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Latin American central banking comes of age

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Latin American Central Banking Comes of Age

Steve Kamin and John Kearns*

December 17, 2021

I. Introduction

A persistent issue for central banks in emerging market economies (EMEs) has been their difficulties in pursuing counter-cyclical monetary policies such as those adopted in advanced economies (AEs). The flexible inflation targeting pursued by most AE central banks entails tightening monetary policy when inflation exceeds their targets, but loosening policy when economic activity declines below its equilibrium level. Such policies are generally pursued by AE central banks, even when their formal mandates are for price stability alone.

In EMEs, however, loosening policy in response to weak activity has been complicated by a couple of factors. First, historically, EME recessions have been triggered by financial crises, which often have been the product of investor worries about excessively lax macroeconomic policies. Therefore, even in the face of sharp recessions, EME central banks frequently have been forced to tighten policy in order to bolster investor confidence and restrain exchange rate depreciations and capital outflows that threaten to further undermine financial stability.

Second, and as a related matter, in EMEs with histories of high and poorly-anchored inflation,

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even small and transitory increases in inflation had to be curtailed through monetary tightening before they could translate into higher inflation expectations and, again, investor worries about macroeconomic management. These considerations have applied with particular force in Latin America, given its long history of high inflation and even hyperinflation.

Over the past one and a half decades or so, EME central banks appear to have pursued more balanced monetary policies.¹ By balanced policies, we mean policies that respond both to deviations of economic activity from some equilibrium or maximum level as well as deviations of inflation from target. For example, while many EME central banks responded initially to the global financial crisis (GFC) after the Lehman Brothers bankruptcy by raising interest rates, many of them quickly reversed these increases several months afterwards and subsequently dropped rates to record low levels. More recently, EMEs universally loosened policy in response to the COVID-19 pandemic, despite the initial turbulence in global financial markets and collapse in prices of risky assets.²

In the early phase of the pandemic recession, Latin America's central banks appeared to participate in the EMEs' countercyclical response, cutting policy interest rates and even employing quantitative easing (QE) despite soaring credit spreads and plunging currencies. But more recently, monetary policy in Latin America has been turning toward tightening in response to rising inflation, even as policy in the advanced economies and many other EMEs

¹ See, among others, Coulibaly (2012), McGettigan et al. (2013), Takats (2012), Vegh and Vuletin (2012, 2016), and Vegh et al. (2017).

² See Aguilar and Cantu (2020), Ayres et al. (2021), Cavallo and Powell (2021), Gelos et al. (2020), and IMF (2021).

remains on hold. This raises questions as to whether Latin American central banks have reverted to an earlier and less countercyclical strategy.

In this note, we take a close look at Latin American monetary policies in the pandemic era. First, we first compare the initial response of the region's central banks to the pandemic crisis with their actions after the Lehman Bros. bankruptcy; we then estimate Taylor rules to assess whether Latin American monetary policy more broadly shifted in 2020 from its pre-pandemic reaction function. Second, we compare Latin American monetary policy during the pandemic to that of other EMEs. Finally, we assess whether Latin American monetary policy is over-reacting to this year's surge in inflation, comparing the actions of central banks in the region to their past behavior and to the policies of other EME central banks.

Throughout, we focus on the central banks of the five most prominent, inflation-targeting Latin American economies: Brazil, Chile, Colombia, Mexico, and Peru. We exclude the central banks of Argentina and Venezuela, whose lack of independence and inability to stabilize their economies set them apart from their neighbors.

Our principal findings are as follows.

- First, as documented by other observers, Latin American central banks clearly responded more quickly to adverse shocks in 2020 than in 2008, cutting rates despite the collapse in their currencies.
- However, this did not represent a break from their immediate past. Estimated Taylor rules indicate that in the years immediately preceding the pandemic, Latin American central banks had been responding in a balanced manner to both inflation and output, and they had not demonstrated any additional responsiveness to movements in exchange rates. The shift from less- to more-countercyclical policies likely took place over the course of the past couple of decades and was largely completed by the time of the pandemic. The reasons for this shift include, among others, improved fiscal policy, reduced dependence on short-term external borrowing, greater central bank independence, and adoption of inflation targeting.

- As in Latin America, central banks in EMEs outside the region loosened policy more rapidly in response to the pandemic than to the GFC. But unlike in Latin America, estimated Taylor rules for these central banks in the preceding decade indicate the continued importance of exchange rates, in addition to inflation and output. Accordingly, the monetary loosening in the face of currency depreciations by non-Latin American EME central banks may have represented more of a break from the past.
- Unlike in the advanced economies and even many EMEs, Latin American central banks have been hiking interest rates this year in response to surging inflation. However, we do not believe this tightening is unusual, unwarranted, or a return to prior pro-cyclical policies. With one exception, rate hikes have not kept pace with inflation, have left real and nominal rates still very low by historical standards, and have been in line with the responses of other EME central banks to rising inflation.
- Brazil is the exception, but its tightening appears warranted on account of significant fiscal stimulus, exchange rate depreciation, and investor concerns about the country's future economic and political situation. In this sense, Brazil may be the "exception that proves the rule."

II. Monetary Policy Responses to the Pandemic Crisis and Recession

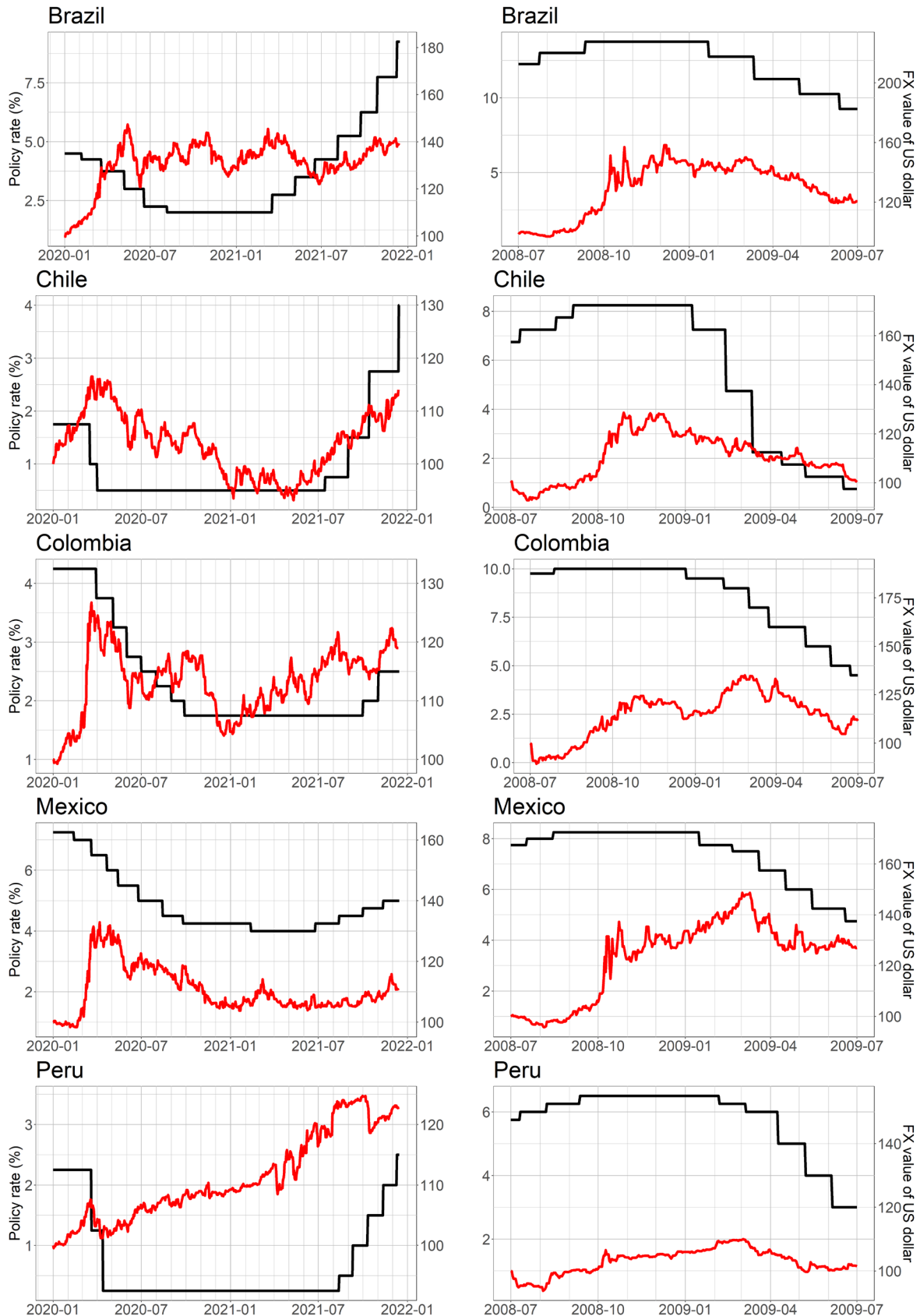
II.1 Response of central banks to exchange rate depreciation

The pandemic recession in Latin America was preceded, as in most of the rest of the world, by a retreat of investors from risky assets, soaring credit spreads, and plunging currencies. Figure 1 plots the policy interest rates of the five major Latin America central banks against the value of their currencies against the U.S. dollar. The column of panels on the left focuses on the period since the start of the COVID-19 pandemic. These panels make clear that in early 2020, these central banks started cutting interest rates immediately in response to the disruptions caused by the pandemic, despite very sharp depreciations of their currencies. In its April statement announcing a 50 basis point cut in the policy rate, the Bank of Mexico acknowledged that declines in global risk sentiment were boosting exchange rate volatility, but felt that policy

Figure 1: Response of Latin American Monetary Policy to Exchange Rates

2020 Pandemic Crisis

2008-09 Financial Crisis



Source: Bank for International Settlements
 Note: Red plots FX value indexed where first shown date equals 100.
 An increase indicates depreciation of the Latin American currency.

loosening was necessary to support financial markets and the economy. Other central banks made similar statements. A detailed summary of the responses of Latin American central banks to the pandemic, and how they communicated those responses, is provided in Appendix 3.

