthen commodity market regulations in the US and EU are needed to eliminate these perverse sources of commodity price inflation (Larsen 2022). Let us consider global oil prices and prices of wheat in more detail.

Global oil prices have increased during 2021-22 even if global oil production is 6 million more barrels a day greater in 2022Q1 than in 2021Q1 (**Figure 41**). The reason is that oil prices are not driven by scarcity (‘fundamentals’), but by speculative trading in commodity (futures) markets. The virtual trade in oil futures has come to dwarf the physical trade of oil in spot markets: about a billion barrels of oil a day get traded, while the actual production is only around 100 million barrels per day (**Figure 41**). Hence, more than 10 times the physical amount of crude oil is traded in future contracts. As a result, the futures trade now determines the price of oil. All the major oil companies, leading US banks, and private energy trading houses led by Vitol, Trafigura, Mercuria, and Glencore, are involved in speculative energy trading (Juhasz 2022).

**Figure 41**  
Global crude oil production (million barrels per day)  
and average global crude oil price (\$/barrel), 2018-2022Q1

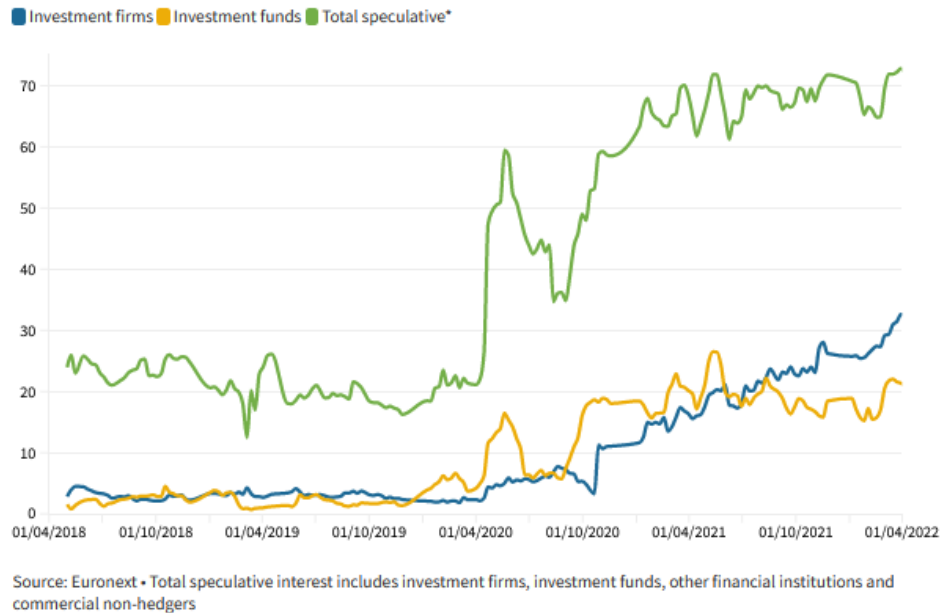


Source: OPEC (2022) Monthly Oil Market Report, April 2022;  
and World Bank Commodity Price data (The Pink Sheet).

Likewise, speculative activity by hedge funds, investment banks and pension funds has driven up wheat prices—prices of (soft red winter) wheat, the supply of which is affected the most by the war in Ukraine, rose by more than 100% between January and April 2022. Wheat prices increased notwithstanding the fact that the wheat shortfalls due to the Ukraine war are likely to be made up by other countries (including the US, Canada and Argentina) and comfortably high global wheat stocks (IPES 2022). Fundamentals cannot explain the sharp rise in wheat prices, but excessive speculative activity can (Kornher *et al.* 2022).

On the supply side, four private corporations—Archer-Daniels Midland, Bunge, Cargill, Dreyfus, the ‘ABCD’ of grain trading—account for 70-90% of global grain trade and have a clear incentive to hold stocks back until prices are perceived to have peaked (IPES 2022). On the demand side, financial speculators rushed into wheat futures, commodity swaps and agriculture-linked exchange traded funds (ETFs), immediately following the invasion of Ukraine. The share of speculators in buy-side wheat futures contracts has increased from 23% of open interest in May 2018 to 72% in April 2022 (Agarwal, Win and Gibbs 2022), as is illustrated by **Figure 42**. By April 2022, seven in ten buyers of futures wheat contract were investment firms, investment funds, other financial institutions and commercial non-hedgers whose aim was to profit from the rise in prices; Agarwal *et al.* (2022) find that investment firms increased their presence in the buy side of the wheat futures market in Paris from 4% of open interest in 2018 to 25% in April 2022, and investment funds increased their presence from 1% to 21% of open interest.

**Figure 42**  
Composition of open interest in long (buying positions)  
in the Paris wheat market (as percent of total open interest)



Source: Agarwal, Win and Gibbs (2022).

Data from the CFTC also show increased speculative activity in wheat in the Chicago Board of Trade (CBOT), as is clear from the strong growth in Exchange Traded Funds (ETFs) linked to agricultural commodities in 2022. Financial investors are cashing in on rising food prices. “Managed money has been buying long futures contracts of Soft Red Winter wheat following Russia’s invasion of Ukraine. Together with swaps dealers, they owned 58% of long futures-only contracts, their highest combined share since 2014, just as Chicago wheat hit its peak in early March,” conclude Agarwal *et al.* (2022).

The speculation-driven rise in energy and commodity prices has been facilitated by a failure of regulatory bodies including the *Commodity Futures Trading Commission* (CFTC), the main regulator of US energy markets, and the European Securities and Markets Authority (ESMA), to enact the rules they have been tasked with in the face of intense lobbying and opposition against these rules by the financial sector. But Wall Street firms are exploiting loopholes in the regulation of complex financial trades related to commodities like oil and wheat. One example of such a regulatory loophole concerns (commodity) swaps, which are essentially bets on commodity prices. Wall Street firms can escape CFTC regulation of its swaps simply by trading them via overseas affiliates; the reason they can do so is because footnote 563 of the *Interpretive Guidance and Policy Statement Regarding Compliance with Certain Swap Regulations* (CFTC 2013) states that CFTC regulations do not apply if non-U.S. traders explicitly affirm that the swaps are not financially backed, or guaranteed, by a US firm. As pointed out by Michael Greenberger (2018), footnote 563

was added after a great deal of lobbying by Wall Street firms. As a result, most of Wall Street's swap deals went overseas. Speculative commodity swaps are currently driving up commodity prices (Larsen 2022).

