The Resurgence of Inflation: Why Was Emerging Asia Different?

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A b s t r a c t

The post pandemic years have brought inflation back to levels not seen for decades. While this surge has been a global phenomenon, the impact has not been uniformly felt across all regions. Notably, Asia, among the emerging and developing economies, has experienced a comparatively mild rise in inflation, with rates not significantly diverging from those seen in previous inflationary periods. This paper explores the factors that might explain the distinct behavior of Asia. We provide evidence that a combination of weaker post-pandemic recovery, a less aggressive traditional fiscal policy, a strong use of subsidies, minimal depreciation of exchange rates, and a history of lower and less volatile inflation account for this region differential's response.

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Introduction

For decades inflation had practically disappeared from the economic news and central banks were perceived to be fully in control and able to avoid high-inflation episodes. In advanced economies, the global high-inflation period of the 1970s was followed by a number of disinflationary episodes driven by central bank policies. At the same time, monetary policy frameworks were changing both from a governance and an operational point of view. On the governance side, central banks were increasingly becoming independent of governments. On the operational side, a combination of inflation targeting and interest rates rules that were designed to better anticipate and stop increases of inflation became the norm for all central banks.[1] This led to a long period of very low and stable inflation (Figure 1).

Figure 1. Headline inflation advanced economies
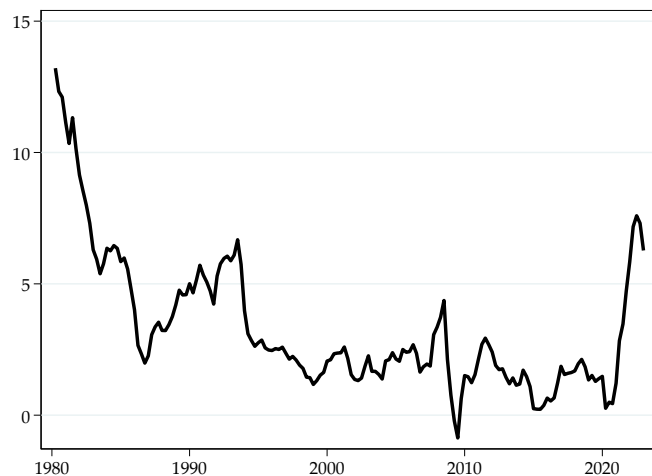
In emerging markets, which had a history of much higher and persistent inflation, a similar trend started although possibly with a few years of delay (Figure 2). As years passed, low inflation became the norm and the number of emerging markets with double-digit inflation became rare.[2] While in the 1990s one could find more than fifty countries with inflation about 10%, by 2014 the number was as low as ten (Figure 3).[3]

This environment changed after the global COVID pandemic. Inflation returned in many countries in ways that surprised forecasters but also policy makers, given that some central banks, in particular among advanced economies, had spent years after the global financial crisis trying to increase inflation closer to their targets. And after witnessing the biggest recorded downturn in global economic activity, the fear was more about entrenched expectations of deflation rather than an increase in inflation. But quickly after the recovery had started, inflation picked up and then accelerated in many countries around the world. This required a U-turn in central bank policies and an increase in rates at a much faster pace than in previous

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1. Bernanke (2013), Taylor (2007).

2. Taylor (2014).

3. Source: World Economic Outlook (IMF).

similar episodes. While, given their recent history, the return of inflation was more of a surprise in advanced economies, inflation also surprised many in EMDEs and it reached levels not seen in decades.
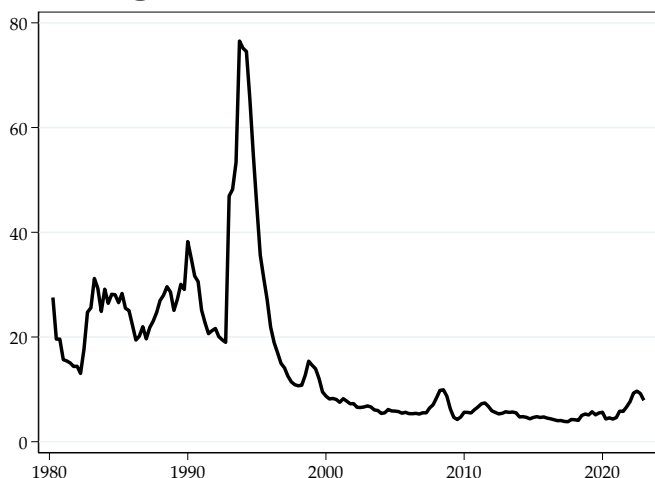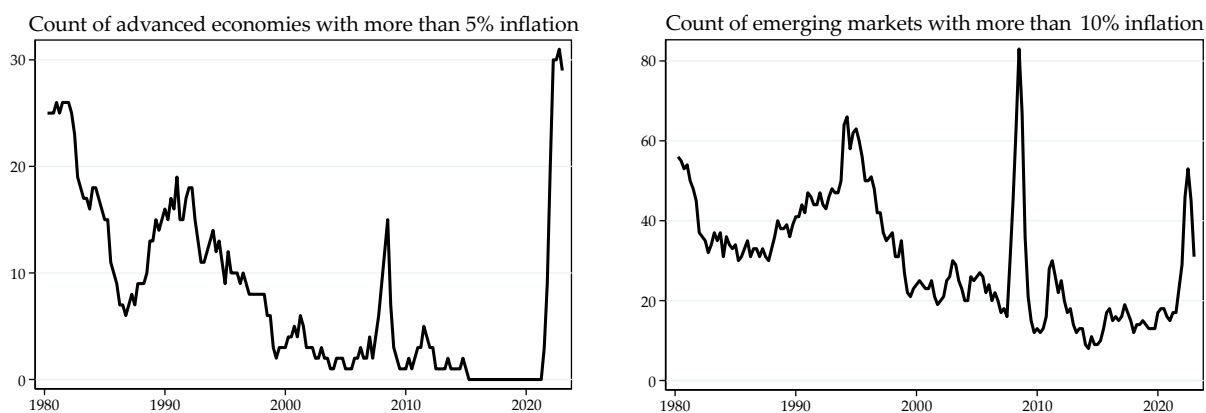
Figure 2. Headline inflation EMDEs

Figure 3. Number of countries with high inflation

Count of advanced economies with more than 5% inflation

Count of emerging markets with more than 10% inflation

Why did inflation wake up? The widespread nature of the inflation increases clearly signaled the importance of global shocks. And there were two obvious candidates: the supply chain disruptions associated to the reopening from the pandemic and later the invasion of Ukraine by Russia. But despite the global nature of the inflationary spike, there were certain additional factors that looked different across countries. In some countries economic policy, in particular fiscal policy, was very expansionary. In other countries, governments were making heavy use of subsidies and other price control measures to reduce the pace of inflation. And the strength of the recovery was not the same everywhere. While in some countries economic activity quickly returned to the pre-pandemic level or even the pre-pandemic trend, in others the catch-up took longer or it never happened.

This paper analyzes the behavior of inflation during the 2020-2023 episode with a focus on the group of emerging and developing economies (EMDE) in Asia. How do they compare to other EMDEs or the group of advanced economies? What were the factors that explain the distinct behavior of this group of countries?

The paper is organized as follows. Section 2 describes the potential drivers of inflation during these years. Section 3 presents some preliminary evidence about the difference in behavior in emerging Asia. Section 4 analyzes the role of cyclical conditions via a standard Phillips curve analysis. Section 5 considers the effect of monetary and fiscal policies. Section 6 concludes.

2. Understanding Inflation

2.1. The pre-pandemic context for inflation

A textbook description of inflation tends to separate between the monetary nature of inflation in the long-term from its short-term determinants associated to shocks, split between those that drive costs and those that can be seen as driven by demand. Shocks create an impulse to inflation and then its persistence depends on its transmission through mechanisms such as the wage-price/mark-up dynamics (International Monetary Fund (2021b)). These dynamics are influenced by the monetary policy framework as well as the response of interest rates.

When it comes to the nature of shocks, they can be idiosyncratic, or they can be global. In two companion papers, Ha et al. (2023a) and Ha et al. (2023b) study the drivers of inflation in 55 countries in the years 1970-2022. About 26% of the variability in inflation can be associated to global shocks and these have become more important over time. Among global shocks, global demand shocks were responsible for the largest share, but oil supply shocks can also account for as much as one third of the global shocks, a share that has been increasing over time. Oil shocks had more weight in advanced economies, more open economies and countries with a fixed exchange rate regime. Bajraj, Carlomagno, and Wlasiuk (2023), using a new dataset with disaggregated inflation for 93 different categories, reach an even stronger conclusion regarding the importance of global factors. A combination of pure global and sectoral factors accounts for as much as 70% of the variation in inflation.

The understanding of how different shocks influence inflation is often studied through the lens of the Phillips curve (Ball and Mazumder (2019)). In advanced economies research has been focused on the flattening of the relationship in the years before the pandemic (Galí and Gambetti (2019). For emerging markets, open economy considerations seem to be important. For example, Kamber, Mohanty, and Morley (2020) using data from emerging markets up to 2018 show that a hybrid Phillips curve that incorporates both the domestic and the foreign output gap as well as the exchange rate fits the data quite well.

A few papers analyzed the trends and drivers of inflation in Asia before the pandemic. Garcia and Poon (2022) show the large structural decline in inflation in Asia in the two decades that preceded the pandemic both for advanced and emerging countries. The years 2014-2019 displayed a surprising further decline in trend inflation among emerging markets that seems to coincide a set of favorable transitory shocks to commodity prices, what we might call opportunistic disinflation. The adoption of inflation targeting is seen as responsible for this decrease in trend inflation and it has also been shown to reduce the persistence of inflation in the presence of shocks (Gerlach and Tillmann (2012)). The trend towards increases in the independence and transparency of central banks was very visible among groups of EMDEs. Although, interestingly, the trend is much less visible in EMDE Asia, in particular after 2005 (Figure 4).[4]

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4.   Source of data: Dincer, Eichengreen, and Geraats (2022).