The policies pursued in early 2020 represented a dramatic turnaround from the behavior of Latin American central banks in response to the GFC, shown in the right-hand columns of panels in Figure 1. Like the COVID-19 pandemic, the Lehman Bros. bankruptcy triggered a global retreat from risky assets. But in this instance, Latin American monetary policy first tightened sharply in response to collapsing exchange rates and only later reversed those movements, as the global financial panic eased and their currencies began to retrace their earlier declines.

II.2 Evidence from estimated Taylor rules

Although it is clear that Latin American central banks reacted very differently to last year's currency depreciation compared with during the GFC, a number of questions remain: Did the monetary response to the pandemic represent a complete overhaul of their monetary strategies, or just a downweighting of their focus on the exchange rate? And was this shift in policy triggered by the advent of the pandemic crisis or had it been established much earlier? To address these questions, we estimate Taylor rules for Latin American central banks over the 12 years leading up to the pandemic—2007 to 2019—and assess how the actions of these banks during the pandemic period compared to this benchmark. This estimation period was chosen so as to start early enough to include the GFC, the episode most similar to the pandemic crisis, but not so early as to include the transition to inflation targeting in these countries.³

³ Inflation targeting was adopted in 1999 in Brazil, Chile, and Colombia, 2001 in Mexico, and 2002 in Peru. (De Gregorio, 2019, Perez Caldentey and Vernengo, 2019).

We start with a standard open-economy central bank reaction function:

$$i_t = r^* + \pi_t + \beta(\pi_t - \pi^T) + \gamma(y_t - y_t^*) + \delta(\Delta e_t) + \lambda(i_{t-1}) + \varepsilon_t \quad (1)$$

where i is the policy interest rate, π represents year-over-year inflation, π^T the inflation target, y the level of real GDP, y^* the level of potential GDP, e the real multilateral exchange rate, Δ the percent change from the previous period, and ε the error term.⁴ The lagged interest rate is included, as is standard in empirically estimated Taylor rules, to capture central banks' inclination to smooth out interest rates over time. The change in the real exchange rate is included because many EME central banks appear, or have appeared in the past, to respond to changes in the currency value. This may be either because these central banks attempt to target the exchange rate in addition to inflation and output, and/or because exchange rate changes may signal future movements in inflation, an especially salient consideration in small open economies.

In practice, we do not observe r^* and, at least during the estimation period, there were few changes in the target inflation rate. Accordingly, rolling these terms into the intercept, the specification becomes:⁵

$$i_t = \alpha + \beta\pi_t + \gamma(y_t - y_t^*) + \delta(\Delta e_t) + \lambda(i_{t-1}) + \varepsilon_t \quad (2)$$

⁴ For each country, output gaps are calculated as the percent difference between real GDP and trend GDP. To calculate the latter, an HP filter with a smoothing parameter of 1600 was applied to a series comprised of actual GDP through 2019 Q4 and an ARIMA forecast of GDP over the pandemic period. Charts showing the evolution of actual and trend GDP, along with other relevant data, are presented in Appendix 2.

⁵ This specification follows that in Mohanty and Klau (2004), who in turn referenced Taylor (2001). Somewhat similar approaches to estimating Taylor rules for EMEs are found in Takats (2012), Vegh and Vuletin (2012), and Vegh et al. (2017).

This equation is estimated using quarterly data. Appendix Table 1.1 shows the results separately for each Latin American country. The coefficients on inflation and output are generally significant and their magnitudes are sensible. However, for our analysis below, we prefer to estimate the equation using data for all five Latin American countries using panel data regression. This makes it easier to generalize about Latin American monetary policy. More importantly, it allows us to introduce time fixed effects into the model, which may capture the effects of common shocks not otherwise measured in our explanatory variables.

Table 1 below presents the estimation results, using headline inflation rates. Appendix Table 1.2 repeats the estimations, but using core inflation; the results are essentially similar. Focusing on column 1, which spans the pre-pandemic period, the estimated coefficients on inflation, the output gap, and lagged interest rates are of sensible magnitudes: In the long run, Latin American nominal policy rates rise 1.3 percentage points for each percentage point rise in inflation (real rates rise 0.3 percentage points) and 1.2 percentage points for each percentage point widening of the output gap.

These parameters suggest that in the decade before the pandemic, Latin American central banks were already following a reaction function that places significant weight on stabilizing output as well as inflation. Moreover, the coefficient on the change in the real exchange rate is (literally) zero, suggesting that even well before the pandemic, the region's central banks were not responding to movements in the currency, once inflation and output were taken into account.

Table 1: Empirical Taylor rules for Latin America

	Dependent variable: Policy interest rate		
	2007 Q1 – 2019 Q4	1998 Q4 – 2019 Q4	2007 Q1 – 2021 Q3
	(1)	(2)	(3)
Headline CPI inflation (year-over-year)	0.13 *** (0.03)	0.17 *** (0.06)	0.13 *** (0.03)
Real GDP output gap (percent deviation)	0.12 *** (0.03)	0.15 * (0.08)	0.12 *** (0.03)
Lagged policy rate	0.90 *** (0.03)	0.64 *** (0.04)	0.91 *** (0.02)
Percent change in real ex. rate	0.00 (0.01)	-0.10 *** (0.03)	0.00 (0.01)
Pandemic*Inflation			0.14 (0.09)
Pandemic*Output gap			-0.11 *** (0.04)
Pandemic*Lagged policy rate			-0.06 (0.07)
Pandemic*Exchange rate			0.01 (0.03)
Num. obs.	260	424	295
R ²	0.98	0.91	0.98
Number of countries	5	5	5
Number of quarters	52	85	59

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

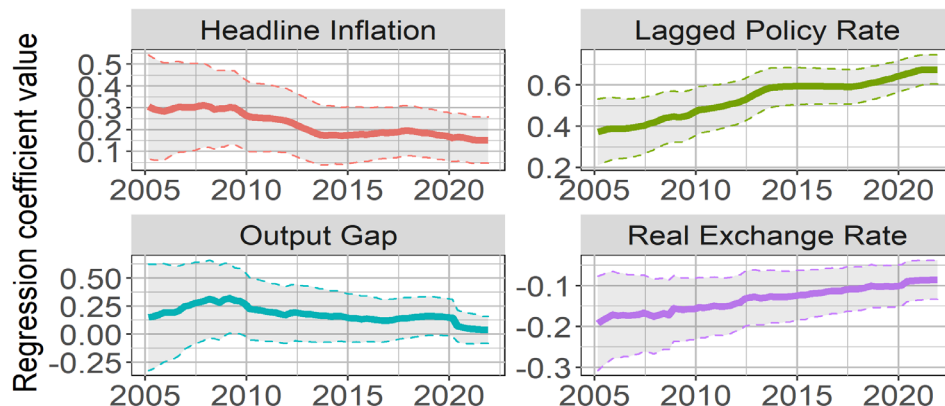
Note: Quarterly panel regression for Brazil, Chile, Colombia, Mexico, and Peru. Dependent variable is the last daily observed policy rate in each quarter. Exchange rate variable is quarter-to-quarter percent change in quarter-average of real multilateral exchange rate (an increase indicates appreciation). Pandemic is a dummy variable equal to 1 for 2020 Q1 through 2021 Q3, and 0 otherwise. Data are from the Bank for International Settlements (2021) and CEIC. Includes time and country fixed effects, and standard errors are in parentheses.

How do we square this evidence with the fact, depicted in Figure 1, that Latin American central banks responded to exchange rate depreciation after the Lehman Bros. bankruptcy by hiking rates, despite the contractionary environment? We believe this development took place during a period when Latin American central banks were transitioning from their prior regime—in which countercyclical policy was not possible in the face of sharp movements in currencies

and inflation—to their current flexible inflation targeting stance. Evidence for that is provided in column 2, where the starting date for the regression has been moved back to 1998, before any of the central banks adopted inflation targeting. This regression shows a greater weight being placed on inflation relative to output. Moreover, the coefficient on the real exchange rate is now negative and statistically significant, indicating that central banks did raise rates in response to real exchange rate depreciation (that is, declines in the currency) in the earlier part of the estimation period.

The evolution of the Latin American central banks’ reaction function may be more directly observed in Figure 2 below. The figure shows the estimated coefficients and 95 percent confidence intervals as the Taylor rule is estimated for 1998 Q4 through 2005 and then progressively expanded through to the present. The coefficient on inflation declines steadily through the entire time span, but the effect on the long-run coefficient is largely offset by the rise in the coefficient on the lagged interest rate – in essence, Latin American central banks did more interest rate smoothing later in the period. The most dramatic change is in the response to the real exchange rate, which shrinks substantially over the period.