However, the CFTC and ESMA do have instruments to protect the futures markets and swap markets from excessive and socially costly speculation, particularly by non-end users. For one, the CFTC can discourage speculators by tightening position limits in energy futures markets to discourage speculative, market momentum-based speculators, *i.e.*, limiting the number of shares or derivative contracts that a trader, or any affiliated group of traders and investors, may own. Position limits on oil, gas and key agricultural commodities which currently are too high to make a meaningful difference, have to be tightened and the enforcement of these tighter limits needs to be enforced. On top of raising position limits, the CFTC should increase margin requirements, forcing traders, especially non-end users, to hold larger capital reserves for a given number of positions, making it much more expensive to corner the market and gain from speculation.

In addition, “financial institutions should step back from selling agricultural commodity ETFs and CIFs at times of heightened food prices and mounting speculation. The potential to discourage financial speculation through a tax on commodity index funds and other derivatives trades should also be explored, building on calls for a *Financial Transaction Tax* in the wake of the 2007-2008 economic crash, and more recent demands in the US and UK for a windfall tax on fossil fuel companies profiting from the current crisis” (IPES 2022, p. 22).

This way, financial regulation cracking down on excessive speculation in energy and commodity markets can contribute to lowering inflationary pressures.

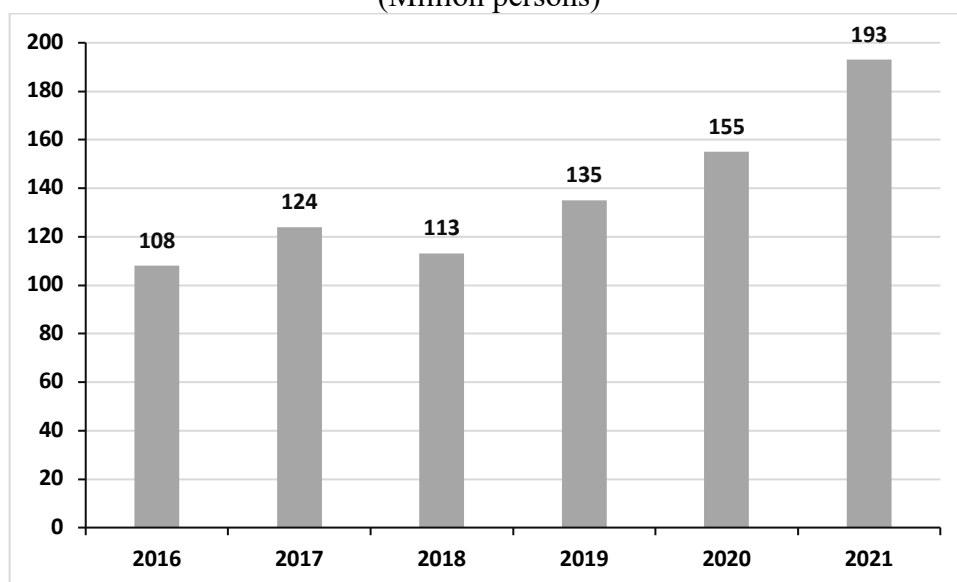
### **6.3 Shielding the lowest income groups from the inflation**

Still recovering from the downturn caused by the COVID-19 global health emergency, developing economies are being hit hard by soaring inflation and rising global interest rates. As we have seen, the price increases are concentrated in essential goods including food, fuels and staple consumer goods, as the war in Ukraine (and associated sanctions) amplified existing global shortages of these items that are caused by corona-driven dislocations in global commodity chains. High and rising prices for fertilizers and pesticides raise food crop production prices—and may hurt crop supply. China, India, Brazil and Indonesia belong to the world's top-5 fertilizer users (along with the US), and they are also the world's biggest fertilizer importers (Baffes and Koh 2022). Insufficient access to and high costs of critical agricultural inputs will lower agricultural productivity, which in many places is already depressed by the consequences of global warming, and lower farmers' marketed surplus, impoverishing small (peasant) farmers and making food consumers in the EMDEs even more vulnerable to shocks. Higher food prices alone will push an additional 75 million to 95 million people into living in extreme poverty in 2022, compared to pre-pandemic projections (Gerszon Mahler *et al.* 2022).

The food and fuel inflation in the EMDEs is thus eroding real incomes, particularly of the lowest income groups, and raising poverty, magnifying hunger, (extreme) poverty and malnutrition.

Globally, in 2021, hunger levels surpassed all previous records as reported by the *Global Report on Food Crises 2022* (FSIN 2022) with close to 193 million people *acutely food insecure* across 53 countries—nearly 40 million more people than during the previous high reached in 2020 (**Figure 43**). WFP and FAO warned that acute food insecurity could worsen in 20 countries or areas during June to September 2022. FAO (2022) *State of Food Insecurity and Nutrition in the World 2022* states that 828 million people were hungry in 2021, an increase of 150 million persons since the start of the COVID-19 crisis in 2020.