Figure 4. Central bank independence and transparency index
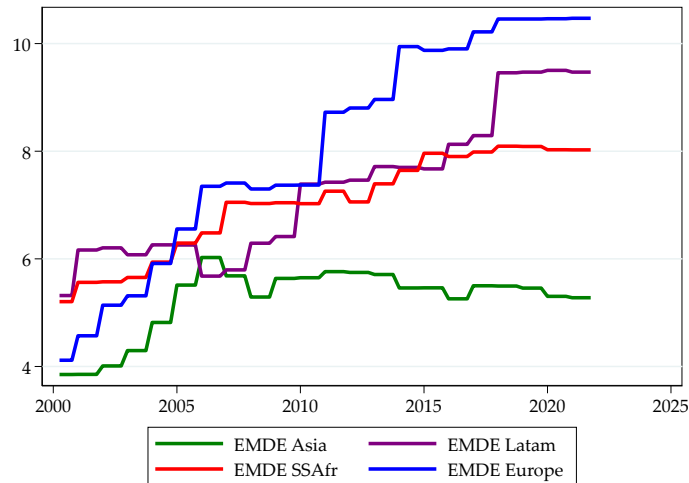
2.2. Inflation after the pandemic

The sudden jump in inflation caught policy makers, economic analysts, and the general public by surprise and during the early quarters there was large uncertainty about the potential magnitude and persistence of the inflation shocks. Central bankers in advanced economies erred on the side of assuming that the inflation jump would be short-lived and adopted a policy of wait and see. Emerging markets central banks were in general quicker as they were more concerned with the possibility of inflation expectations becoming unanchored.

The uncertainty about the path that inflation would follow was directly related to the debate that opened about the reasons why inflation was increasing. Was it a demand shock caused by very aggressive fiscal and monetary policies? Or was it the result of the distortions on the supply chain caused by the uneven and difficult reopening from the global pandemic? Today, years after the debate started, there is an almost universal consensus around the idea that inflation was mostly driven by global factors and that both demand and supply forces mattered for the increase in inflation. Their relative contribution, however, differed across countries.

The global nature of inflation after 2020 is clear when looking at the number of countries with a significant spike in those years (Figure 3). English, Forbes, and Ubide (2024) confirm that the first principal component of inflation explains a much larger percentage of inflation in the period 2020-2023 than in the previous seven years. This is true for both headline and core and for advanced economies and emerging markets.

There are two obvious hypotheses about the global shocks driving the dynamics of inflation: the disruption in global supply chains as a result of the reopening from the pandemic and the effect that the Russian invasion of Ukraine had on certain commodity prices. There was strong evidence in favor of both hypotheses (Figure 5).[5]

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5.   Global supply chain pressure index from the U.S. Federal Reserve Bank of New York.

Figure 5. Global drivers of inflation

Global Supply Chain Pressure Index

Commodity Price Index
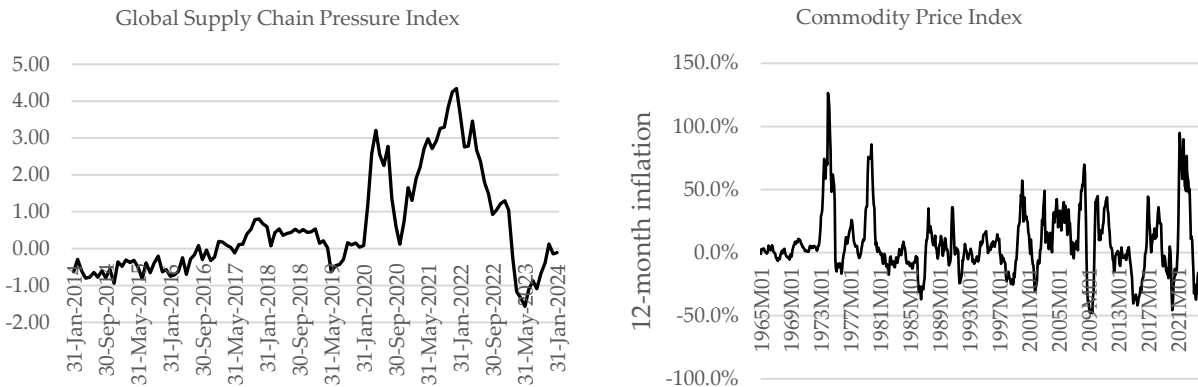
The role of supply chain shortages has been documented by many: for example Comin, Johnson, and Jones (2023) attribute half of the increase in U.S. inflation to these shortages. Di Giovanni et al. (2022) show how supply change disruptions spread through trade linkages to support inflation. Using disaggregated data for a large number of countries Bajraj, Carlomagno, and Wlasiuk (2023) conclude that global sectoral factors dominate the initial quarters of increasing inflation, also supporting the idea of shortages in particular sectors.

In addition to these events, the very fast speed of recovery in some countries was seen as making labor markets very tight and pushing inflation higher through the usual Phillips curve argument. And the influence of very expansionary fiscal policy was also highlighted as a potential factor (Edelberg and Sheiner (2021), Summers (2021)).

Beyond the understanding of the origin of the shock there was the question of persistence and transmission of the initial change in inflation. The factors that were relevant for this analysis were the possibility of wage-price spirals, the anchoring of inflation expectations, and the policy response of central banks through changes in interest rates and their effects on exchange rates.

Dao et al. (2024) make use of a simple theoretical framework to study the different drivers of the increase and decrease in inflation since 2020. The evolution of inflation can be seen as driven by shocks to headline inflation (energy, food) and their transmission via core inflation. The transmission via core inflation depends on macroeconomic conditions as well as the pass-through from the headline shocks.

In this paper we do not enter the nuances around the debate on the weight of each of these factors or their transmission, but we use them as hypotheses to explain the behavior of inflation in EMDE Asia and how it differed from other regions.[6]

Previous studies have already looked at the relative contribution of demand and supply shocks in different regions with diverging results depending on the methodology and the timing of the study but there is a developing consensus on what happened. For Europe and the U.S., there is strong evidence that both factors mattered but that supply-driven factors were possibly larger. This was especially true in Europe because of the large spike in energy prices (Gonçalves and Koester (2022), Gagnon (2024)). The combination of both demand and supply factors also seems relevant for other advanced economies and EMDEs. Firat and Ha (2023) using a sample of 32 countries confirms the analysis for Europe and the U.S. A similar pattern applies in Asia where supply driven inflation was almost as relevant as it was in Europe. Similar conclusions are reached also for Asian economies in Redl (2023) or International Monetary Fund

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6.   For a detailed discussion on the causes and transmission of inflation during the 2021-2023 years see Blanchard and Bernanke (2023) or Dao et al. (2024).

(2023a) where the split of the shocks in Asia seems to be close to 50/50 between supply and demand. Deb et al. (2023) present evidence of the importance of both supply chain shortages and food and energy prices in the case of Asia. Dao et al. (2024) study a sample of 21 advanced and emerging markets and show that shocks to headline inflation (energy, food) dominate the dynamics of inflation while the strength of macroeconomic conditions and their influence on core inflation mostly play a secondary role.

Beyond the issue of the origin of the shocks, the question of how persistent inflation was expected to hinge on two issues: the possibility of wage-price spirals and the influence of expectations of inflation, which could be related to the credibility and responses of central banks.

Wage-price spirals have become less common over time because of the disappearance of automatic price-indexing of wages. But even if wages are not indexed to prices, as long as labor markets are tight and if expectations of inflation increase, nominal wages tend to follow inflation both in advanced and emerging economies (International Monetary Fund (2022)). In other words, both issues are in fact linked as wage-price spirals are more likely to happen in the absence of central bank credibility.

The issue of managing inflation expectations then became key for policy makers. Expectations can react to current inflation because of backward-looking individuals and this is a pattern that has been typically more pronounced in emerging markets (Kamber, Mohanty, and Morley (2020)). The fact that there is more inertia in inflation in emerging markets is likely to be a combination of higher inflation volatility and also lower credibility of central banks. In addition, there is evidence that the higher prevalence of price indexation in many emerging market economies may also account for these dynamics (Frankel (2010), International Monetary Fund (2023b)).

Another key issue during these years has been the difference in policy response in order to contain inflation. When it comes to monetary policy, central banks around the world have reacted by increasing interest rates and by withdrawing previous liquidity measures. But the speed at which they did was not always the same. Emerging markets tended to react earlier than advanced economies (English, Forbes, and Ubide (2024); Adrian, Natalucci, and Wu (2024)).

For emerging markets monetary policy was not just about the interest rate response but about the behavior of exchange rates (Nordstrom et al. (2009), Bussière, Delle Chiaie, and Peltonen (2014)). Exchange rate passthrough to prices is well documented and during the current episode many emerging markets saw their exchange rates depreciating heavily, at least against the U.S. dollar (International Monetary Fund (2021a)).

What about other policies? Many countries have made use of fiscal policy to target specific prices, energy, and food in particular. There is some evidence that some of these policies have been successful taming inflation at the time when commodity prices were increasing fast. The challenge for those governments is about when to remove the support given the burden it might impose on their budgets. Traditional tightening of fiscal policy seems to have had much less impact on inflation, maybe because inflation was driven by external global forces as opposed to domestic demand (Dao et al. (2023)).

3. Patterns of Inflation

3.1. Headline inflation

The supply-chain disruptions and shortages associated to the reopening from the pandemic created the conditions for higher inflation in 2021. The invasion of Ukraine by Russia in 2022, which had large effects on certain commodities prices, added fuel to the inflationary momentum across the world. The increase in inflation was widespread but the magnitude of the increase was not the same everywhere. In this section

we present evidence about the shape of the increase in inflation during the years 2020-2023, where we highlight the regional differences in inflation. Our goal is to understand how inflation behaved in EMDE Asia.

Figure 6 displays headline inflation for advanced, EMDE, and EMDE Asia groupings of countries.[7] The spike starting in 2021 is clearly visible with differences across the three regions. Advanced economies saw inflation increasing to levels that had not been seen for decades. The increase for them as a group was almost seven percentage points which, given their pre-pandemic low level, represented a very large shock to inflation. For EMDEs the increase was slightly smaller in magnitude (around 5.5%) and given both the higher volatility and level of inflation in previous years, the increase did not feel as unique for them as for advanced economies. As an illustration, the level of inflation prior to the global financial crisis in EMDEs or EMDE Asia was larger than the one witnessed after 2021. And measured relative to the pre-pandemic level, a 5.5% increase when inflation was around 4% feels very different than a 7% increase when inflation had been around 1-1.5% for years in advanced economies. Notice as well that by the end of our sample, at the end of 2023, inflation in EMDEs and advanced economies had reached a turning point and was heading towards pre-pandemic levels.