Figure 2: Recursive coefficient estimates for Latin American reaction function



*Panels display coefficients estimated over period starting in 1998 Q4 and ending in quarter indicated on the x-axis.
Grey areas represent 95% confidence intervals.*

It is beyond the scope of this paper to fully explain these shifts in monetary strategy, but a number of factors likely played a role, including: reduced fiscal deficits that allowed monetary policy greater room for maneuver; shifts in international borrowing from short-term bank financing to longer-term bond finance, which reduced vulnerability to volatile exchange rates and capital flows; adoption of inflation targeting; and greater central bank independence.⁶

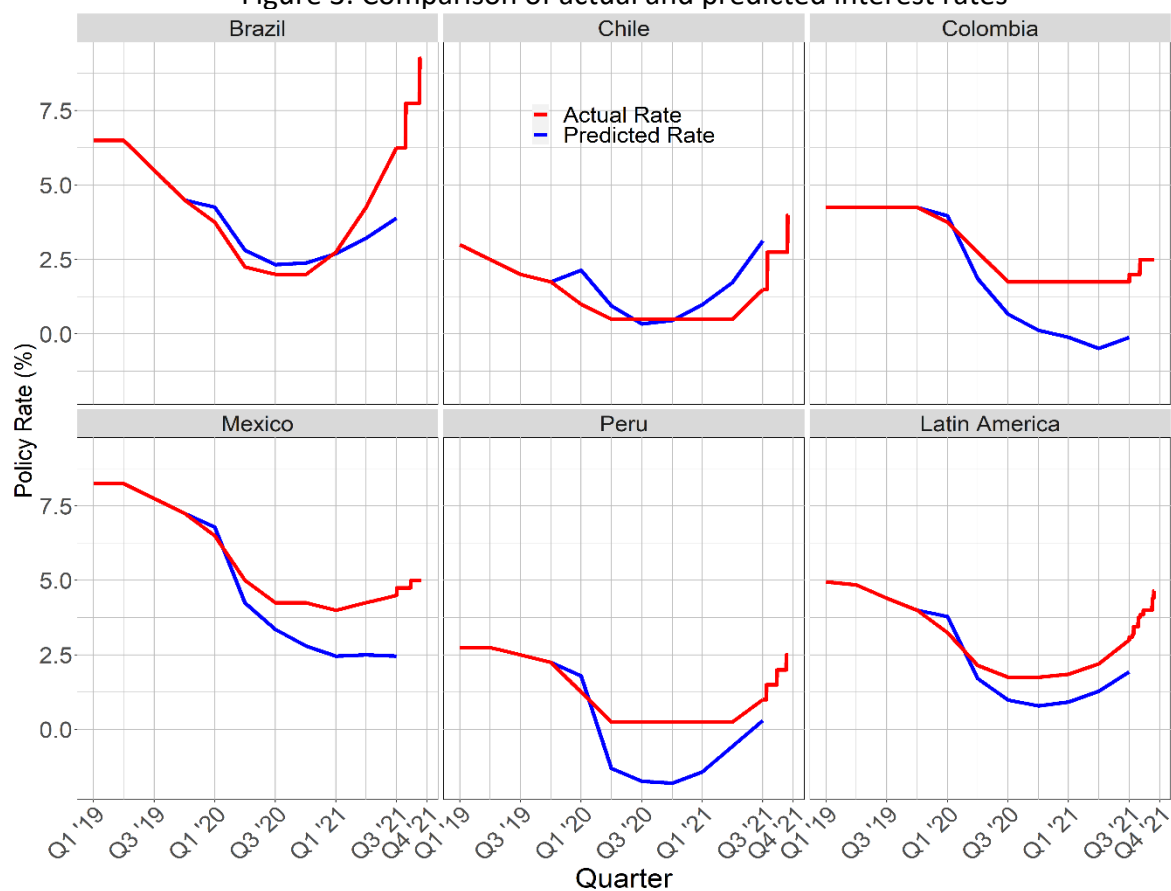
All told, it appears that Latin American central banks had fully “graduated” to a balanced approach to inflation and output by the time the pandemic recession hit. Accordingly, their rapid response to the crisis was not a break from the recent past. To test this directly, column 3 of Table 1 extends the estimation sample to 2021 Q3 and adds interaction terms: a dummy variable for the period 2020 Q1 through 2021 Q3 multiplied by the explanatory variables. Surprisingly, as far as explaining the rapid response of Latin American central banks to the pandemic recession, the coefficients on some of the interaction terms are the “wrong” sign: the coefficient on output appears to have declined (and significantly so) during the pandemic, while the coefficient on inflation appears to have increased (albeit not significantly).

Figure 3 helps us understand where these results are coming from: the path of actual policy interest rates in each of the jurisdictions is compared to the path predicted by the model shown in Column 1. As may be seen, although the model tracks Chilean policy rates reasonably well, for the other countries, the model predicts either larger declines (Peru, Colombia, and Mexico) or smaller subsequent increases (Brazil) than actually occurred.⁷

⁶ See, among others, Aguilar and Cantu (2020), Gelos et al. (2020), Giraldo and Turner (2021), McGettigan et al. (2013), and Vegh and Vuletin (2016),

⁷ Appendix Figure 1.1 compares actual and predicted interest rates, when the latter are based on country-specific regressions. The results are similar, except that the predicted path of Brazilian interest rates now lies closer to its actual path in 2021.

Figure 3: Comparison of actual and predicted interest rates



Sources: Bank for International Settlements; CEIC
 Note: Predicted rates based on dynamic simulation of equation shown in Table 1, column 1, with intercept and country fixed effects set to zero. In Latin America panel, actual and predicted rates are the mean average of the country-specific rates shown in the other five panels.

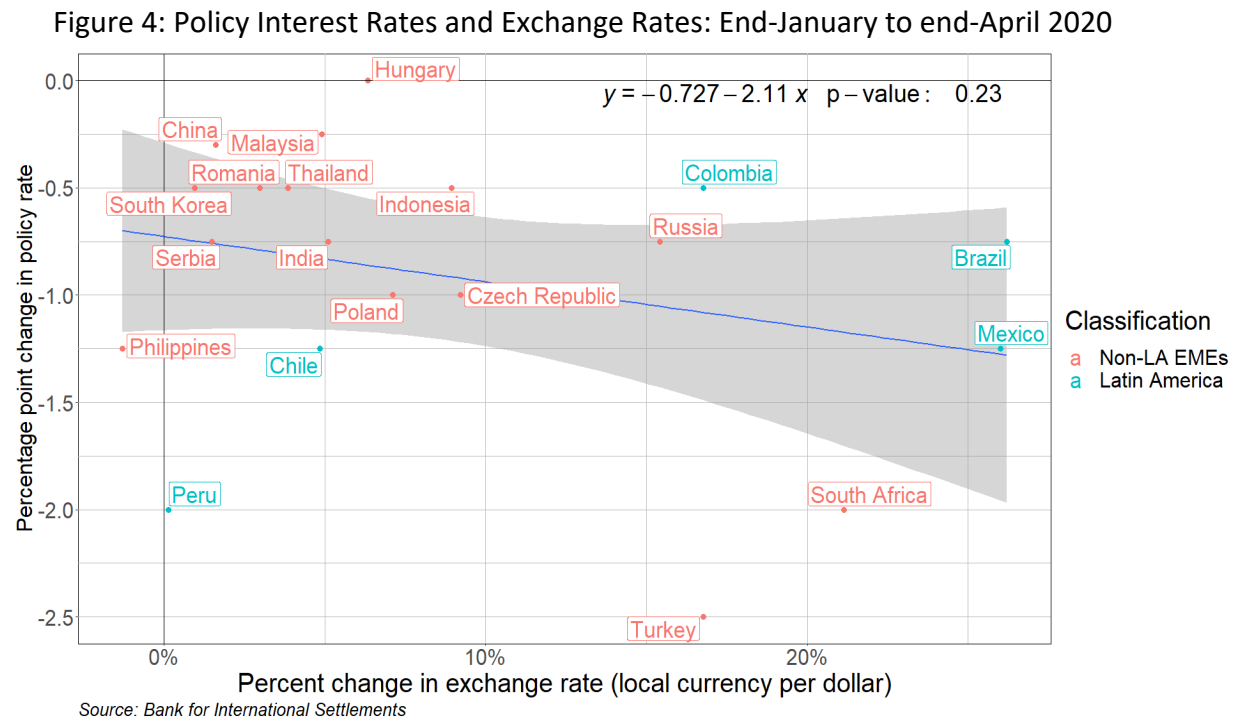
Does this mean that Latin American central banks actually became more hawkish—that is, raising their weight on inflation, lowering their weight on output—during the pandemic? Given the severity of the recession, that seems unlikely. Instead, we think it likely that the model, estimated over a more normal period, may not provide a good guideline for how central banks would react in response to a downturn of unprecedented depth and longevity (see charts of the output gap in Appendix 2). Peru, of course, was constrained by the zero lower bound. The central banks of Colombia and Mexico could have cut rates further, but having already loosened policy to an historically unprecedented extent, most of their boards apparently believed they had already provided a great deal of monetary stimulus. Brazil actually cut rates

in line with the model predictions; we will discuss its response to rising inflation in Section IV below. And most of these countries, with the prominent exception of Mexico, augmented their rate cuts with asset purchases and other liquidity facilities.

III. Comparing Latin America’s Responses to Pandemic Recession with Other EMEs

III.1 Comparison of Monetary Actions during the Pandemic Recession and the GFC

In Figure 4, we compare the responses (or lack thereof) of Latin American central banks to currency depreciation with those of other central banks during the initial phase of the pandemic.⁸ The chart focuses on the correlation between changes in exchange rates (the X axis) and changes in policy interest rates (the Y axis) from end-January to end-April 2020. The bottom line is that, as in Latin America, nearly all EMEs cut rate during this period, despite the generalized depreciation of their currencies.