**Figure 43**  
Population in crisis or worse (IPC/CH Phase 3 or above)  
(Million persons)



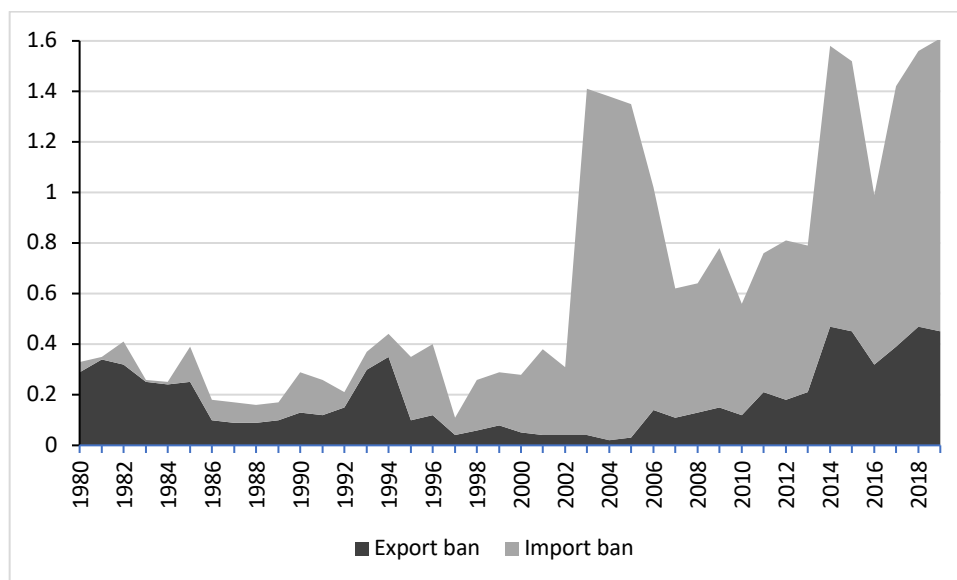
*Source:* Food Security Information Network (FSIN 2022).

Inflation has clear negative distributional effects, not only in emerging economies, but everywhere, because poorer households actually experience higher rates of inflation than richer households (**Section 3.2**). The poorest households spend a larger proportion of their budgets on fuel, energy, and food than the richer households. Rising fuel, energy and food prices disproportionately hurt the lowest income groups—raising inequality in living standards and life opportunities. At the same time, poorer workers tend to work in casualized, informal-sector jobs and generally are not organized in unions; as a result, their real wages are squeezed as inflation outpaces their nominal pay rises (if any). The lowest-income households also lack savings to smooth their consumption over time, and instead often hold debts; their debt-service payments will increase following monetary tightening. In this environment of high and un-equalizing inflation, a pronounced deterioration in living standards would lead to social unrest and political instability, and possibly trigger political repression.



Because the higher inflation is not going to go away any time soon, it is of critical importance to manage its distributional consequences, shielding vulnerable groups from the higher costs of energy, fuel and basic food. This means that (redistributive) fiscal policy will be crucial. Many governments in the developing countries have turned to (temporary) subsidies (on food and energy) to dampen the impact on households. And many governments are considering the use of trade restrictions and export bans to protect available domestic supplies of food and/or energy. **Figure 44** illustrates the trend: in the 1990s, only 0.3% of international trade fell under export and import bans; the proportion of international trade under bans increased to 1.45% during 2014-2019. The embargoes triggered by Russia’s invasion of Ukraine, and moves by countries to protect domestic consumers by barring sales (of food) abroad—like India’s ban on wheat exports in April 2022—have pushed the figure higher still.

**Figure 44**  
 Proportion of international trade under export and import bans  
 (As percentage of global trade), 1980-2019



Source: Global Sanctions Data Base (Felbermayr *et al.* 2020).

While imposing such export restrictions is understandable from the perspective of the country concerned, it is also obvious that this ‘go-it-alone’ strategy is not helping other food-importing economies to cope with the global food shortages and rising food prices. Global coordination with the aim to improve access to food and to bolster food security will be critical at this juncture, but is—unfortunately—in short supply.

Global coordination must include the curtailment of speculative activity in commodity (futures) markets, the banning of using agricultural land to produce biofuels instead of food, the curbing of

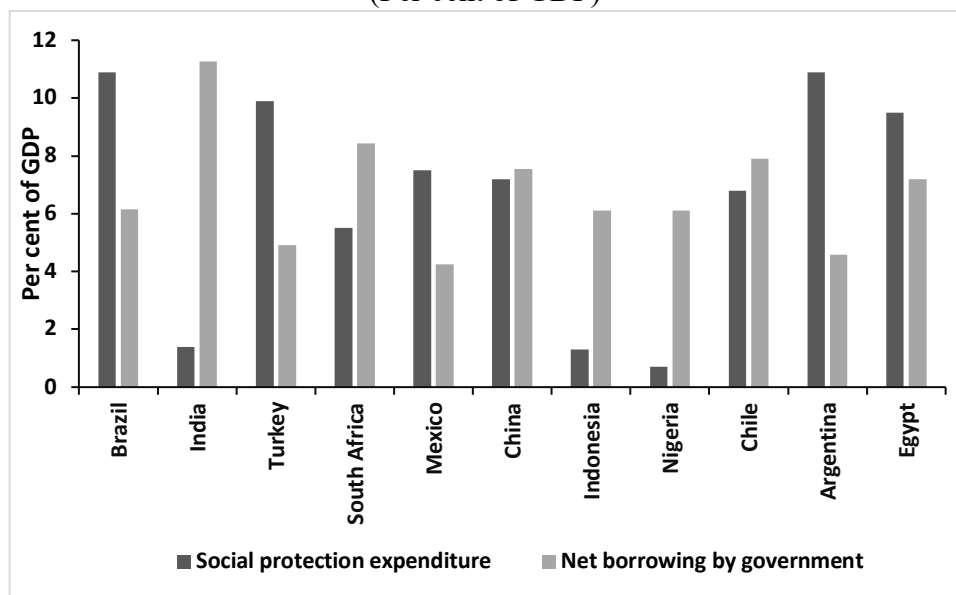
corporate market power in global food trade, imposing taxes on excess (pandemic) profits of energy and food corporations, development aid and debt relief. However, all these measures will be to little avail if central banks in the advanced economies drastically tighten their monetary policy stance.