Focusing on Asia, Figure 6 shows that EMDE Asia inflation during these years behaved better than in other EMDEs. Inflation for EMDE Asia did not increase much, never reaching a very high level compared to the post-2000 sample and inflation has quickly returned to levels that are low by historical standards. In other words, without knowing the details of what happened after 2020 and just looking at the trends in Figure 6, the post-2020 episode does not seem that noticeable for Asia.

Figure 6. Headline inflation by country groups
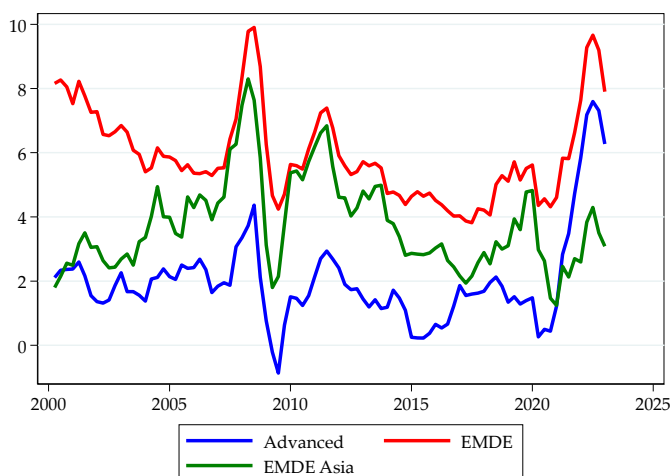
The remarkable behavior of inflation in EMDE Asia as a group is partially driven by the limited inflationary pressures that China witnessed during these years. Given the weight that China has in the EMDE Asia group, for some of our analysis we will present data that excludes China from this group. We do so for headline inflation in Figure 7. Excluding China makes the recent inflationary episode more visible. For example, the peak of inflation is clearly higher than the pre-pandemic level, something that did not happen when China was included. However, in a historical context the increase in inflation is still

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7. Data for country groups is calculated following the methodology of the IMF World Economic Outlook. We use the arithmetic weighted average where GDP shares are used as weights. For inflation we use a geometric average.

small, even once China is removed. It is, for example, smaller than what these countries witnessed around the global financial crisis, and it is also small when compared to other EMDEs or advanced economies.

A more detailed comparison of groupings of EMDEs can be found in Figure 8. Emerging Asia even when we exclude China from the sample is a clear outlier in terms of low inflation during the episode of 2020-2023. The increase in inflation is the largest for EMDE Europe and Sub-Saharan Africa. The spike in Latin America is slightly larger than that of Asia (excluding China) and it also represents a bigger change relative to recent years. In the case of Asia, the downward trend that is visible for the decade before the pandemic makes the post-pandemic period less unusual when comparing the level post-2020 with the level before 2019.

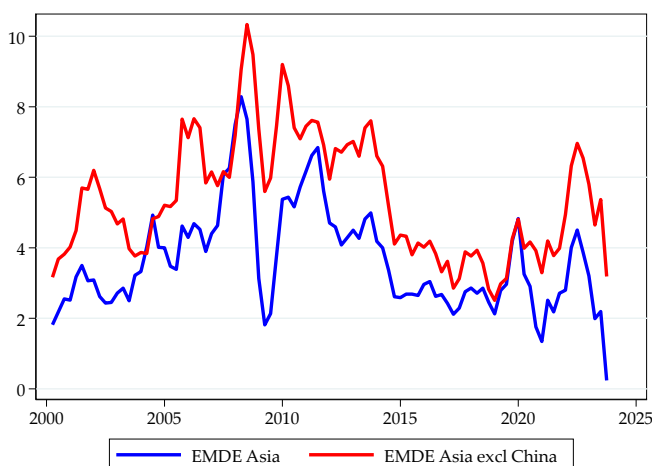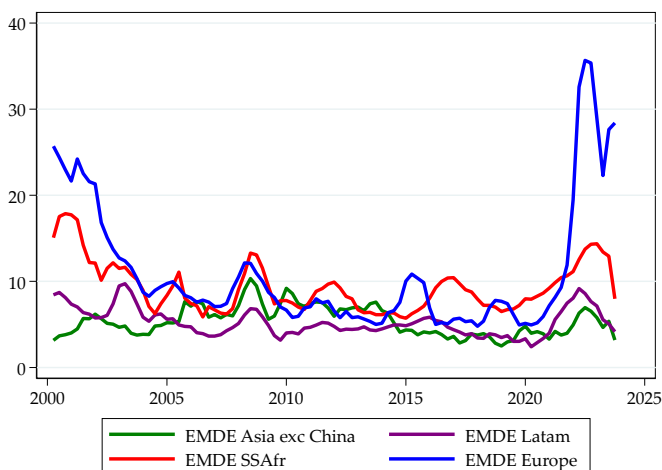**Figure 7. Headline inflation EMDE Asia with and without China**

Figure 8. Inflation by country groups (EMDE)

A quick comparison of some of the large EMDEs confirms the distinct behavior of inflation in the last years (Figure 9). The two largest Asian economies have seen either no spike in inflation, in the case of China, or a moderate increase by historical standards, in the case of India. On the other hand, Brazil and Mexico had significant spikes and Nigeria or Poland witnessed very large increases, in particular in the case of Poland when compared to previous episodes.

Any of our group averages hides a good amount of diversity. We have already highlighted the role of China in the EMDE inflation rates, but there are other large countries as well, such as India, that matter for the average. To understand the diversity of behavior of inflation in Asia, we show in Figure 10 all individual countries as well as the weighted average. As we can see there are some interesting differences during the last three years with two countries displaying very high inflation (Sri Lanka and Laos) but, overall, the dispersion observed during these years is nothing unusual; most countries have kept their inflation at levels which are not too high by historical standards.

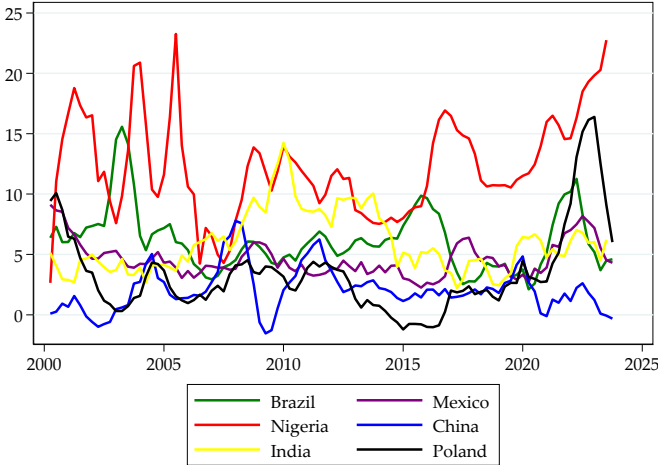**Figure 9. Headline inflation in individual EMDEs**

Figure 10. Headline inflation individual countries EMDE Asia
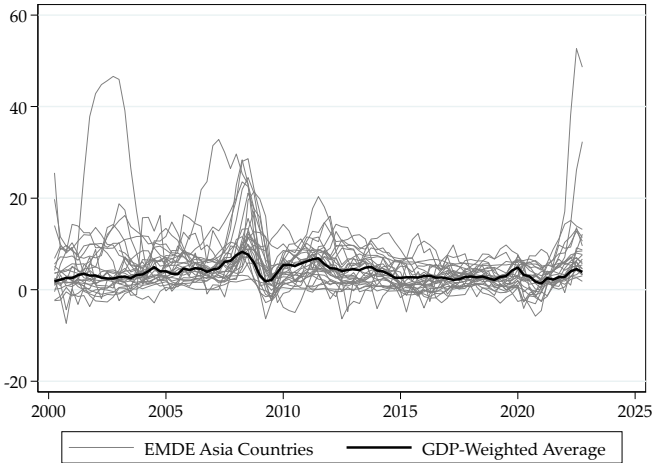
To show the limited dispersion during this period, we have calculated a weighted measure of dispersion of inflation for EMDE Asia. While there is an increase during 2020-2023, it is not too different from some of the spikes observed in the last 15 years and much smaller than previous spikes associated to large inflationary episodes (Figure 11).

As a point of comparison, we do the same exercise for EMDE Latin America and we find a similar pattern. Dispersion increased in 2020-2023 in a way that is similar to recent episodes (in this case 2015 is the closest) and nothing compared to what we had witnessed in previous decades (Figure 12).

Figure 11. Dispersion of inflation in EMDE Asia
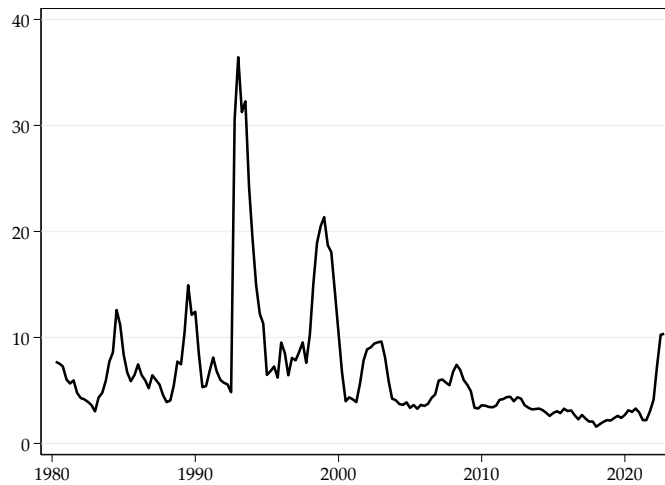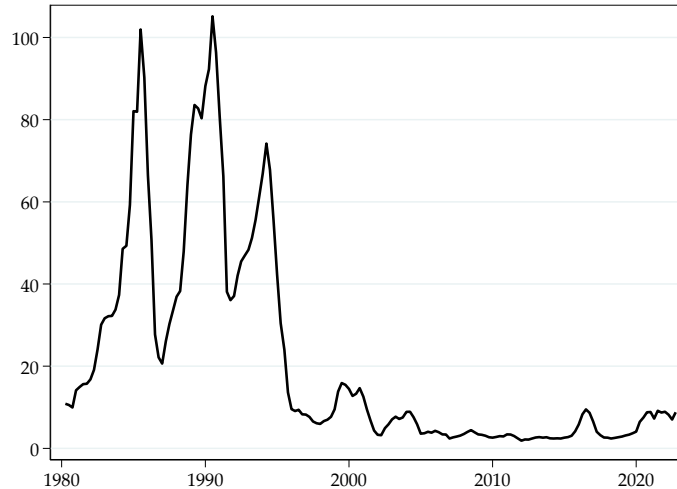

Figure 12. Dispersion of inflation in EMDE Latin America


3.2 Inflation components

The inflationary period of the last years was characterized by unusual changes in global relative prices that can have an effect on the overall behavior of inflation. As discussed earlier, these changes in relative prices were the result of shortages that affected some industries more than others and the large impact that the Ukraine invasion by Russia had on energy prices and food prices. In addition to these differences, countries faced very different conditions depending on several factors. For example, some countries were more exposed to the increase in energy prices because of their direct or indirect dependence on Russia sources of energy. When it comes to food, not all prices were affected by the same magnitude and governments adopted an array of measures to contain inflation in this politically sensitive sector. We will discuss the role of policies later in the paper but now we just document the behavior of different components of inflation.[8]

We start with food prices that are one of the largest components of the CPI basket in EMDEs. For low-income countries it can be as much as 50% and for emerging markets it is in the range of 15-30%.