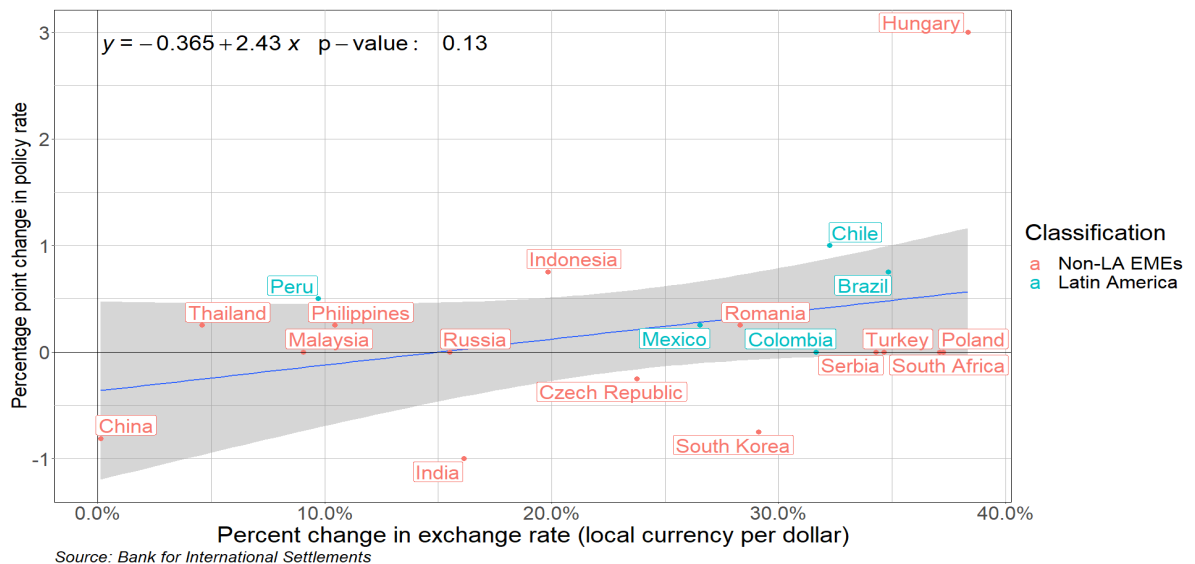


⁸ This and Figure 5 are similar to charts presented in Aguilar and Cantu (2020).

In fact, the downward sloping trend line suggests that the central banks of countries with greater exchange rate depreciation actually cut interest rates by more, perhaps because both declines in currencies and in interest rates reflected declines in output. This relationship is loose; the insert equation indicates that there is a 23 percent probability that the slope coefficient in the trend line is not different from zero. Nevertheless, the figure makes clear that Latin American central banks were generally as resistant as other EMEs to tightening in response to falling currencies. (The grey shaded area represents the 95 percent confidence interval around the trend line.)

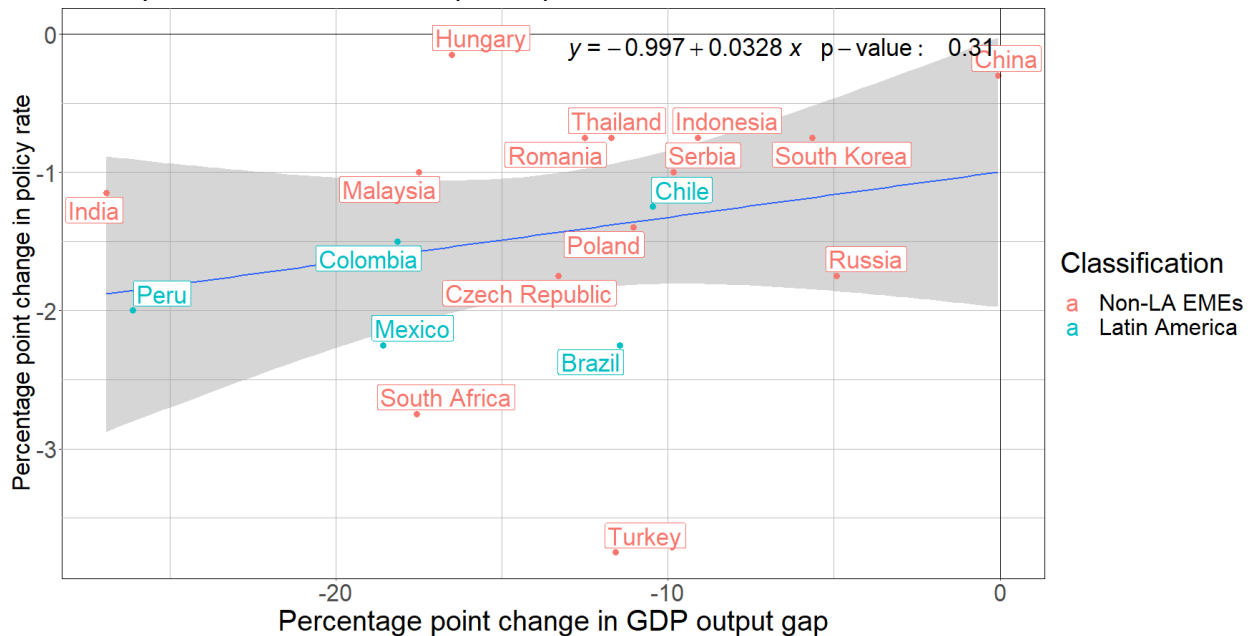
As in Latin America, the indifference of other EME central banks to exchange rate depreciation contrasts with their behavior during the GFC, following the Lehman Bros. bankruptcy, shown in Figure 5. Here, many central banks hiked rates at the outset, and countries with greater degrees of exchange rate depreciation generally implemented larger hikes. The Latin American central banks, again, fell squarely within the trend of this relationship.

Figure 5: Policy Interest Rates and Exchange Rates: End-July to end-October 2008



Finally, we compare the responses of Latin American and other EME central banks to the loss of output during the pandemic and GFC recessions. Figure 6 plots the movement in policy interest rates in each country in the first two quarters of the crisis against changes in the output gap. The trend line is loosely upward-sloping, pointing to some tendency for countries with smaller declines in output to implement smaller rate cuts, although there is a great deal of variation around it.⁹ Latin American central banks fell either close to (Peru, Colombia, Chile) or well below (Brazil, Mexico) this trend line. Moreover, unlike in the GFC, rate cuts in Latin America and other EMEs were augmented by quantitative easing, a novel policy move for EMEs.¹⁰

Figure 6: Policy Interest Rates and Output Gaps: Q4 2019 to Q2 2020

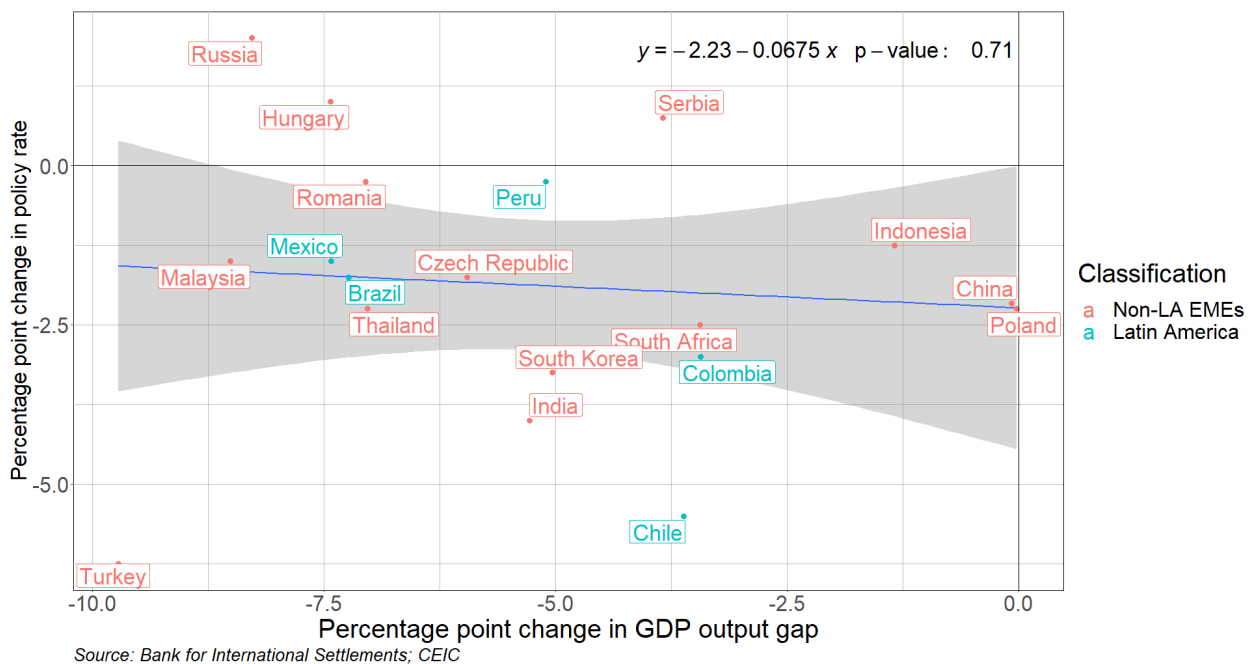


⁹ Policy interest rates in advanced economies (AEs), not shown, generally fell much less than in EMEs. AE rates were already close to or below zero at the start of the pandemic, and much more of those countries' monetary stimulus came in the form of quantitative easing.

¹⁰ See Cavallo and Powell (2021), IMF (2020), and World Bank (2021).

Figure 7 repeats the analysis, focusing on the GFC recession. The chart addresses a longer period—through March 2009—than in Figure 5 above, and by that time most EMEs had cut rates relative to pre-Lehman Bros. days. Nevertheless, the trend line slopes very slightly (and insignificantly) in the wrong direction: EMEs with deeper recessions cut interest rates by less. This pattern roughly held within Latin America as well, with the two countries with smaller declines in output (Chile and Colombia) loosening policy by more than those with larger declines (Brazil, Mexico, and Peru).