Governments in the EMDEs should use existing social welfare policies to protect the poorest from rising prices. These social protection policies include targeted safety nets such as cash transfers, food, and in-kind transfers, school feeding programs, and public works programs. There are many, effective, ways in which governments can shelter the poorest and most vulnerable households against the mounting cost-of-living inflation, but the success of any such intervention depends on whether or not it can be adequately funded. This is the crux: as global and domestic financial conditions tighten, (non-concessional) borrowing costs for often already heavily indebted governments are rising—and compromising the space for fiscal policy support, right at the time when it is most essential.

Fiscal deficits in most emerging economies in 2021 are high relative to public spending on social protection (both defined as a percentage of GDP), as is shown in **Figure 45**. In India, Indonesia and Nigeria, social protection spending is only a small proportion of GDP and much smaller than the fiscal deficit. Argentina, Brazil, Chile, China, Egypt, Mexico and South Africa are spending relatively more on social protection as a share of GDP, but are also struggling with relatively large fiscal deficits. According to World Bank (2022, p. 69), “to help alleviate the consequences of food price volatility on the poor, EMDE policy makers need to strengthen social safety nets and enhance the resilience of food production and distribution systems, while refraining from price control measures.” At the same, EMDE fiscal policy makers are advised to tighten fiscal policy, reducing fiscal deficits and address concerns of global financial investors about long-run debt sustainability (World Bank 2022, p. 69).

The World Bank’s covert plea for fiscal austerity is difficult to square with the need to strengthen social protection in this time of corona and war—and prioritizing the concerns of global financial investors over those of workers, peasants and small businesses is a rather perverse instance of getting everything upside-down. The point is that we need ‘smart’ fiscal policies, instead of misplaced austerity, to enable a fair sharing of the burdens that inflation is imposing on the economy and society. There is much more at stake in doing this well than the conventional, but narrow, macroeconomic indicators (*e.g.*, the fiscal deficit, public debt and the unemployment rate), because most societies in the world appear to be at a breaking point, unable to cope with a further increase in (an already intolerably high degree of) inequality. Thus, governments should find ways to finance the relief measures protecting the working-class and poorest households out of temporary increases in taxes on the highest income earners and on corporate profits—while at the same time, imposing strategic price controls.

**Figure 45**  
Public social protection expenditure and net government borrowing, 2021  
(Per cent of GDP)



*Sources:* for social protection expenditure (excluding health care) in latest year for which data are available: ILO (2022) *World Social Protection Report 2020-22*, Figure 2.2. For net government borrowing in 2021: for Argentina, Brazil, Chile, China, India, Indonesia, Mexico, Nigeria, South Africa, and Turkey: FRED database and IMF *World Economic Outlook* October 2021 database; for Egypt: Central Bank of Egypt database.

To successfully navigate the looming crisis of global stagflation, the developing countries will need to organize their economies, for some time, on a ‘wartime’ footing—mobilizing and directing resources (including food and energy) to essential activities (such as food production) and vulnerable households, while not allowing mere money in the pockets of the largest corporations and wealthiest individuals to direct and determine (macro-)economic outcomes.

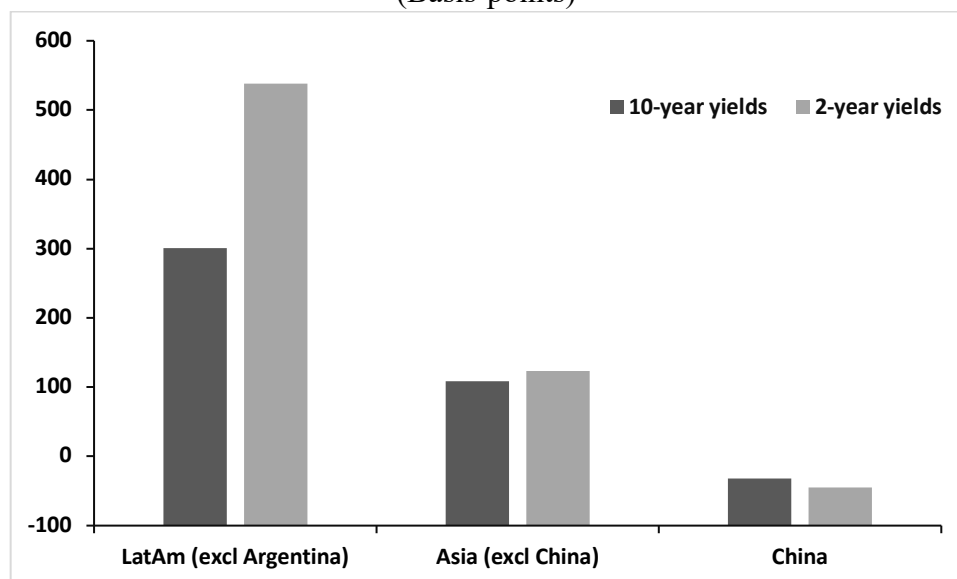
Mahatma Gandhi was correct when he said that “the true measure of any society can be found in how it treats its most vulnerable members.” Gandhi’s statement has taken on a renewed importance due to the inflation in the time of corona and war.

#### 6.4 Debt relief and access to US dollar liquidity

Higher inflation and the war in Ukraine led to sharply tighter global financial conditions in 2022 (BIS 2022, pp. 9-10), as reflected in higher sovereign yields (UNTAD 2022, p. 22). Ten-year sovereign yields in Latin America (excluding Argentina), where inflationary pressures were strongest and many central banks had already started tightening policy early in 2021, rose by 300 basis-points between July 1, 2021 and May 30, 2022, while yields on two-year bonds rose by 538 basis-points (**Figure 46**). For Brazil, where government debt is equal to almost 100% of GDP, this means that interest payments on public debt increased by 3 percentage points of GDP between July 2021 and June 2022. In Asia (excluding China), governments had to pay 123 basis-points more on

two-year bonds and 108 basis-points more on ten-year bonds on May 30, 2022, than on July 1, 2021 (**Figure 46**). For India, where public debt is around 90% of GDP, interest payments on sovereign debt increased more than 1 percentage point of GDP during July 2021 and June 2022.