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8.   See data appendix for a description of the data sources used for these components.

Figure 13 displays the data by EMDE group. EMDE Europe is a large outlier with larger inflation than the other EMDEs. Latin America and Sub-Saharan Africa look quite similar while EMDE Asia is by far the one with the smallest spike in food price inflation during these years. In this case removing China from the group makes very little difference to the analysis.

Figure 13. Inflation food prices by EMDE group
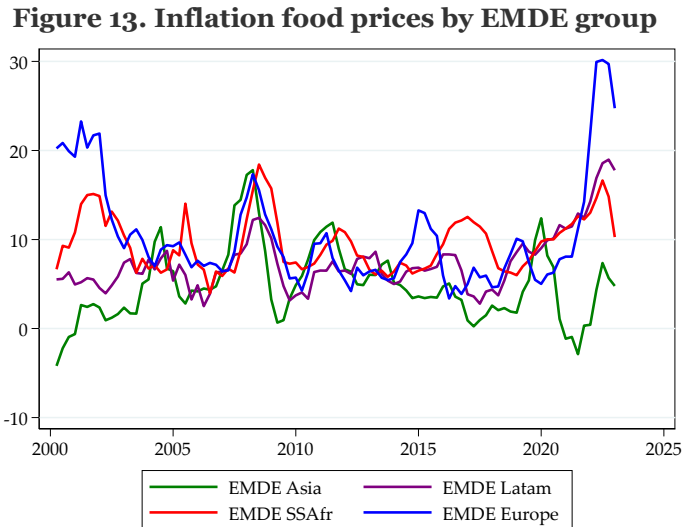
A similar pattern arises when we look at an index of inflation for energy prices. Asia is once again an outlier with EMDE Europe seeing the largest increases and Latin America and Sub-Saharan Africa having sizable but smaller increases (Figure 14). Given the importance of both food and energy prices in the CPI basket, these results simply reinforce our earlier results using headline inflation where EMDE Asia is the group of EMDEs with the smallest spike of inflation during the 2020-2023 period.

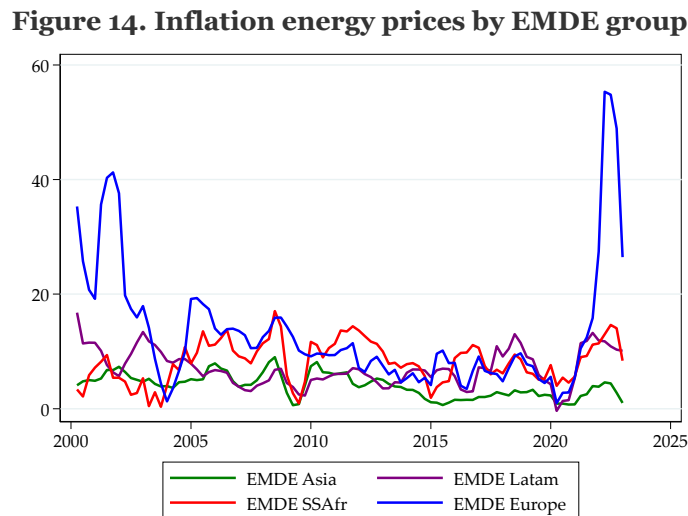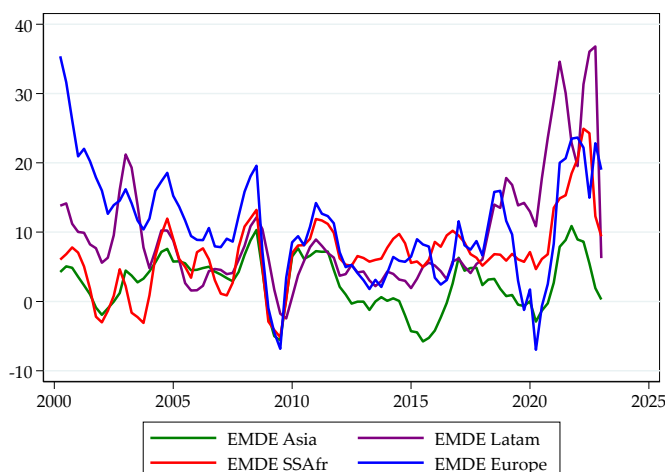**Figure 14. Inflation energy prices by EMDE group**

Figure 15 shows a very similar pattern when looking at PPI inflation. Asia, among the group of EMDEs, had the lowest inflation of all and has returned fast towards pre-pandemic levels.

Figure 15. PPI Inflation by EMDE group

Finally, in Figure 16 we plot an estimate of core inflation from Ha, Kose, and Ohnsorge (2021) that is available for a sample of EMDEs. Looking at core inflation separately from headline inflation can help us understand the origin of the inflation spike. As discussed in Dao et al. (2024), inflation dynamics can be seen as a combination of shocks to headline inflation and a transmission via core inflation that is likely to be larger in countries where cyclical conditions are tighter or where inflations expectations are less anchored. Figure 16 shows that the behavior of Asia is closer to that of Latin America and Sub-Saharan Africa, while Europe looks like an outlier because of the behavior of core inflation in some of the large countries in this group (Russia or Turkey). If we ignore these two outliers, the fact that core inflation displays a much more muted increase than headline confirms the results of other papers in the literature that global energy and food price shocks dominate inflation dynamics in most countries (Dao et al. (2024)). In this case, Asia is not too different.[9]

Figure 16. Estimated core inflation by EMDE group

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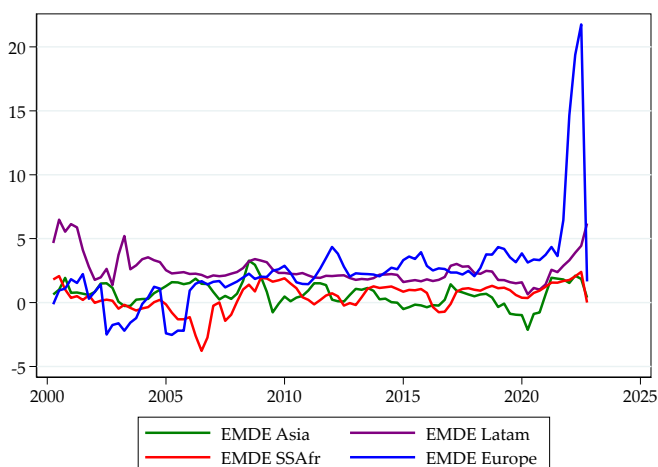
9.   An important caveat is that we are using an estimated measure of core inflation and that it is only available for a subset of countries.

In summary, this section has shown that inflation in Asia has been much more muted than in any other EMDE region. The low inflation in both food and energy prices are a strong driver of this result given the high weight CPI baskets place on these two components.

In the next sections we explore potential explanations for why Asia is different from the other regions. We first look at the role of cyclical conditions and then we analyze the roles of fiscal and monetary policy.

4. The Role of Cyclical Conditions

4.1 Economic slack and inflation

Inflation in the post-pandemic recovery has been seen as a multifaceted event that started with shocks affecting the supply side of the economy (shortages associated to the reopening and commodity price increases caused by the Ukraine invasion). But in addition to this supply side dynamics, the speed at which demand recovered has also been seen as a potential explanatory factor.

The role of overheating is the argument behind the Phillips curve as well as similar theories making use of similar demand-driven inflation frameworks. While before the pandemic there had been an ongoing debate about whether the relationship between inflation and the slack of the economy had disappeared, there was still significant evidence supporting the Phillips curve and the idea that slack still matters as an explanation of inflation (Ball and Mazumder (2019), Coibion and Gorodnichenko (2015) or McLeay and Tenreyro (2020) among many others).

This framework is relevant even if one believes that global supply shocks were the driving force behind inflation. Even if shocks were supply driven, they could lead to higher levels of inflation when combined with strong demand dynamics in some countries. In fact, the recovery that started in 2021 and 2022 delivered growth rates that were very high, much higher than anticipated. For some advanced economies, the speed of recovery was so much faster than what we had witnessed before.[10] And supply and demand arguments also come together because of the importance of international supply chains that had already been recognized in the literature as a key determinant of the connection between slack and inflation (Auer, Borio, and Filardo (2017)).

In this section, by making use of a standard Phillips-curve framework, we explore the role that the speed of demand recovery played in emerging Asia, in comparison to other regions. We start by a descriptive analysis of how slack in the economy behaved, measured by simple measures such as the unemployment rate or the output gap, before moving to a more quantitative analysis.