Figure 7: Policy Interest Rates and Output Gaps: Q3 2008 to Q1 2009



III.2 The evolution of reaction functions in non-Latin American EMEs

Had monetary policies in EME central banks outside Latin America also become largely balanced even before the pandemic recession, or did their rapid loosening in early 2020 represent more of a break with the past? To address this question, we re-estimated the Taylor

rule equations described above for 14 EMEs outside of Latin America, as shown in Table 2.

(Estimates using core inflation are presented in Appendix Table 1.3.)

Starting with column 1, the estimated coefficients on inflation, the output gap, and lagged interest rates are remarkably similar to those estimated for Latin America. In contrast, the coefficient on the real exchange rate is negative and highly statistically significant—it indicates that a 10 percent depreciation of the real exchange rate would lead to a 60 basis point rise in the policy rate in the current quarter.

Column 2, which indicates the results of estimation starting in 1998, indicates that the parameters of the Taylor rule are surprisingly similar to those estimated over the later, shorter period. This is also evident in the recursive estimation charts shown in Figure 8, which largely stabilize after 2010 or so. Thus, it appears that in the lead-up to the pandemic, central banks both inside and outside of Latin America evidenced similar responses to output and inflation, but the non-Latin American central banks continued to adjust policy in response to changes in currency values. This bears further investigation, but may reflect the focus of many Asian countries in keeping their currencies competitive for trade purposes.

Even so, there is some evidence that the response to the pandemic recession represented more of a break with the past outside of Latin America than for Latin American central banks. Column 3 shows that, as in Latin America, the coefficient on inflation rose a bit during the pandemic while that on the output gap fell significantly. More interestingly, it shows a positive coefficient of 0.05 for the interaction term between the pandemic dummy and the exchange rate variable. While not statistically significant, this suggests that during the pandemic period,

the response to exchange rates may be more muted than in previous years, and is consistent with the universal rate cuts shown in Figure 4, despite widespread currency depreciations.

Table 2: Quarterly empirical Taylor Rules, headline inflation, non-LA Emerging Market Economies

	Dependent variable: Policy interest rate		
	2007 Q1 – 2019 Q4	1998 Q4 – 2019 Q4	2007 Q1 – 2021 Q3
	(1)	(3)	(2)
Headline CPI inflation (year-over-year)	0.10 *** (0.02)	0.11 *** (0.01)	0.10 *** (0.01)
Real GDP output gap (percentage deviation)	0.11 *** (0.02)	0.12 *** (0.02)	0.11 *** (0.02)
Lagged policy rate	0.87 *** (0.02)	0.84 *** (0.01)	0.87 *** (0.02)
Quarterly percent change in real exchange rate	-0.06 *** (0.01)	-0.05 *** (0.01)	-0.06 *** (0.01)
Pandemic*Inflation			0.03 (0.04)
Pandemic*Output gap			-0.07 *** (0.03)
Pandemic*Lagged policy rate			0.02 (0.04)
Pandemic*Exchange rate			0.05 (0.03)
Num. obs.	692	996	790
R ²	0.96	0.98	0.96
Number of countries	14	14	14
Number of quarters	52	85	59

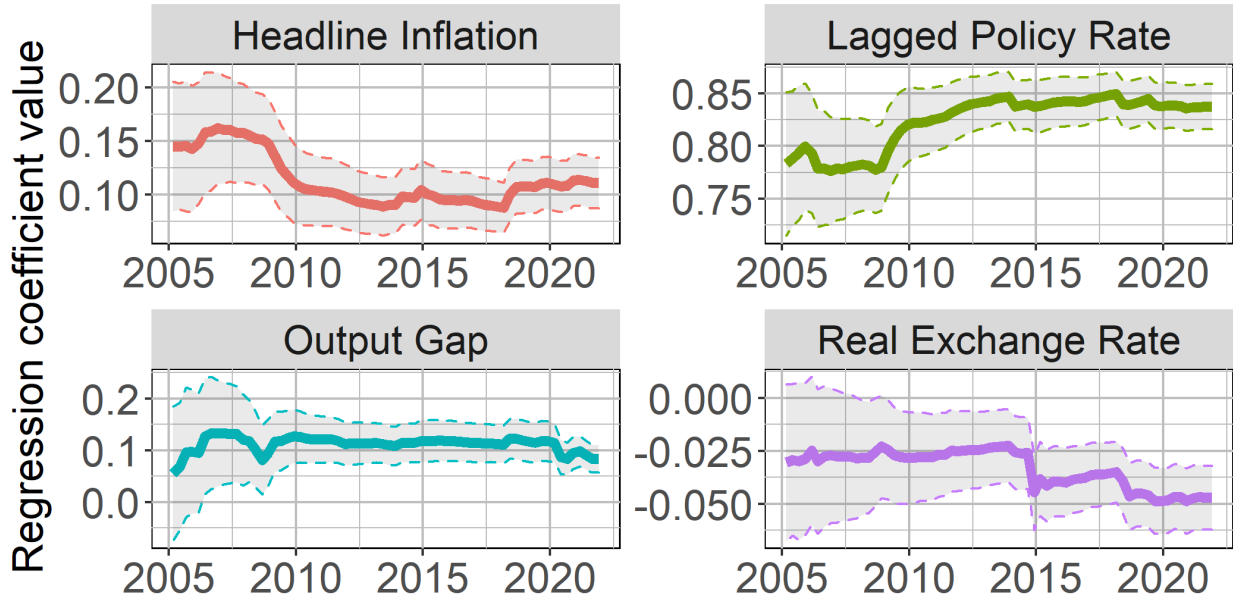
p < 0.1 *, p < 0.05 **, p < 0.01 ***

Note: Quarterly panel regression for 14 non-Latin American emerging market economies: China, Czech Republic, Hungary, India, Indonesia, Malaysia, Philippines, Poland, Romania, Russia, South Africa, South Korea, Thailand, and Turkey. Dependent variable is the last daily observed policy rate in each quarter. Exchange rate variable is quarter-to-quarter percent change in quarter-average of real multilateral exchange rate (an increase indicates appreciation). Pandemic is a dummy variable equal to 1 for 2020 Q1 through 2021 Q3, and 0 otherwise. Data are from the Bank for International Settlements (2021) and CEIC. Includes time and country fixed effects, and standard errors are in parentheses.

Finally, Figure 9 plots actual and predicted interest rates, on average, for the non-Latin American EMEs and compares them to those in Latin America. It suggests that central banks in the non-Latin American EMEs, while having cut rates sharply in early 2020, were even more

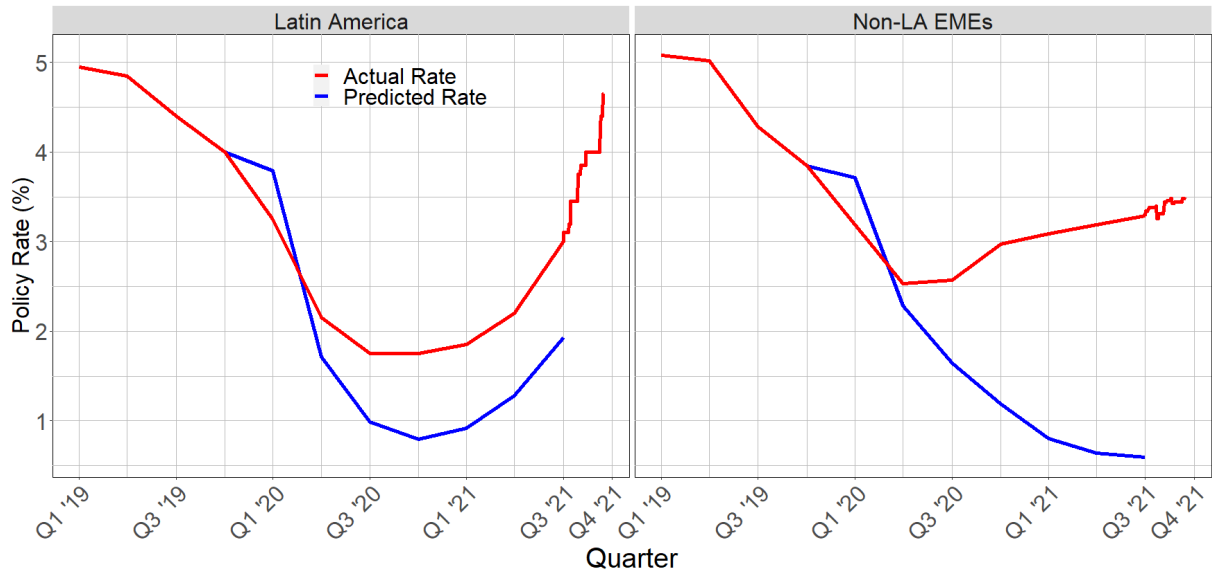
reticent than in Latin America to lower them as far and as long as their estimated Taylor rules would have implied.

Figure 8: Recursive coefficient estimates for non-Latin-American EMEs



Panels display coefficients estimated over period starting in 1998 Q4 and ending in quarter indicated on the x-axis. Grey areas represent 95% confidence intervals.

Figure 9: Comparison of actual and predicted interest rates



Sources: Bank for International Settlements; CEIC
 Note: Predicted rates based on dynamic simulation of equation shown in Table 1, column 1 and Table 2, column 1, with intercept and country fixed effects set to zero. Actual and predicted rates are the mean average of the country-specific rates calculated for each region.