**Figure 46**  
Change in sovereign yields from 1 July 2021 to 30 May 2022  
(Basis-points)



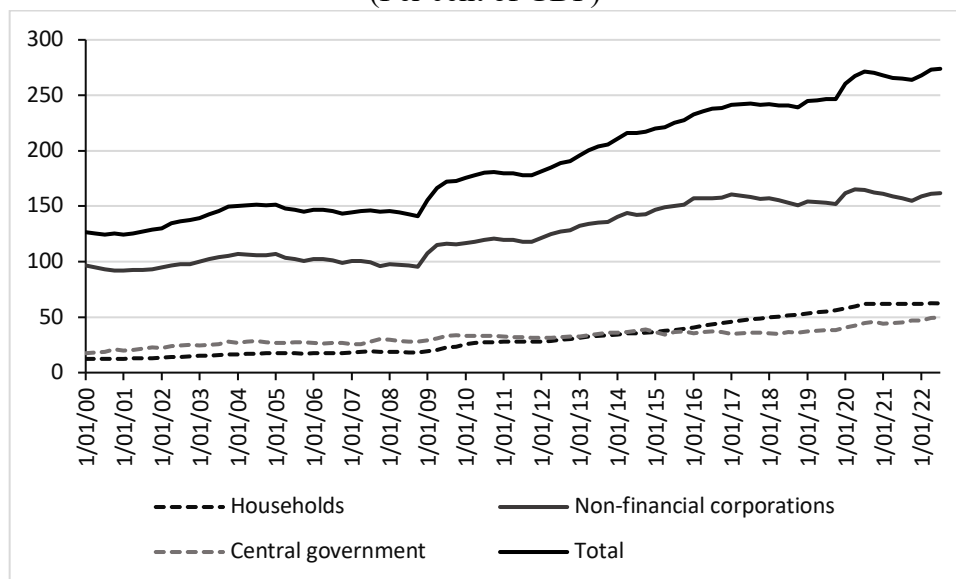
Source: BIS (2022), Graph 9C.

Chinese (domestic) debt warrants separate consideration for two reasons. Firstly, because total (non-financial sector) debt has almost doubled between 2008 and 2022Q3 (**Figure 47**); China's total debt-to-GDP ratio increased from around 140% in 2008 to 274% in 2022Q3. Secondly, because the high debts of households and local governments are becoming increasingly difficult to service and a Chinese debt crisis may ensue.

Let us first look at Chinese household debt which has more than doubled (as a percentage of GDP) since 2012. Servicing these household debts is eating up disposal income that could otherwise be used to buy goods and services, and, hence, high household indebtedness, combined with rising interest rates, is undermining consumer demand and economic growth. Chinese households increased borrowing mainly to purchase houses (apartments), mostly in presale transactions—purchases of properties not yet built. Rising house prices and low interest rates made this possible during 2010-2020. But in 2020, the Chinese government began to slow down the property sector, whose ballooning levels of debt were worrying officials. China's property sector has been cooling down rapidly in 2022, following the corona lockdowns and Zero-COVID policies, economic stagnation and rising interest rates. The property market went into freefall, and developers slashed purchases of land. All this has resulted in a liquidity crunch for Chinese property developers, as

presale receipts plummeted and access to bank financing became increasingly difficult (IMF 2022). The near default of China Evergrande Group, one of China’s largest property developers, in Spring 2021 is all too well known. Prices for new homes are falling in 70 major cities, some 2 million off-plan homes, presold to Chinese households, remain unfinished across the country, and Xi Jinping’s government is forced to bail out the property market in an attempt to prevent a financial-sector crisis (Farrer 2022).

**Figure 47**  
China’s domestic debt, 2000Q1 – 2022Q3  
(Per cent of GDP)



Source: National Institution for Finance & Development; <http://www.nifd.cn/Home/IndexEn>

Chinese *central* government debt has increased from 28% of GDP in 2008 to almost 50% of GDP in 2022Q3. But the Chinese state has a far larger debt burden, because hidden *local* government debt, which is included in the debt of the non-financial corporate sector (in **Figure 47**), has increased to more than 50% of GDP by 2021. Worryingly, most of China’s local government debt is held by off-balance-sheet state-owned or state-controlled financial institutions, called local government financing vehicles (LGFVs). Many of these borrowings by LGFVs, which are estimated to amount to \$8 trillion, are not recorded and transparency is weak when it comes to how the funds are used. The LGFVs financed their investment in local government debts by issuing bonds, which are now at risk of defaulting amid the building crash in China’s residential property market (Farrer 2022). The reason is that property developers slashed their purchases of land, which local governments rely upon to balance their books. As local government revenues began to dry up, the ability to service LGFV debt weakened.

It is, as yet, unclear how Xi’s government will tackle the unavoidable LGFV debt crisis. Macroeconomically, total (consolidated) debt of the Chinese state is around 100% of Chinese GDP, and higher interest rates will hurt China’s public finances—as in Brazil and India.

Short-term public debt-servicing obligations are concerning, as developing countries are to require \$310 billion to meet external public debt-service requirements in 2022—the equivalent to 9.2% of the outstanding stock of external public debt at the end of 2020 (UNCTAD 2022, p. 22). Several EMDEs including Egypt are vulnerable to a sudden stop (and reversal) of financial inflows. Importantly, a more expensive US dollar will increase the debt-servicing costs (in local currencies) of EMDE non-financial corporations (NFC) with unhedged currency exposure, thereby exacerbating liquidity and solvency concerns. Because of tighter global financial conditions, NFCs in China, Brazil, India and Mexico having significant refinancing needs during 2022-23 may soon be facing prohibitive costs while raising new dollar debt or rolling over their existing dollar debt.