Unemployment rates increased in most countries around the world although, in many cases, they did not increase as much as in other recessions. This is even more true when benchmarked against the very large drop in activity in 2020. And there were many differences across countries because of the different labor market policies done to protect workers. Among advanced economies Europe made heavy use of policies to protect employment relative to the U.S. and, as a result, unemployment changed much less among European countries. A similar pattern can be found in EMDEs. In Asia and Latin America, we see a sharper increase in unemployment during the pandemic compared to emerging Europe or Sub-Saharan Africa. The larger increase in unemployment is then reflected in what looks like a much faster labor market recovery after 2021 (Figure 17). Because of these differences in labor market policies, it is fair to

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10. As an illustration, while for many advanced economies it took ten years or more to return to pre-crisis level of unemployment during the 2008 crisis, in the 2020 recession it took between 1 to 3 years for most of them.

say that unemployment might not be the best measure of slack in a cross-country comparison for this episode.

If unemployment cannot capture all the cross-country differences in economic slack, the alternative is to look at measures that are based on economic activity, such as the output gap. Unfortunately, GDP is not available at the quarterly frequency for many of the EMDEs, so if we want to look at a large sample we need to make use of annual data. In addition, calculations of the output gap are already challenging for advanced economies with stable GDP growth rates, but they become even more difficult when we want to include a large sample of EMDEs.

Figure 17. Unemployment rates by EMDE group
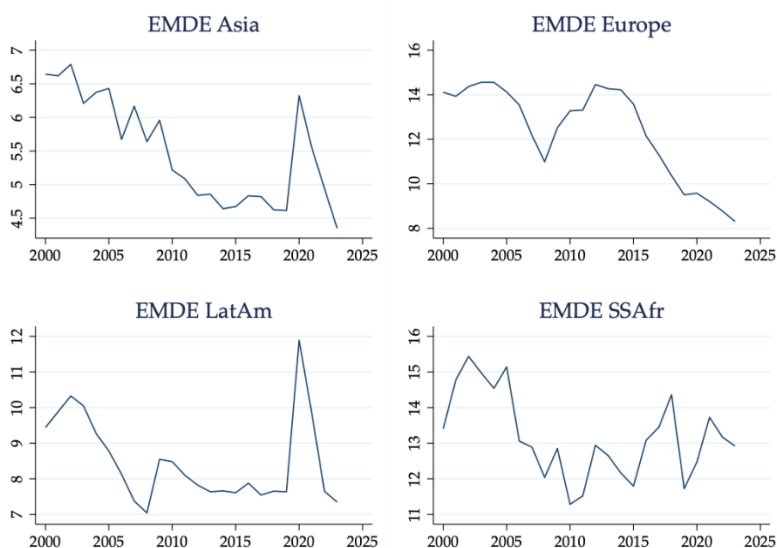
Our approach is to produce a very simple estimate of output gaps that consists in measuring the distance between GDP and an extrapolation of pre-pandemic GDP trend. To calculate this trend we simply extrapolate the average growth rates during a pre-2020 window. Choosing the length of this window is subject to an obvious trade off: while a long window can reduce the amount of short-term noise in the estimated trend, it also leads to large deviations because of structural changes in medium-term growth rates or simply because of slowing GDP growth as emerging economies converge.

In Figure 18 we show the results of an exercise using annual data that sets a very short window to calculate GDP trend: 2010-2019. The logic of this window is to start after the global financial crisis and cover a period of time that for many countries can be considered as a long and stable expansion. Using this metric, Emerging Asia stands out as a region with a weaker recovery relative to the other EMDEs. Unlike in the other countries, the output gap in emerging Asia does not close after 2020 as growth rates remain at best as large as before the pandemic but never large enough to generate a recovery that closes the output gap.

It is possible that some of our measured output gap is the result of a structural change in growth rates in the region but, even if that was the case, it would signal that Asia was the weakest EMDE region when comparing post- and pre-pandemic growth rates.

In Figure 19 we replicate the same analysis for a set of individual economies where quarterly data is available. The message is similar to our results with annual data. The economies in Asia are the ones that show the weakest performance relative to pre-pandemic trends.

Figure 18. Output gap (annual data)

Legend: EMDE, EMDE Asia, EMDE Asia exc. China, EMDE LatAM, Sub-Saharan Afr.
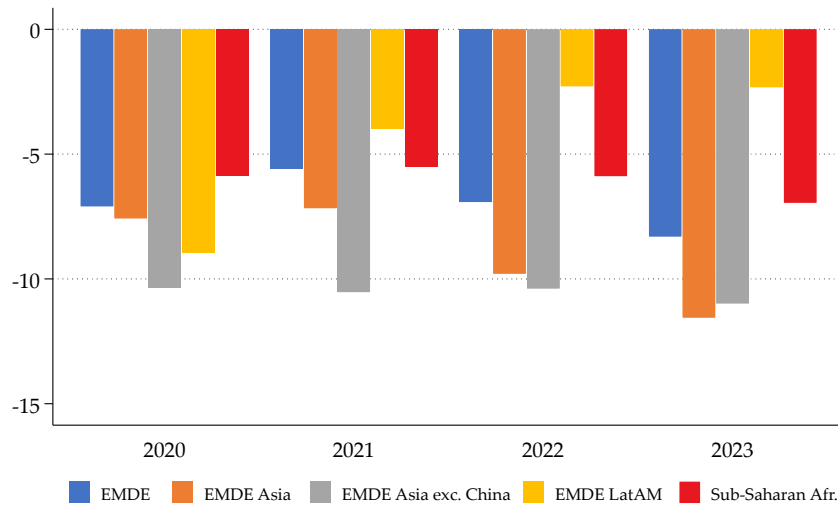
Figure 19. Output gap (quarterly data)

Legend: India, Indonesia, Philippines, Brazil, Chile, Colombia, Mexico, Poland, South Africa
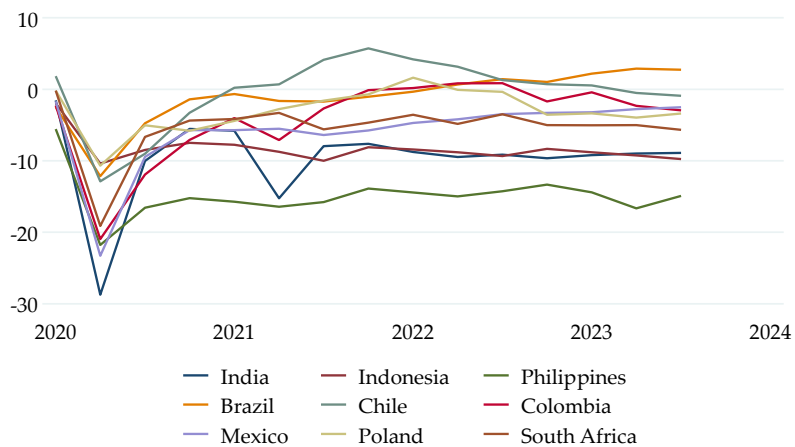
One of the reasons why the recovery in Asia was much weaker than in other EMDEs is the slow reopening after the COVID restrictions were lifted, in particular during 2021. Figure 20 makes use of the same countries in Figure 19 and we calculate an average stringency index of COVID restrictions for the three emerging Asia economies as well as the group of four Latin American countries. Poland and South Africa are plotted as individual countries. While restrictions were high in all economies during 2020, we can start seeing a partial reopening effort in Poland and South Africa followed by a more general one starting in the summer of 2021. But for the Asian economies the reopening is delayed and then starts very slow with reversals again during the year 2022.[11] These restrictions were affecting different sectors in different ways but there is no question that they had a toll on economic activity during those months.

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11. China, the largest emerging market in Asia was even slower in its reopening than any of these three Asian economies.

Figure 20. Stringency index COVID restrictions (Oxford)

Oxford Stringency Index
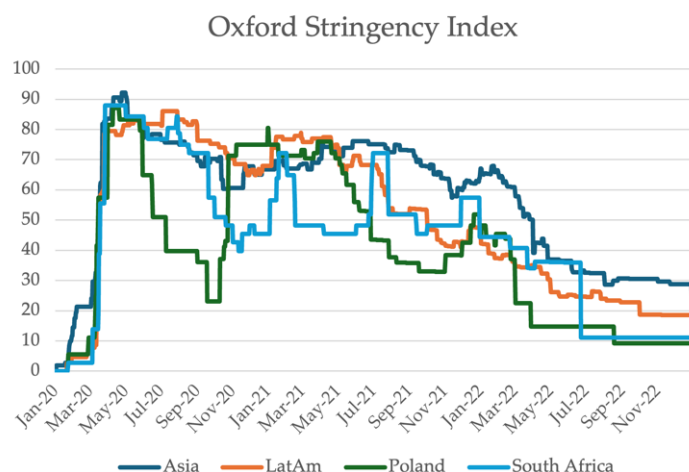
In summary, a quick overview of measures of economic slack across EMDE regions shows evidence of weaker demand conditions in Asia relative to the other countries, in particular when we use GDP-based measures of economic slack. While there can be many factors explaining the slow growth, and we will explore some of those related to economic policies later, one obvious explanation is the slow reopening from the pandemic restrictions.

4.2 Phillips curve and economic slack

We now produce a more systematic analysis of the importance of economic slack to explain inflation in the 2020-2023 years. We do so by fitting a simple Phillips curve specification to all countries in the sample. Our goal is to quantify the importance of the dynamics of unemployment, or economic slack in general, as an explanation for changes in inflation during these years. We also study whether Asia follows a different pattern than other regions.

Our econometric specification starts with that of Ball and Mazumder (2019) where quarterly inflation is regressed on four past quarters of unemployment.

$$\pi_t = \pi^e + \sum_{i=1}^{4} \beta_i \ ((u_{t-i} - u^*))/4 + \epsilon_t$$

Where π_t is quarterly inflation (over previous quarter), π^e captures inflation expectations that we treat as constant, u_t is the quarterly unemployment rate, and u^* can be thought of the natural rate of unemployment that we also treat as constant. We run this regression for all countries in our sample for the period 2020Q1-2023Q4. We include fixed effects as well as time dummies in all our regressions and we start with headline inflation as our measure of inflation.

Table 1 shows the results. We start with a baseline specification in column (1) with just the unemployment rate. The coefficient is negative and significant, as predicted by theory.

In columns (2) and (3) we check whether the difference in inflation between EMDEs and Advanced economies can be explained by the behavior of the unemployment rate. We do so by including a dummy for EMDEs that takes value 1 for all quarters after the pandemic started in 2020Q1.[12] Column (2) does not include the unemployment rate and by looking at the coefficient on the dummy variable for EMDEs, we

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12. While inflation did not increase in most countries until a few quarters later, in order to avoid having different starting dates for different countries, we adopt the beginning of the pandemic as the starting quarter for our analysis.

see that the difference in inflation was small, negative and not significant. The inclusion of unemployment rate in column (3) changes very little the coefficient, signaling that controlling for unemployment does not explain much of the observed difference.