IV. Monetary Policy Responses to the Pandemic Rebound in Inflation

The numerous rate hikes by Latin American central banks this year, depicted in the left-hand panels of Figure 1 above, have received considerable attention. They contrast with the behavior of their counterparts in the advanced economies, nearly all of whom continue to keep rates near zero or below. Compared with the U.S. Federal Reserve's insistence on keeping rates low, deeming the recent surge in inflation rates to be temporary, the actions of the Latin American central banks might appear excessively aggressive and even a throwback to (much) earlier times when monetary policy could not afford even small upticks in inflationary pressure.¹¹

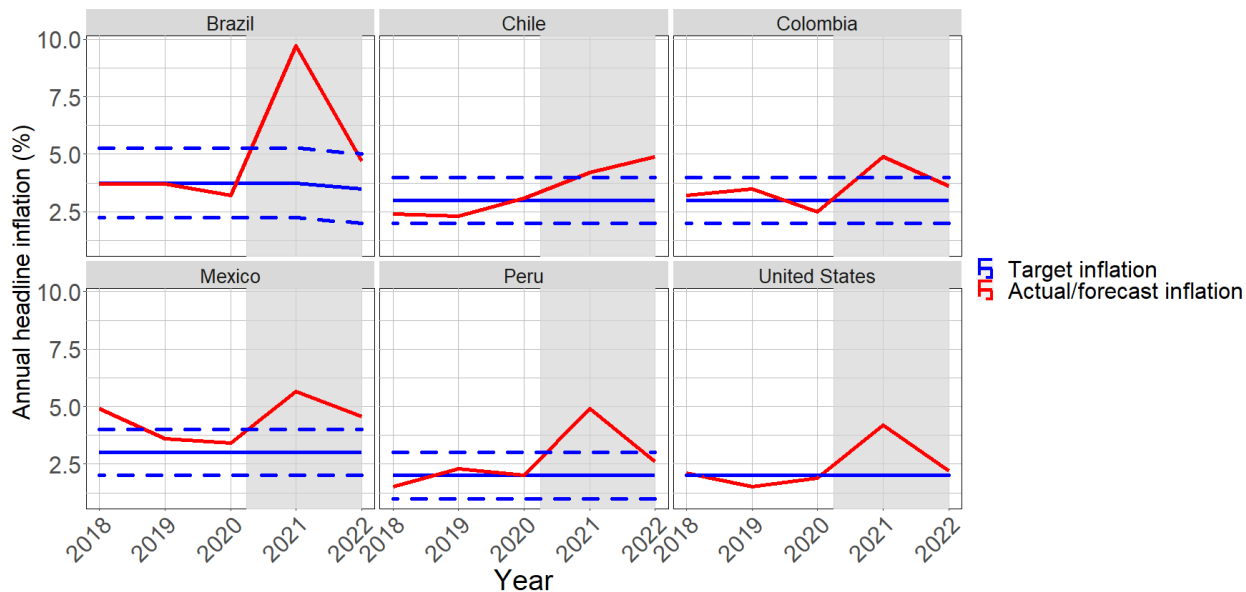
This perception might seem to be confirmed by the evidence presented in Figure 10 below: Just as in the United States, Latin American central banks, with the exception of Chile, expect inflation to return toward target next year. But unlike in the United States, they have been tightening monetary policy to ensure this actually takes place. Moreover, returning to Figure 3 above, recall that most Latin American policy rates exceed those predicted by the estimated Taylor rule model.

However, despite this evidence, we believe the responses of Latin American central banks to the rise in inflation have actually been fairly restrained. As shown in Figure 3, the current overshoot in policy rates relative to the estimated Taylor rule seems mainly to reflect the failure of some Latin American central banks to lower rates last year as much as the model predicted; as noted earlier, this may reflect simply that the estimated Taylor rule can't be applied to

¹¹ The Fed's recently announced tapering will only slow the provision of additional stimulus, not actually tighten the monetary policy stance.

events as extreme as the pandemic recession, and it was unclear at the time how far rates needed to fall. But taking as given the level of policy rates entering into 2021, the subsequent hikes in rates in response to rising inflation generally have been neither much larger nor much earlier than the increases in predicted rates. (Brazil is an exception, to be discussed below.)

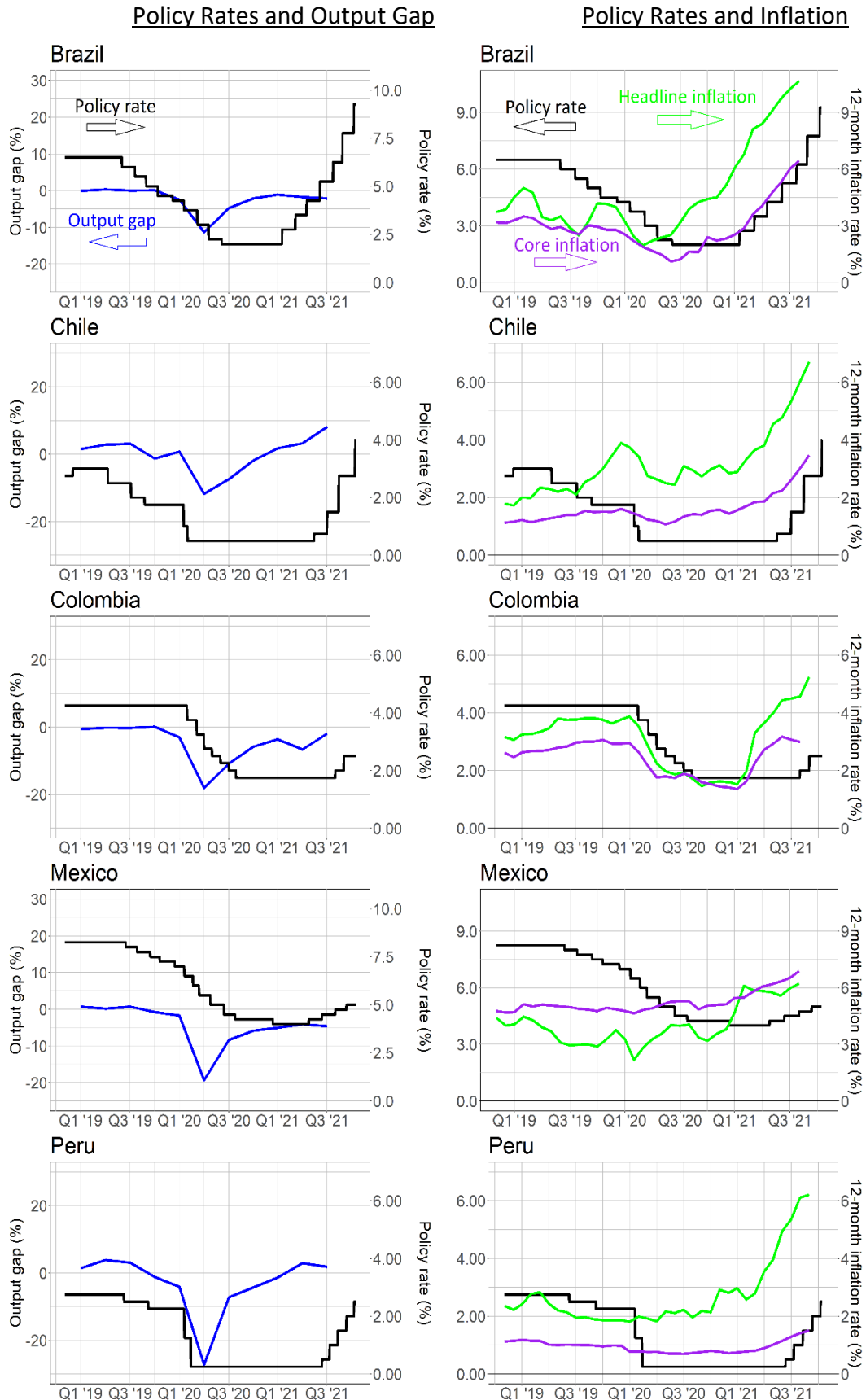
Figure 10: Actual and forecasted headline CPI inflation in Latin America



Sources: CEIC; Federal Reserve; Central Bank of Brazil; Central Bank of Chile; Central Bank of Colombia; Bank of Mexico; Central Reserve Bank of Peru
 Note: Inflation for 2021 and 2022 are forecast by national central banks as of September-November 2021.

To see this more clearly, Figure 11 below compares Latin American policy rates to the two main inputs into the Taylor rule: estimated output gaps, on the left, and inflation rates, on the right. A number of points stand out. First, Latin American central banks generally continued to lower rates into the second half of 2020, even as output started to rebound. Second, central banks did not start raising policy rates in the region until well after inflation had started to pick up. As described in Appendix 3, all of the central banks wrestled for months with the question of whether increases in inflation were transitory and whether they were large enough to merit raising rates. Brazil tightened first, in mid-March, followed by Mexico, Chile, Peru, and lastly