Rising debt-service obligations, and elevated public debt levels, are constraining the fiscal policy space of many developing countries (UNCTAD 2022), right at the time when using this policy space is critical to shield the poor and vulnerable from the building cost-of-living crisis. Worse still, higher indebtedness likely reinforces the contractionary effects on GDP growth of tighter monetary policy (BIS 2022)—hence, the combination of tight fiscal constraints and higher interest rates is toxic for most EMDEs.

Debt relief, beyond the current *G20 Common Framework for Debt Treatments Beyond the Debt Service Suspension Initiative* (DSSI), will be imperative (UNCTAD 2022). This, in turn, requires the revitalization of a multilateral debt resolution framework in line with the United Nations General Assembly Resolution on “Basic Principles for Sovereign Debt Restructuring Processes” (September 10, 2015). As UNCTAD (2022, p. 27) argues, “the framework should be designed around a definition of debt sustainability that incorporates the financing requirements for developing countries to recover from the pandemic, achieve the 2030 Agenda and successfully implement climate mitigation and adaptation strategies.”

In addition to debt relief, central banks in the developing countries will need sufficient access to US dollars in order to manage exchange rates and to invoice their exports and imports. Central banks in the EMDEs are attempting to mitigate pressures in national currency bond markets and to stem capital outflows, including foreign exchange interventions and central bank liquidity support in both domestic and foreign currencies (for which they need foreign exchange reserves). Having abolished capital controls, many developing countries have increased their foreign exchange reserves in recent years, but because their external debts also increased, aggregate reserves adequacy (relative to these debts) has only increased slightly for major EMDEs (excluding China) and has fallen in China (FSB 2022, p. 8).

As is shown in **Figure 48**, foreign exchange reserves (measured in terms of imports) in May 2022 are relatively low in Turkey (1.8 months of imports), Mexico (3.4 months), Argentina (4.1 months), Egypt (4.1 months), South Africa (4.7 months) and Chile (5 months), which indicates that these economies are vulnerable to US dollar liquidity shortages following abrupt financial outflows. Argentina and Turkey are will be particularly vulnerable to tightening global financial conditions, because they are holding large stocks of dollar-denominated debts.<sup>26</sup> However, foreign

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<sup>26</sup> In 2020, six countries – Argentina, Ecuador, Belize, Lebanon, Suriname and Zambia – defaulted on their sovereign debt. Sri Lanka followed in 2022, defaulting on its external debt in May. It is feared that Sri Lanka will be the first in a wave of defaults, as other highly-indebted low- and middle-income countries

exchange reserves have declined in other EMDEs as well. Brazil's forex reserves have fallen from a comfortable level worth 21 months of imports in June 2021 to 14.7 months of imports in May 2022.

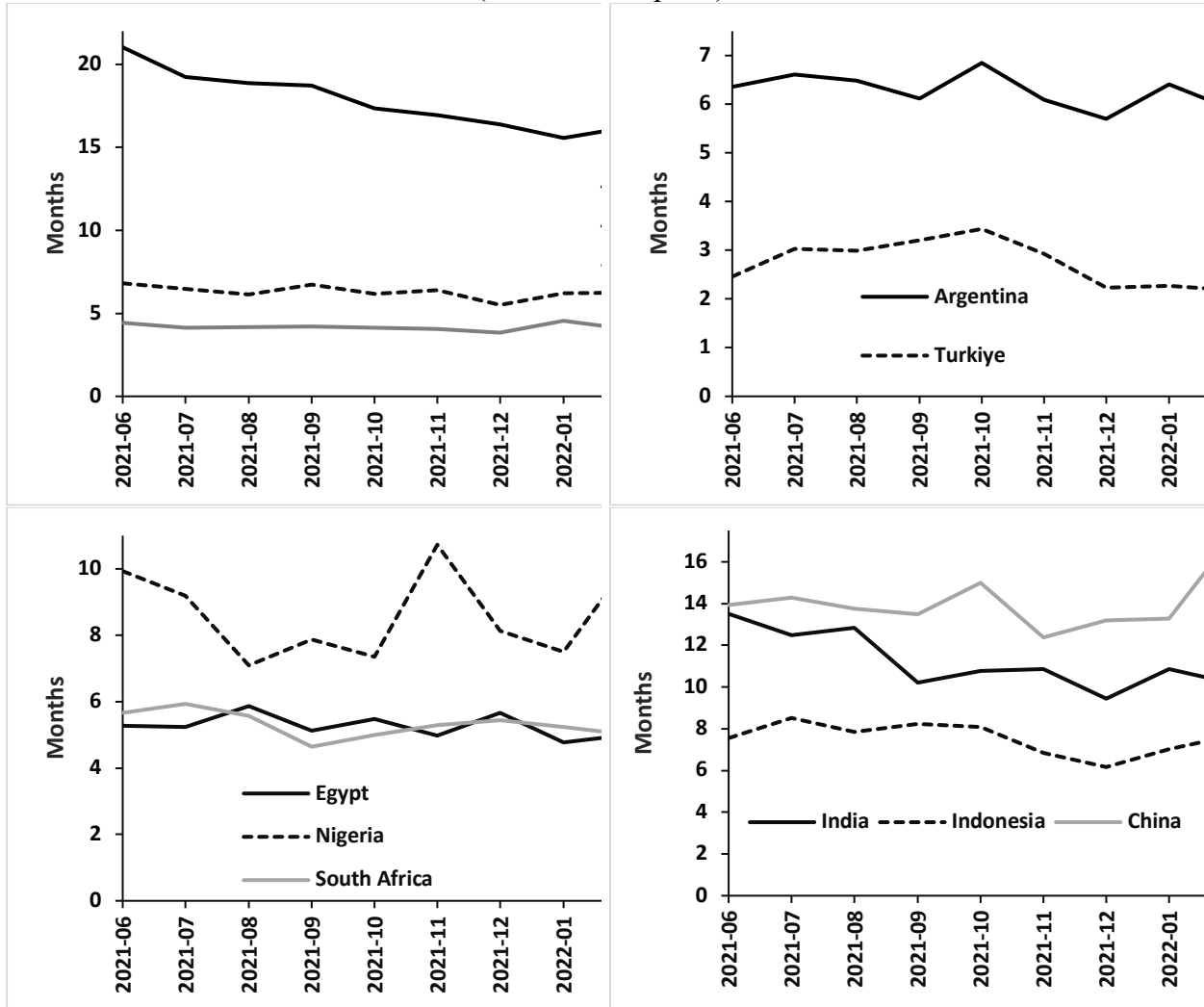
In India forex reserves fell from being equivalent to 13.5 months of imports in June 2021 to 8.5 months of imports in May 2022. In US dollars, India's foreign exchange reserves amount to around \$600 billion in May 2022, but the country has to repay external debt worth \$256 billion during January-September 2022; half of these debt repayments concern repayment of private external debts by Indian NFCs (Singh 2022). Hence, India's total external debt maturing until September 2022 accounts for 40% of the country's forex reserves.