In columns (4) to (5) we repeat these two regressions but now we have dummies for each of the EMDE regions. Given that we do not have a dummy for advanced economies, one should interpret these dummies as differences with respect to the group of advanced economies. Column (4) shows that relative to advanced economies there are two regions that have displayed lower inflation after 2020Q1: Latin America and Asia. And Asia is the one with the lowest inflation rate.[13]

Table 1. Phillips curve (headline inflation)

VARIABLES	(1)	(2)	(3)	(4)	(5)
Unemployment Rate	-0.146***		-0.146***		-0.105***
	(0.0324)		(0.0323)		(0.0349)
EMDE post 2020		-0.0639	-0.0516		
		(0.602)	(0.561)		
EMDE Asia post 2020				-2.416***	-2.240***
				(0.651)	(0.656)
EMDE LatAm post 2020				-1.740***	-1.513***
				(0.501)	(0.500)
EMDE Europe post 2020				1.760**	1.389**
				(0.677)	(0.661)
EMDE SSAfr post 2020				0.0301	0.420
				(1.955)	(1.797)
EMDE Others post 2020				3.021	2.943
				(2.623)	(2.634)
Constant	8.110***	6.839***	8.113***	6.866***	7.775***
	(1.764)	(1.799)	(1.774)	(1.818)	(1.806)
Observations	5,249	5,249	5,249	5,249	5,249
R-squared	0.266	0.261	0.266	0.274	0.277
Number of Countries	90	90	90	90	90

Robust standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

We then introduce again in column (5) the unemployment rate as an additional explanatory variable to see whether the behavior of unemployment can help explain the change in inflation for these two regions. The coefficients on the dummy variables for Asia decrease by about 0.2, suggesting that the increase in unemployment during this period could justify some of the lower inflation that we have seen in Asia. But the decrease is small relative to the overall size of the coefficient and not significant.

Table 2 reproduces the previous analysis using the measure of estimated core inflation from Ha, Kose, and Ohnsorge (2021). As mentioned before, this measure is available for a smaller number of countries, so the samples are not identical. The baseline specification shows again that the coefficient on the

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13. Notice that the sample that we study here only includes countries for which we have quarterly unemployment rate, a smaller sample than the ones we have considered before.

unemployment rate remains negative and significant although the coefficient is smaller in value, supporting the results of Dao et al. (2024). When it comes to the coefficients on the dummy variables, the results are consistent with our previous table. The introduction of unemployment does very little to change these coefficients. There is also some minor evidence that some of the coefficients become smaller as unemployment rates are included in the regression, but the difference is not significant in any of the cases.

Table 2. Phillips curve (core inflation)

VARIABLES	(1)	(2)	(3)	(4)	(5)
Unemployment Rate	-0.0870***		-0.0868***		-0.0867***
	(0.0176)		(0.0173)		(0.0205)
EMDE post 2020		-0.385	-0.378		
		(0.290)	(0.290)		
EMDE Asia post 2020				-0.992**	-0.775
				(0.497)	(0.509)
EMDE LatAm post 2020				-0.396	-0.163
				(0.454)	(0.458)
EMDE Europe post 2020				-0.134	-0.446
				(0.463)	(0.520)
EMDE SSAfr post 2020				-0.936	-0.665
				(0.752)	(0.767)
EMDE Others post 2020				0.241	0.0876
				(0.472)	(0.436)
Constant	2.389***	1.707***	2.413***	1.707***	2.412***
	(0.199)	(0.100)	(0.201)	(0.100)	(0.222)
Observations	3,923	3,923	3,923	3,923	3,923
R-squared	0.305	0.283	0.308	0.287	0.310
Number of Countries	78	78	78	78	78

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

From these two exercises we see that unemployment rates do not help us understand much of the difference in inflation rates between Asia and the other groups of countries. However, and as we argued before, one of the potential problems of using unemployment as a measure of economic slack for the post-pandemic period is that in many countries unemployment has reacted much less than economic activity, partly because of government policies supporting employment. We now turn to specifications that include the output gap as an alternative measure of slack. We do so with the all the necessary caveats about the accuracy of any output gap measure, and the fact that the number of countries is now smaller because of the lack of availability of data.

We run a Philips Curve specification but where we now include the average of the output gap over the last four quarters, instead of unemployment. The results are shown in Table 3.[14]

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14. Because the sample is not the same as in previous tables, the size of the coefficients on the dummy variables cannot be directly compared. What matters is how the coefficients change when we introduce the output gap in the specification.

Table 3. Phillips curve with output gap (headline inflation)

VARIABLES	(1)	(2)	(3)	(4)	(5)
Output Gap	0.161***		0.189***		0.0888**
	(0.0389)		(0.0437)		(0.0359)
EMDE post 2020		0.210	1.042		
		(1.153)	(1.151)		
EMDE Asia post 2020				-2.949***	-2.042**
				(0.722)	(0.831)
EMDE LatAm post 2020				-1.696***	-1.161*
				(0.621)	(0.629)
EMDE Europe post 2020				5.680**	5.696**
				(2.652)	(2.698)
EMDE SSAfr post 2020				-2.191***	-1.850**
				(0.501)	(0.762)
EMDE Others post 2020				-1.797	-1.398
				(1.522)	(1.561)
Constant	4.226***	2.410***	4.219***	2.409***	4.247***
	(0.400)	(0.420)	(0.399)	(0.410)	(0.411)
Observations	3,097	3,290	3,054	3,290	3,054
R-squared	0.342	0.327	0.352	0.374	0.389
Number of Countries	59	59	59	59	59

Robust standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

As was the case when we used unemployment, the output gap enters with the right sign, this time positive. What is interesting in this case is that the coefficients on the dummies for the post-pandemic aggregates move much more when we introduce the measure of economic slack, in particular in the case of Asia. We now see the coefficient changing by almost one full percentage point. The reason is clear: Asia had a very negative and persistent output gap during these years and if we took the point estimates from the regression literally, this could explain a 1% lower inflation rate in the region compared to the advanced economies. While other regions see similar changes, the case of Asia displays the largest change. Latin America and Sub-Saharan Africa coefficients decrease by about 0.3-0.5% while EMDE Europe shows very little change in the coefficient, suggesting that the behavior of the output gap does not add much to our understanding of inflation for European EMDEs.

Interestingly, we obtain very similar results when using estimated core inflation. This is what one would expect if we think that core inflation is not just driven by the energy and price shocks but more by the macroeconomic slack present in the economy.

Our basic Phillips curve analysis combined with the stylized facts we presented earlier about the behavior of the output gap across regions has given us a potential first explanation of why Asia shows a smaller increase in inflation rates during these years. A weaker recovery, possibly because of the slow removal of COVID-related restrictions could explain about 1 percentage point of this difference.

5. The Role of Economic Policy

5.1 Conventional fiscal policy

Governments around the world responded to the pandemic with very strong measures to limit its economic impact. Some of these measures were traditional stabilization policies such as increased spending or reduced taxes. Others were non-standard fiscal policy measures and took the form of direct support to companies to keep employment stable or subsidies and other direct measures to influence prices in key sectors such as energy or food.

When it comes to traditional stabilization policies, budget deficits increased very fast in 2020. Figure 21 shows two standard measures of the fiscal policy stance during these years. We present the change in either the structural or the overall balance, measured as a % of GDP in 2020 relative to 2019.[15]

Figure 21. Fiscal impulse in 2020
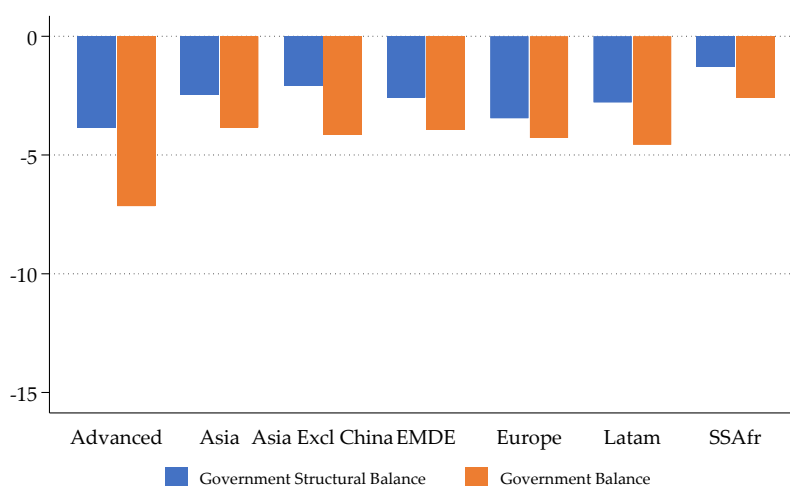
The data shows that governments engaged in large fiscal expansions with the advanced economies showing a much larger increase relative to EMDEs. Among EMDEs, Sub-Saharan Africa displayed the smallest fiscal impulse. EMDE Asia does not stand out relative to the other EMDEs, although when compared to Latin America or Europe the change in the balance was smaller both when measured as the overall or the structural balance. Could this smaller effect in Asia justify its lower inflation rate? In principle, the effect of this smaller fiscal impulse should already be captured by the cyclical measures of economic slack that we used in the previous section. However, given how imprecise the measures of economic slack are, one cannot rule out that the smaller change in fiscal policy shown in Figure 21 is another potential explanation of the reduced inflation in the region, beyond the information captured early by unemployment or the output gap. At a minimum, the smaller fiscal policy expansion is consistent with the higher output gap and the lower inflation rate in these countries.