Figure 11: Response of Latin American Monetary Policy to Output and Inflation



Source: Bank for International Settlements, CEIC

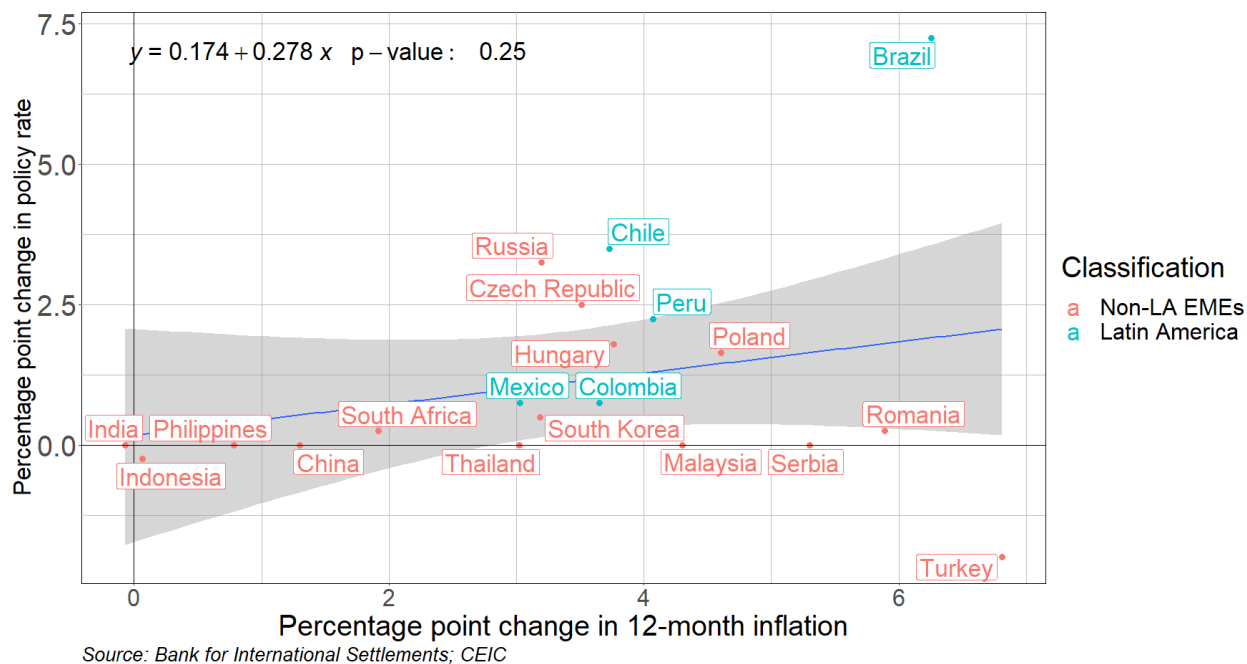
Colombia. Third, aside from Brazil, rates in the region remain extremely low by historical standards. And, finally, turning to the charts shown in Appendix 2, policy rates are now undershooting inflation rates by record levels—that is, *ex post* real interest rates are at record lows.

As noted above, the Brazilian central bank’s response to inflation has been less restrained, given that its policy rate has leapt from 2 percent in March to above 9 percent at present. Yet, it bears noting that the policy rate has only just kept pace with rising inflation. Moreover, this tightening takes place in the context of significant fiscal stimulus, exchange rate depreciation, and investor concerns about the country’s future economic and political situation. In this sense, Brazil may be the “exception that proves the rule”: fears of 1980s-style economic and political disarray are requiring aggressive monetary tightening to maintain investor confidence.

Another way to put Latin America’s monetary policy tightening into perspective is to compare it with the actions of other EME central banks. Figure 12 plots the rise in policy rates among the EMEs in our sample—both Latin American and others—since the beginning of this year to the rise in inflation during this period. In most of the Latin American economies, with the prominent example of Brazil, rate hikes have been subdued and consistent with the relationship between inflation and policy rate moves indicated by the trend line.

Of course, much of the recent spike in inflation, and much of the reason why many believe it to be transitory, owes to the rise in energy costs. Figure 13 presents the same analysis, based on recent changes in core inflation, which excludes energy and food costs. The story remains much the same as before, with Brazil evidencing an unusually strong monetary response to

Figure 12: Changes in policy interest rates and headline inflation during 2021



rising inflation, while the other Latin American central banks remain well within the bounds of the (now statistically significant) cross-country relationship.

While Figures 12 and 13 document a cross-country relationship between inflation rates and policy rates, a key determinant of monetary policy is the expectation of future inflation rates.

Figure 14 draws on the IMF World Economic Outlook (WEO) forecasts as a consistent measure of inflation projections for our sample countries. The X axis measures the change between the October 2020 WEO forecast of inflation in 2021 and the October 2021 WEO forecast of inflation in 2022. The Y axis measures the change in policy interest rates between end-October 2020 and the present (largely the same as the changes since end-2020 plotted in Figures 8 and 9).

These calculations again show a significant relationship between the two variables. And, again,

most of the Latin American central banks fall relatively close to the trend line, with Brazil being the notable exception.¹²

Figure 13: Changes in policy interest rates and core inflation during 2021

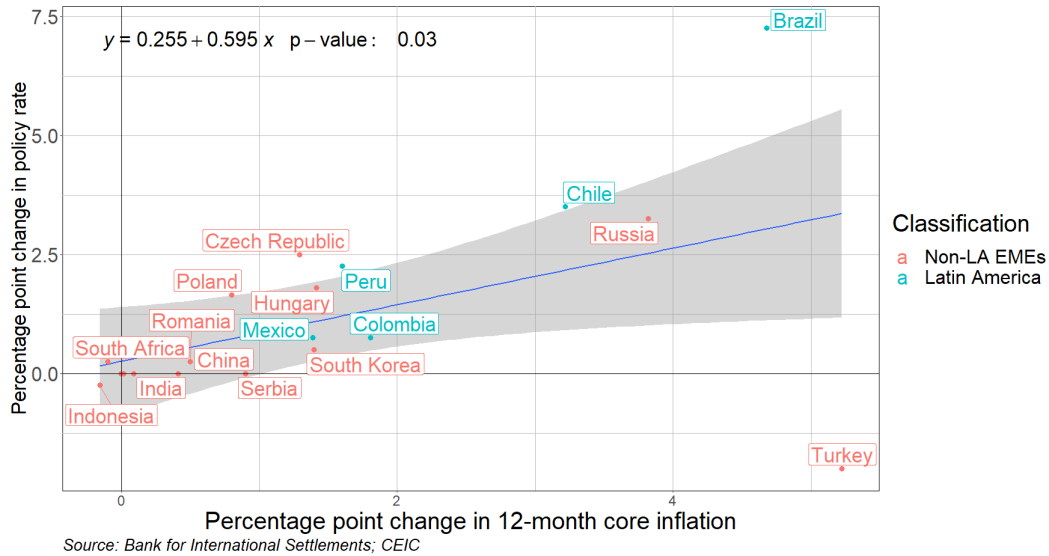
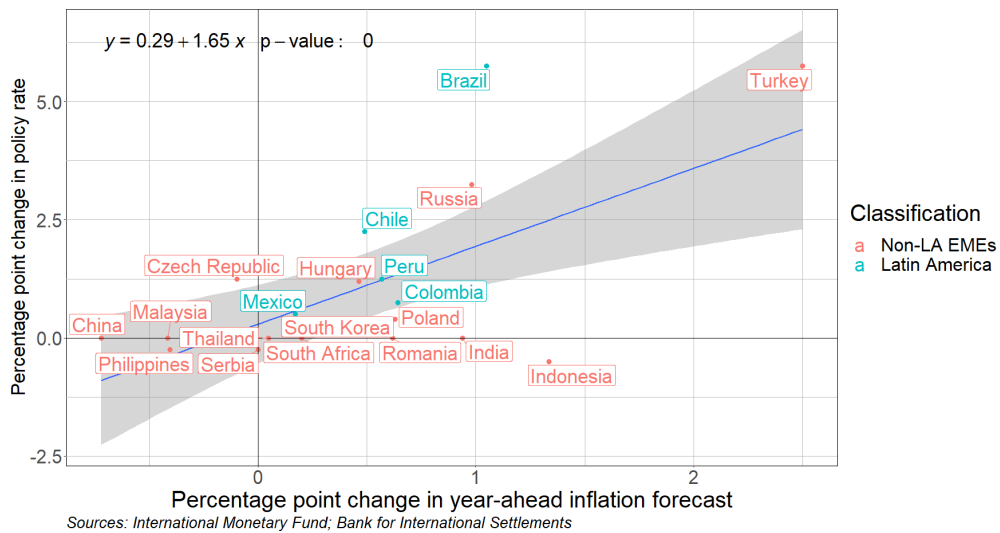


Figure 14: Changes in policy rates and IMF year-ahead inflation forecasts between October 2020 and October 2021



¹² Turkey's change in interest rates now appears in line with the trend, because it is measured relative to October 2020 rather than end-December. Turkey increased rates substantially in late 2020 and early 2021, but it then reduced them starting in September 2021.

VI. Conclusion

In this paper, we have documented that major Latin American central banks loosened monetary policy much more quickly in response to the pandemic crisis and recession than they did in response to the global financial crisis that followed the Lehman Bros. bankruptcy. In particular, these central banks were able to ignore the sharp reversal of capital flows and depreciation of their currencies, developments that motivated them to initially tighten policy during the earliest phase of the GFC. We showed that their behavior during the pandemic did not represent a break with the immediate past—indeed, the evidence from estimated Taylor rules suggests that the Latin American central banks had been following a relatively balanced policy toward inflation and output for much of the preceding decade, and had been largely unresponsive to exchange rates during this period as well.

We made similar findings for the central banks of other, non-Latin-American EMEs. A key difference, however, is that estimated Taylor rules suggest that these central banks continued to respond to exchange rates during the past decade, so their cutting rates despite currency depreciations last year may represent more of a departure from past behavior.

Finally, we considered whether the rate hikes implemented by Latin American central banks this year in response to rising inflation might imply a reversal to less balanced policies. For most of the central banks we examined, this was not the case: monetary policy tightening lagged the runup in inflation rates, nominal and real interest rates remain historically low, and rate hikes have been in line with other EME central banks around the world. Brazil is the exception, but its tightening appears warranted on account of significant fiscal stimulus,

exchange rate depreciation, and investor concerns about the country's future economic and political situation. In this sense, Brazil may be the "exception that proves the rule."

To sum up, Latin American central banks having been doing what we expect central banks to do: loosening in recession, tightening in response to higher inflation, and balancing the two objectives when they are in conflict with each other. Because they are still in the process of building their credibility and their economic fundamentals, they have not provided as much stimulus, nor maintained it as long, as their brethren in the advanced economies. But they are moving in the right direction.