The developing economies have also increasingly borrowed (in US dollars) from non-bank financial institutions (NBFIs) such as investment funds (FSB 2022); empirical evidence indicates that investment funds—especially those that are either passively managed or follow benchmark indices—are likely more disposed to global financial conditions, accentuating the procyclicality in capital flows.

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(including Egypt, Pakistan and Turkey) struggle with runaway inflation, supply shocks and rising external debt-servicing obligations.

**Figure 48**  
Foreign exchange reserves in major Emerging Economies (June 2021-May 2022)  
(Months of imports)



**Figure 48:** Source: <https://www.ceicdata.com/en/indicator/india/foreign-exchange-reserves-months-of-import>.

While the capital account of the balance of payments of the EMDEs is determined by the US monetary stance, and in important case, by the policy position of the Chinese (see **Box 2**), the current account is strongly dependent on external demand from China, the US, and the Eurozone, with many EMDEs being mostly integrated upstream in global supply chains. However, the combined effects of the Ukraine war and renewed Covid-19 outbreaks in China have delayed the normalization of supply chains, weighing on global trade; according to recent IMF forecasts, the growth of the volume of global trade (in goods and services) will decline from 10.1% in 2021 to 5% in 2022 and 4.4% in 2023. In addition to this slowdown in world trade growth, many EMDEs have to deal with large terms-of-trade shocks. Hence, EMDEs' current account balances are being affected by both volume and price effects through changes in global demand and relative prices.



Net (commodity) exporting countries (such as Indonesia, Nigeria and Mexico) will benefit from higher commodity and energy prices, whereas net importing countries (including Egypt, India, South Africa and Turkey) will take a hit and experience currency depreciations.

Against this background, the ability of developing economy central banks to manage the negative spill-over effects of monetary tightening in the US will depend on access to global US dollar liquidity. These central banks typically hold stocks of US treasuries which can be sold in times of financial stress. In addition, developing economy central banks can access US dollars through the FIMA repo facility, set up by the Federal Reserve in 2021 to provide short-term US dollar liquidity to foreign central banks in exchange for US dollar-denominated securities, which serve as collateral in these repo deals (UNCTAD 2022). However, many EMDEs do not have the (US-dollar denominated) collateral and, therefore, cannot use the FIMA repo facility. Some countries including Brazil and Mexico have been given temporary liquidity swap access to US dollars via the Federal Reserve—but the central banks of most EMDEs including China have to engage in bilateral currency swap arrangements (Gislén, Hansson and Melander 2021).

## Box 2

### China: Belt, Road and Overseas Debt

During the past decade, China has become a leading official creditor, surpassing all members of the Paris Club and challenging the IMF's central position (in concessional lending). Since 2013, China has made more than \$1 trillion available via the Belt and Road Initiative (BRI) for infrastructure projects in Asia, Africa, Europe, and Latin America. But now, the Chinese banks are sharply reducing lending to low-income countries after key borrowers are failing to repay their loans.

Following the COVID-19 crisis and the Ukraine war, around 60% of the 68 low-income countries eligible for the *DSSI* are at high risk of, or already in, debt distress. The debt burden of the world's low-income countries "rose 12% to a record US\$860 billion in 2020" (World Bank 2021). In 2020, those countries, including Angola, Bangladesh, Cambodia, Laos, Mozambique and Zambia, owed \$110 billion to China—more than all other official bilateral creditors combined. It is estimated that 26% of the total debt service paid by the 68 DSSI countries in 2022 would go to China (Green Finance & Development Center 2022; Yue and Nedopil 2022).