5.2 Unconventional fiscal policy

Many countries adopted price controls or export restrictions in the face of higher inflation. Amaglobeli et al. (2023) have produced a database of policy responses to high energy and food prices. The database is

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15.   Other measures of the change in fiscal policy such as the average of 2020 and 2021 over the average of 2018 and 2019 look quite similar.

based on policy announcements, and it is available as the Database of Energy and Food Price Actions (DEFPA). The potential importance of food and energy price controls comes from the fact that in low income and developing economies, food prices account for about 44% of the typical CPI basket. The number is lower in emerging markets but still high, about 27%. Energy and transport fuel is also significant although smaller compared to food.[16]

Asia was not different from other regions and implemented a series of policies designed to contain energy and food prices. Compared to other emerging markets, Asia was possibly more aggressive when it comes to food subsidies. Amaglobeli et al. (2023) present a calculation of the size of subsidies as a percentage of GDP and while in Latin America they represented as little as 0.07% in 2022, in Sub-Saharan Africa the same number is as high as 0.29% and in Emerging Asia the number is as high as 0.94%. When it comes to energy, the size of subsidies is closer across all emerging market regions.[17]

In addition, other policies were widespread in the region. For example, India, Indonesia, and Malaysia all imposed export bans on certain key food products; Malaysia and Thailand imposed price caps on certain food ingredients and farm inputs; India also applied price caps for selected pharmaceutical products. ((OECD (2023), Amaglobeli et al. (2023)).

From this analysis it seems that stronger subsidies, price caps, and export restrictions can explain why inflation was lower in this category and how this translated into lower headline inflation in Asia. But luck might have played a role as well as the price of certain more local food products, such as rice, was more stable during the pandemic than other products that are more relevant for other regions (such as wheat). Finally, food inflation in China is explained by the reduction of meat prices after the elimination of the African Swine Fever outbreak that took place in the years before the pandemic.

How large can these effects be? Given the novelty of these measures it is hard to produce accurate estimates of their influence on inflation. In a global study Dao et al. (2023) have shown that unconventional fiscal policy had a significant effect on inflation during these years. Ginn and Pourroy (2022), using data prior to the pandemic, find even larger effects of food price subsidies in the case of India by calibrating a DSGE model. Their conclusion is that the absence of food price subsidies increases inflation and requires the central bank to set their interest rate at a level which is 24% larger than in the absence of food subsidies. It is not easy to extrapolate from this calculation to the post-pandemic years. At a minimum we conclude that fiscal policy both traditional and non-conventional could also be a potential explanation of the lower inflation in the region.

5.3 Monetary policy

Monetary policy can have an effect on inflation rates via several distinct channels. First, like fiscal policy, monetary policy affects aggregate demand and therefore demand-driven inflation. Second, monetary policy affects exchange rates that can have an amplifying effect on inflation, beyond the standard demand effects. This can be important for our analysis given that exchange rate pass through is believed to be stronger in EMDEs. Third, monetary policy affects expectations of inflation that can lead to a second round of wage and price increases that will fuel higher and more persistent inflation.

Central banks around the world raised interest rates as inflation increased although the timing was very different across groups of countries. In advanced economies central banks waited until inflation became persistent enough before raising interest rates. Emerging markets reacted faster, possibly because of their history of higher and more volatile inflation and raised interest rates as the first signs of inflation

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16. See Table 3 in Amaglobeli et al. (2023).
17. Source: Annex Table 1.3 in Amaglobeli et al. (2023).

appeared in 2021. Figure 22 presents a sample of representative countries.[18] Brazil and Mexico raised interest rates early on and by a significant amount. Asian EMDEs such as India or Indonesia raised interest rates later, as did Poland or South Africa. The U.S. (as an example of an advanced economy) waited instead much longer.

In order to better assess the timing of central bank responses, we calculate the real interest rate by subtracting annual inflation, measured over the same quarter of last year, from the nominal central bank interest rates. Figure 23 shows the results. We confirm that in Latin America central banks raised interest rates, now real, to the highest level compared to other regions. While EMDE Asia or South Africa did also increase real rates relative to the pandemic period, they simply brought them back to levels in real terms seen before the pandemic. The U.S. let real interest rates decline until the central bank reacted and those rates were brought back above zero. Poland is an outlier among EMDEs with real rates becoming very negative before the central bank kept up with inflation and continued increasing interest rates. The fact that Asian central banks raised rates less than Latin American ones is consistent with our assessment of the larger output gap observed in Asia. Kamin (2023a) provides a more detailed analysis of central bank interest rates by fitting a standard Taylor rule to some of these countries. For countries in Asia, central bank interest rates are in line with the predictions of a standard Taylor rule. But countries in Latin America, such as Chile, Colombia, or Brazil, seem to have been more aggressive than the predicted behavior by the Taylor rule.

Figure 22. Central bank interest rates

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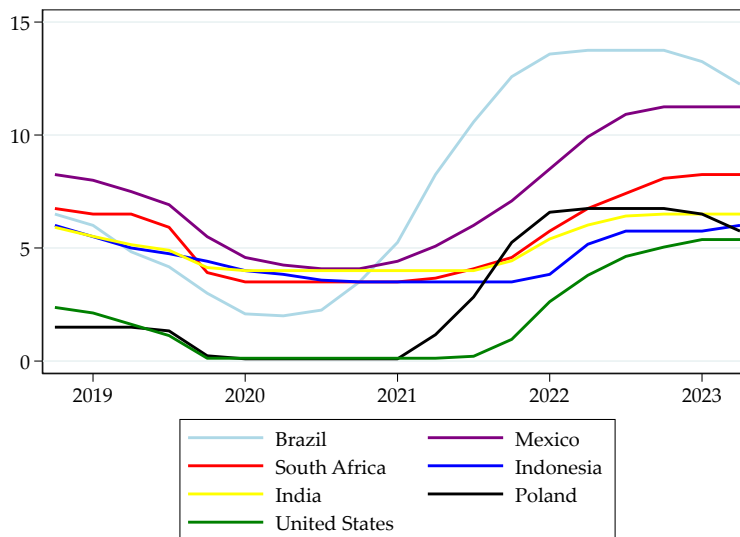
18. For this exercise we do not represent aggregates of regions because of the small number of countries but also because some clear outliers. For example, Russia or Turkey in EMDE Europe or Argentina in Latin America have a large effect on the average. And removing these outliers leaves us with a very small number of observations.

Figure 23. Central bank real interest rates
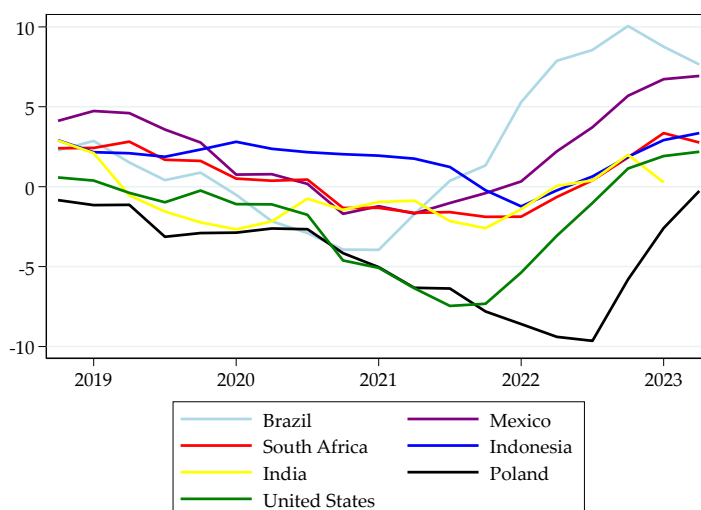
Given the limited number of observations we have, it is impossible to do a quantitative assessment of how the behavior of central banks could have influenced inflation in different EMDEs but we can highlight some patterns. The first pattern is that despite the large differences in central bank real policy rates, inflation has decreased in all these countries and to levels which are quite similar. This seems to confirm the view that a large part of the dynamics of inflation were driven by transitory supply-shocks and as their effects vanished, inflation rates returned to levels close to the targets of the central banks.

The aggressive behavior of some central banks could be explained by their need to ensure that inflation expectations remained anchored in order to avoid second round wage and price behaviors that would make inflation persistent. And some of this can be explained from the historical behavior of inflation and central bank interest rates in these countries. Figure 24 shows that if we go back to 2010, Mexico and especially Brazil had a recent history of large swings in interest rates that were necessary to stop inflation dynamics.

**Figure 24. Central bank interest rates 2010-2023**
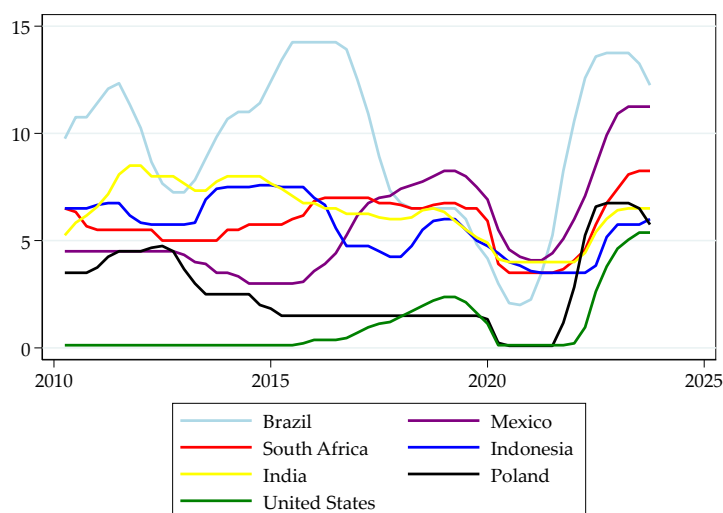
Data on inflation expectations confirms this hypothesis. Inflation expectations were quite contained in both advanced and emerging markets, despite the unexpected and large increase in inflation. Among EMDEs, Asia managed to keep inflation expectations more under control relative to other regions such as Latin America, a potential sign of the stronger credibility of central banks because of the lower level and variability of recent inflation numbers (International Monetary Fund (2023a), International Monetary Fund (2023b)). Interestingly some of this credibility does not seem to be captured by standard measures of independence or transparency of central banks. As shown in Figure 4, Asian EMDEs have as a group one of the lowest scores in this index.

5.2 The role of exchange rates

Monetary policy can have an effect on inflation through its effects on the exchange rate. Figure 25 shows the evolution of nominal effective exchange rates since the first quarter of 2020, where effective exchange rates are defined as the value of the currency relative to a basket of currencies of trading partners.[19] Asia is an outlier compared to other EMDEs, showing limited or no depreciation during 2020 and 2021 compared to the large depreciation that we saw in the other regions.

Figure 25. Nominal effective exchange rates
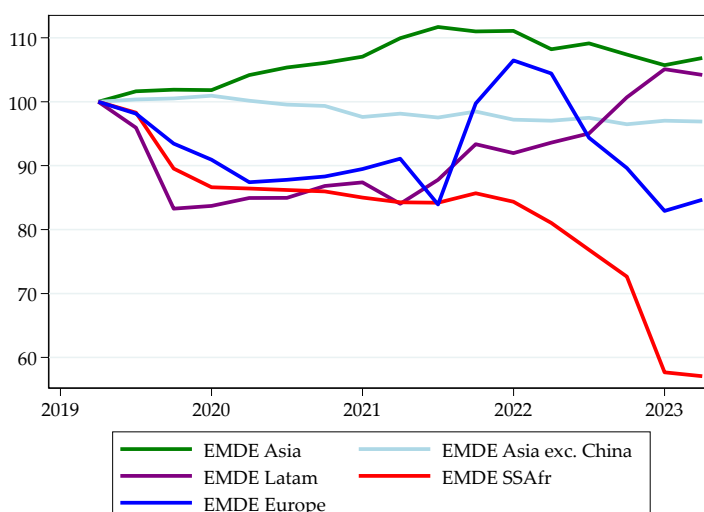
Given the evidence on pass-through of depreciations of the exchange rate, this could explain some of the difference in inflation dynamics across these regions. In addition, the depreciation of the currency could signal the possibility of inflation expectations becoming unanchored which might lead to a further tightening in those economies as we saw earlier.

One way to check the importance of the exchange rate movements on inflation is to add it to our Phillips curve analysis. This is quite common in the literature estimating Phillips curves for emerging markets, where a hybrid model that includes exchange rates tend to fit the data better (Kamber, Mohanty, and Morley (2020)).

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19. The number of countries for which effective exchange rates are available is limited so in our analysis later we also make use of the U.S. dollar exchange rate, even if it is less appropriate for this exercise.

Table 4 replicates our Phillips curve specification where we add the change in the nominal exchange rate as well as in the nominal effective exchange rate.[20] Nominal exchange rates are defined as units of local currency relative to the U.S. dollar so the sign in the regression should be the opposite as with the effective exchange rate. We analyze separately the sample of EMDEs given the potential difference in the behavior and influence of the exchange rate. The exchange rate is always significant. In the case of the nominal exchange rate the effect is much more pronounced for the sample of EMDEs.

The coefficient on exchange rates is on the high range of estimates in the literature as in, for example, Burstein and Gopinath (2014), Forbes, Hjortsoe, and Nenova (2018), Bussière, Delle Chiaie, and Peltonen (2014) or López-Villavicencio and Mignon (2017). If we were to take a coefficient of 0.5 and combine it with the observed depreciation in effective exchange rates in, say Latin America, it would suggest an accumulated change in inflation around 5-6 percentage points. This goes a long way to explain the higher inflation observed in Latin American compared to Asia. We need to be careful interpreting this calculation as a causal one given the issues of endogeneity in the regression of Table 4. The data is also certainly consistent with the idea that causality runs from low credibility central banks to exchange rate depreciations that make controlling inflation harder and result, ex-post, in higher inflation. In this case the exchange rate is not just seen as a pure exogenous factor but simply a piece of the monetary policy transmission.

Table 4. Phillips curve with exchange rates

VARIABLES	(1)	(2)	(3)	(4)
	All	EMDE	All	EMDE
Unemployment Rate	-0.151***	-0.242***	-0.140***	-0.308***
	(0.0319)	(0.0642)	(0.0299)	(0.0864)
Nominal Exchange Rate	0.0351*	0.648***		
	(0.0189)	(0.146)		
Nominal Effective Exchange Rate			-0.474***	-0.596**
			(0.161)	(0.251)
Constant	9.178***	16.55**	7.540***	19.07***
	(1.982)	(6.755)	(1.590)	(6.885)
Observations	5,247	2,175	4,026	1,407
R-squared	0.269	0.293	0.310	0.308
Number of Countries	90	54	62	31

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

One way to test the idea that the history and credibility of inflation matters is to look at how much the history of inflation can help us understand the spike that we observed after the reopening. In order to test this, we have run a simple cross-section regression. We regress the change in inflation measured as the difference between the average inflation after 2020Q1 and before the pandemic (in between 2000Q1 and 2019Q4). As explanatory variables we use the initial inflation (during the year 2019) as well as the recent

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20. As before the right-hand side variables are calculated as the average of the previous 4 quarters.

volatility of inflation measured as the standard deviation of quarterly inflation over the last five years.[21] The results appear in Table 5. We run it for four separate samples: all countries for which we can find data, a small sample that matches what we were using in our Phillips curve specification, and the same two types of samples for EMDEs.

Interestingly, initial inflation comes out as significant in all cases. Higher inflation leads to a larger increase in inflation. The volatility of inflation is also positively related to the increase in inflation, and it is also significant for the restricted samples. The R squared is surprisingly large given the small number of explanatory variables. We have tested whether any of the standard measures of independence and transparency of central banks enter this specification in the way one would expect, and the answer is no. The index by Dincer, Eichengreen, and Geraats (2022) which is often used in the literature tends to enter with a positive coefficient, the opposite of what is expected. This is not fully a surprise given what we had shown earlier in Figure 4.

Table 5. Does the history of inflation matter?

VARIABLES	(1)	(2)	(3)	(4)
	All Full	All Small	EMDE Full	EMDE Small
Initial inflation	0.982**	0.558***	1.002**	0.591***
	(0.399)	(0.170)	(0.394)	(0.188)
Volatility Inflation	0.423	0.321**	0.499	0.496**
	(0.288)	(0.141)	(0.313)	(0.191)
Constant	-2.234	-0.377	-3.229*	-2.019**
	(1.516)	(0.508)	(1.839)	(0.836)
Number of Countries	174	81	137	46
R-squared	0.292	0.332	0.303	0.415

Robust standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

In summary, monetary policy might be an important explanation for the lower inflation rates in Asia compared to other EMDEs. But this effect is not simply the direct one via a weaker response of interest rates, which is in fact not the case. Our hypothesis is that in Asia we have a recent history of low and more stable inflation that managed to anchor inflation expectations better and led to stable exchange rates compared to the fast depreciation observed in other regions. So even when exposed to similar shocks, the behavior of inflation was different.

6. Conclusions

The recovery after the COVID-19 pandemic generated a global increase of inflation that came as a surprise after years or decades with low and, in many cases, decreasing inflation. There is a growing consensus that the sharp and unexpected increase was a multifaceted phenomenon driven by a combination of large

. . .

21. Kamin (2023b) also shows that there is a positive correlation between the increase in inflation and the initial level of inflation for a group of advanced economies. We thank the author for pointing towards this result during the pre-conference meeting.

supply shocks and strong demand pressures coming from a very fast recovery. The fact that inflation is returning back to levels consistent with central bank targets favors the hypothesis that supply shocks were the main drivers and as their effects died out so did inflation.

While inflation was global, not all countries reached the same high levels. Studying the differences across countries can potentially be a good source of understanding the weights of different factors. In this paper we have focused on the behavior of emerging Asia in comparison to other EMDEs and advanced economies. While inflation increased in this region, it did it in ways that were not too different from previous cycles, unlike in other regions, in particular advanced economies, where the inflation spike took them back to levels not seen since the 1970s.

What did we learn from comparing Asia to other regions? We confirmed the view that inflation in these years was indeed a multifaceted phenomenon. Global supply shocks mattered for Asia as we saw prices increasing in sync with those events. But Asia was the region where recovery was the weakest. In fact, by some measures, Asia is far from fully recovering from the downturn during the pandemic. The weak recovery is certainly caused by the slow reopening driven by very different health protocols in particular during 2021 and 2022. Fiscal policy also played a role. Traditional fiscal policy was not as expansionary as in other countries. And non-traditional fiscal policy in the form of subsidies and trade restrictions, to keep certain prices low, was more aggressive than in other EMDEs, especially when it comes to food prices.

We also provide evidence that monetary policy played a role, but it a nuanced one. The response of interest rates in Asia was similar to other EMDEs. In fact, Latin America clearly reacted faster and more forcefully than Asia. But what seemed to matter is the previous level of inflation and its volatility. We find evidence that the jump in inflation post 2020 is strongly correlated with the level of inflation in 2019 and its volatility in the previous 5 years. This is suggestive that credibility of central banks matter for the behavior of inflation in the presence of global shocks. It is also consistent with the behavior of exchange rates. While we witnessed strong depreciations in most EMDEs, exchange rates remained stable in emerging Asia.

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DATA APPENDIX

Countries

We include all countries for which data is available except when indicated in the text with the exception of South Sudan, Venezuela, Zimbabwe because of their very high inflation in recent years. Other countries have also displayed very high inflation rates in previous decades but out analysis is focused on the post-pandemic inflation increase.

Group of countries follow IMF conventions. We also follow their rules when calculating averages. Arithmetic GDP-weighted averages are used for all variables with the exception of inflation where geometric GDP-weighted averages are being used.

Monthly Data

- Central bank interest rates from BIS
- COVID stringency restrictions from OxCGRT database
- Global supply chain pressure index from New York Federal Reserve
- Total index commodity prices from World Bank Commodity Price Data

Quarterly Data

- Headline inflation from International Financial Statistics, IMF (*Prices, Consumer Price Index, All items, Index*)
- Nominal effective exchange rate from International Financial Statistics, IMF (*Exchange Rates, Nominal Effective Exchange Rate, Index*)
- Nominal exchange rate from International Financial Statistics, IMF (*Exchange Rates National Currency Per U.S. Dollar, End of Period, Rate*)
- GDP from International Financial Statistics, IMF (*National Accounts, Expenditure, Gross Domestic Product, Real, Seasonally Adjusted, Domestic Currency*)
- Unemployment rate (*Labor Markets, Unemployment Rate, Percent*)
- Food price, energy price, producer price index and estimated core inflation from Ha, Kose, and Ohnsorge (2021). The data as used in the paper is not as updated as the other quarterly statistics from IFS so when using these variables, the sample is slightly shorter by two or three quarters

Annual Data
- Unemployment rate and real GDP from World Economic Outlook database (IMF)
- Central bank independence and transparency index from Dincer, Eichengreen, and Geraats (2022)

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