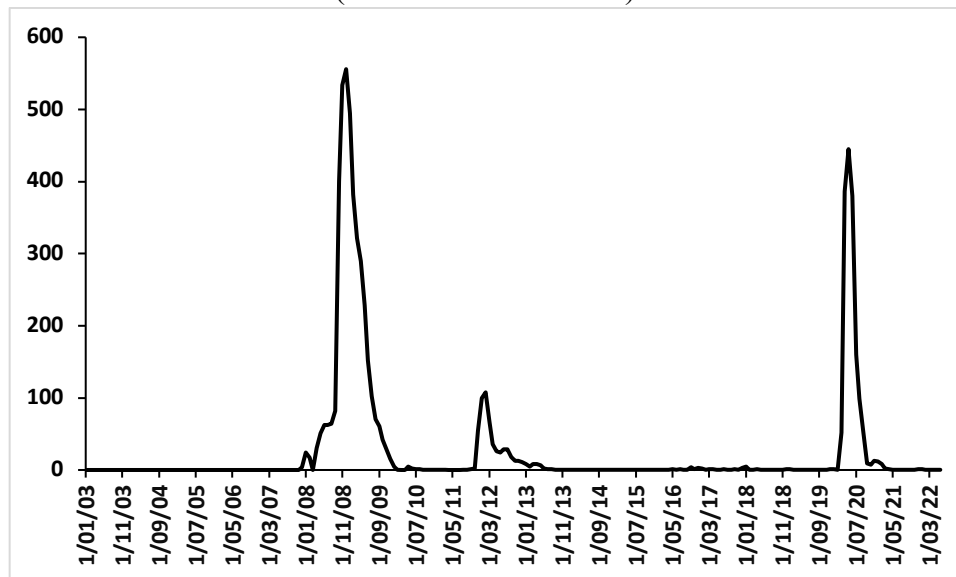
In response to the rising debt distresses, China has moved significantly away from project lending and towards emergency rescue lending. State-owned Chinese banks made \$26 billion in balance-of-payments loans to Pakistan (\$22 billion) and Sri Lanka (\$3.6 billion) in the past four years. But China's overseas' problems continue to grow: Sri Lanka defaulted on its debt in May 2022 and is seeking a bailout from the IMF; the recent floods in Pakistan have forced Islamabad to go to the IMF for a bailout package. Similarly, Bangladesh is finding it difficult to service its external debts, and several African countries have been unable to complete the BRI projects and are finding it difficult to repay their loans.

Beijing is now facing serious trouble in the recovery of its loans. Chinese financial institutions had not prepared for the current scenario. And unfortunately for China, its design to keep as collateral the projects where it had invested has also failed. The projects have either been shelved in an incomplete state or are of no commercial value. The debt restructuring in Sri Lanka and Pakistan will be a critical test of Chinese willingness to coordinate with other lenders, potentially at the expense of President Xi's original geo-strategic goals. A failure to restructure the high debt burdens of some of the world's low-income countries may well trigger a debt crisis in the emerging and developing economies, which risks spilling over into China itself.

Bilateral currency swaps between the Federal Reserve and other central banks were used to stabilize US dollar funding markets following the global financial crisis of 2008-09; the volume of currency swaps peaked in December 2008 at almost \$556 billion (**Figure 49**); the ECB accounted for the majority of these swaps, followed by Bank of Japan and the Bank of England (Gislén, Hansson and Melander 2021). The volume of bilateral currency swaps increased again during the second quarter of 2020, following the COVID-19 recession; the volume of currency swaps peaked at \$445 billion in May 2020 (**Figure 49**).

**Figure 49**

Federal Reserve: central bank liquidity swaps, January 2003-June 2022  
(Billions of US dollars)



Source: FRED database (*series* SWPT).

The official purpose of the Federal Reserve's swap agreements has been to manage stress on global and domestic dollar funding markets.<sup>27</sup> Since the US dollar is a central currency on global funding markets, shocks on the international dollar market can spread to the US credit market and affect the stability of the US financial system. This explains why, in the global financial hierarchy, the Federal Reserve is unilaterally entering currency swap agreements with a selected, small number of EMDEs, namely those with financial sectors that are systematically important to the US, while passing by the majority of developing economies, the financial sectors of which are not structurally important to US financial stability (UNCTAD 2022).<sup>28</sup> This hierarchical system determining access to US dollar liquidity is obviously unsatisfactory from the point of view of the majority of developing economies.

Alternative options to set up emergency liquidity facilities to help emerging countries mitigate financially instability center around rules-based systems of multilateral policy coordination that can function as a global (US dollar) lender of last resort (Bortz *et al.* 2021). These alternatives, in turn, have to be embedded in a larger, more ambitious reform of the global financial system that

<sup>27</sup> It is unlikely that the Federal Reserve is doing this for free, however. The quid pro quo likely means that US big banks will receive less nationally discriminatory treatment by foreign bank regulators.

<sup>28</sup> Due to the Fed's selective approach, bilateral currency swap arrangements between EMDEs have proliferated in recent years. In particular, the People's Bank of China has signed yuan-denominated currency swap agreements exceeding \$500 billion with 35 EMDEs countries, including Argentina, Turkey, Thailand, Pakistan and Sri Lanka (Singh 2022). The Chinese loans are clearly tied to the Belt and Road Initiative, but also to strategic issues, including trade, as with Argentina.

supports stable exchange rates, long-run ‘committed’ finance, steered toward productive economic activities (rather than toward speculative returns), and open, but managed and sustainable international trade, while ensuring sufficient (fiscal) policy autonomy for developing nations to raise living standards and expand life opportunities for their citizens in low-carbon and socially-inclusive ways (Gallagher and Kozul-Wright 2022).

From a ‘neo-realist’ standpoint focused on global (and corporate) power politics, such a reform proposal will look like pie in the sky. But as Jan Tinbergen (1994, p. 8) once wrote, “Some of these proposals are, no doubt, far-fetched and beyond the horizon of today’s political possibilities. But the idealists of today often turns out to be the realists of tomorrow.” What is more, even the greatest Panglossian must agree that it is impossible to consider the ‘neo-realist’ reality of our current global financial system, which is organized in such a manner that monetary tightening by the central bank issuing the global (reserve) currency predictably triggers financial crashes and economic recessions in the rest of the world, often leading to permanent losses in potential output levels of potential growth, a satisfactory state of affairs. Economic common sense and all the available empirical evidence tells us that the current global financial system is not rational or efficient—and, in addition, it is also highly un-equalizing and deeply unstable. A macroeconomics that has given up on advocating a fundamental reform of this malfunctioning, inhumane and deeply irrational global financial system, that is capable of simultaneously generating record levels of corporate profits and gigantic increases in (financial) wealth for a small minority of world citizens, on the one hand, and record levels of global poverty, widespread hunger and destitution, a massive waste of human and other resources as well as an anthropogenic collapse of the Earth’s climate system, on the other hand, has lost its sense of purpose and is left without a shred of dignity.

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