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Appendix 1: Additional Tables

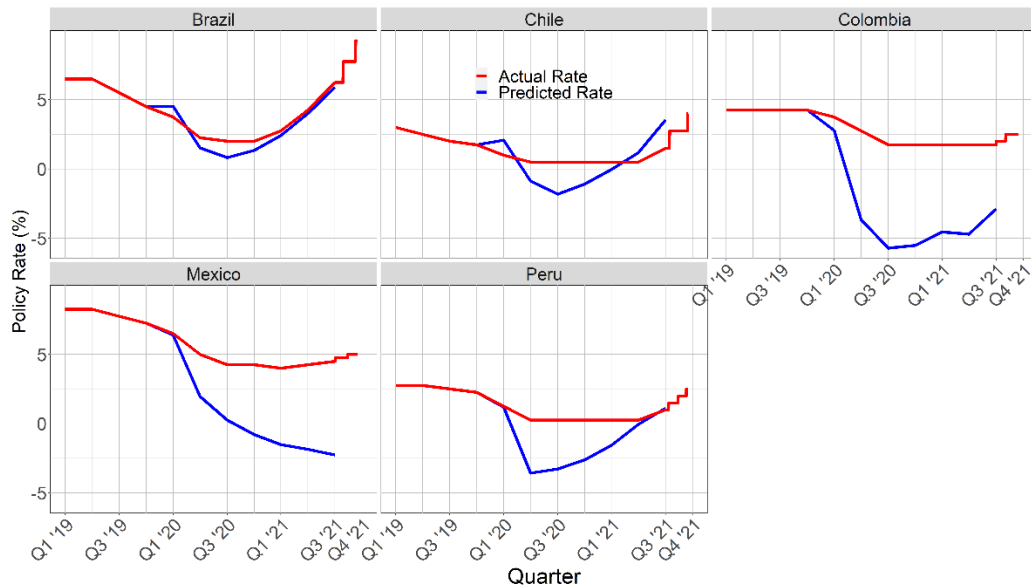
Appendix Table 1.1: Country-specific empirical Taylor Rules, Q1 2007 – Q4 2019

	Policy rate				
	Brazil (1)	Chile (2)	Colombia (3)	Mexico (4)	Peru (5)
Headline CPI inflation (year-over-year)	0.28 *** (0.06)	0.16 ** (0.07)	0.25 *** (0.06)	0.06 (0.06)	0.16 * (0.08)
Real GDP output gap (percentage deviation)	0.28 *** (0.05)	0.21 *** (0.07)	0.34 *** (0.05)	0.21 *** (0.03)	0.17 *** (0.04)
Lagged policy rate	0.94 *** (0.04)	0.60 *** (0.09)	0.68 *** (0.05)	0.90 *** (0.03)	0.71 *** (0.09)
Quarterly percent change in real exchange rate	0.01 (0.02)	-0.06 (0.04)	0.03 ** (0.01)	-0.00 (0.01)	-0.02 (0.04)
Num. obs.	52	52	52	52	52
R ²	0.95	0.80	0.96	0.97	0.84
Number of quarters	52	52	52	52	52

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

Note: Regressions use quarterly data. Dependent variable is the last daily observed policy rate in each quarter. Exchange rate variable is quarter-to-quarter percent change in quarter-average of real multilateral exchange rate (an increase indicates appreciation). Data are from the Bank for International Settlements (2021) and CEIC.

Appendix Figure 1.1: Comparison of actual and predicted interest rates, individual regressions



Sources: Bank for International Settlements; CEIC
Note: Predicted rates based on country-specific dynamic simulation of equations shown in Appendix Table 1.1.

Appendix Table 1.2: Empirical Taylor Rules, Latin America, using core inflation

	Dependent variable: Policy interest rate		
	2007 – 2019	1998 Q4 – 2019 Q4	2007 – 2021
	(1)	(2)	(3)
Core CPI inflation (year-over-year)	0.08 * (0.04)	0.19 *** (0.06)	0.08 ** (0.04)
Real GDP output gap (percentage deviation)	0.12 *** (0.03)	0.11 (0.08)	0.12 *** (0.03)
Lagged policy rate	0.93 *** (0.03)	0.63 *** (0.04)	0.91 *** (0.03)
Quarterly percent change in real exchange rate	0.01 (0.01)	-0.09 *** (0.03)	0.01 (0.01)
Pandemic*Inflation			0.26 (0.22)
Pandemic*Output gap			-0.11 ** (0.04)
Pandemic*Lagged policy rate			-0.12 (0.11)
Pandemic*Exchange rate			0.01 (0.03)
Num. obs.	260	418	295
R ²	0.98	0.90	0.98
Number of countries	5	5	5
Number of quarters	52	85	59

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

Note: Quarterly panel regression for Brazil, Chile, Colombia, Mexico, and Peru. Dependent variable is the last daily observed policy rate in each quarter. Exchange rate variable is quarter-to-quarter percent change in quarter-average of real multilateral exchange rate (an increase indicates appreciation). Pandemic is a dummy variable equal to 1 for 2020 Q1 through 2021 Q3, and 0 otherwise. Data are from the Bank for International Settlements (2021) and CEIC. Includes time and country fixed effects, and standard errors are in parentheses.

Appendix Table 1.3: Empirical Taylor Rules, non-LA Emerging Market Economies, using core inflation

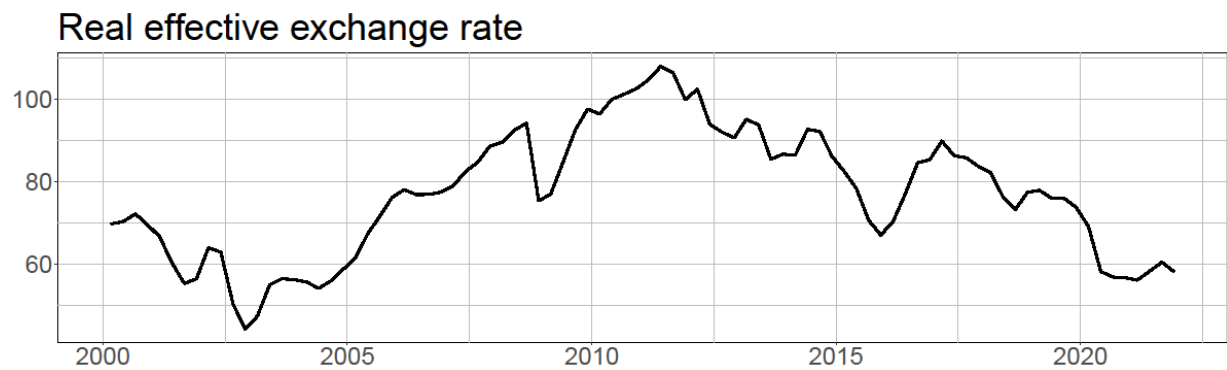
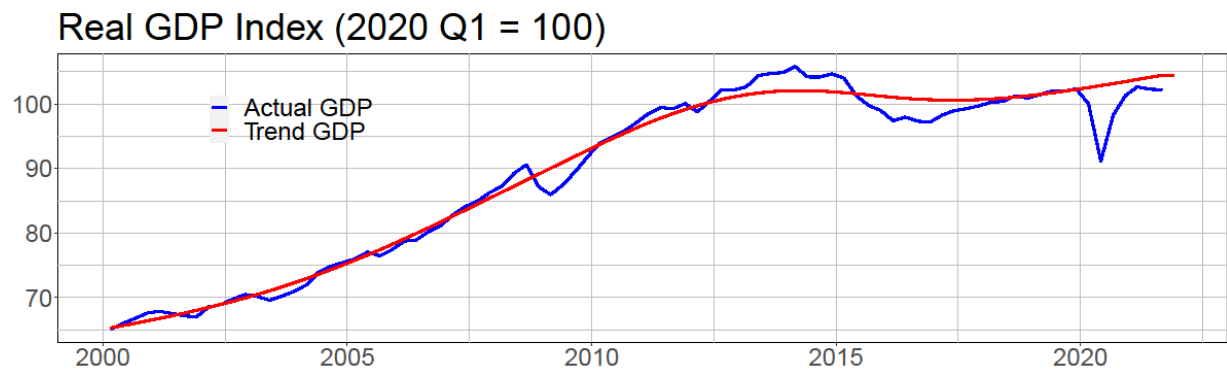
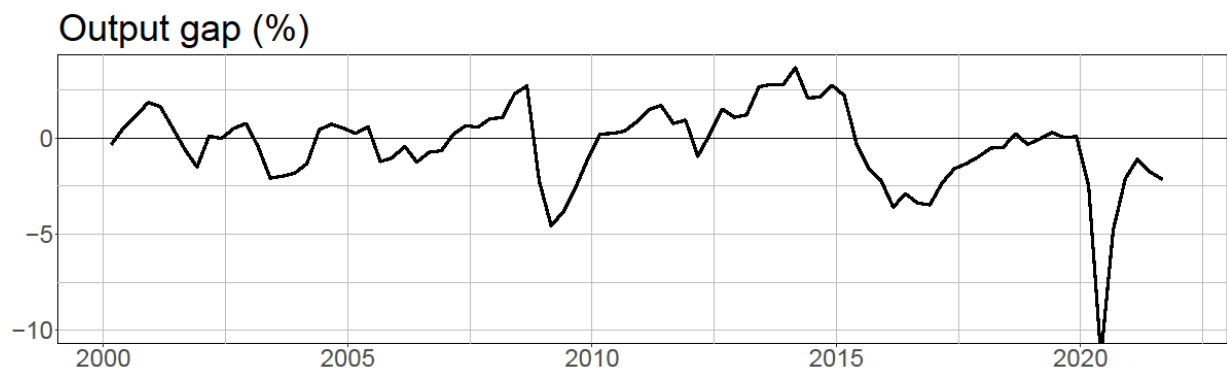
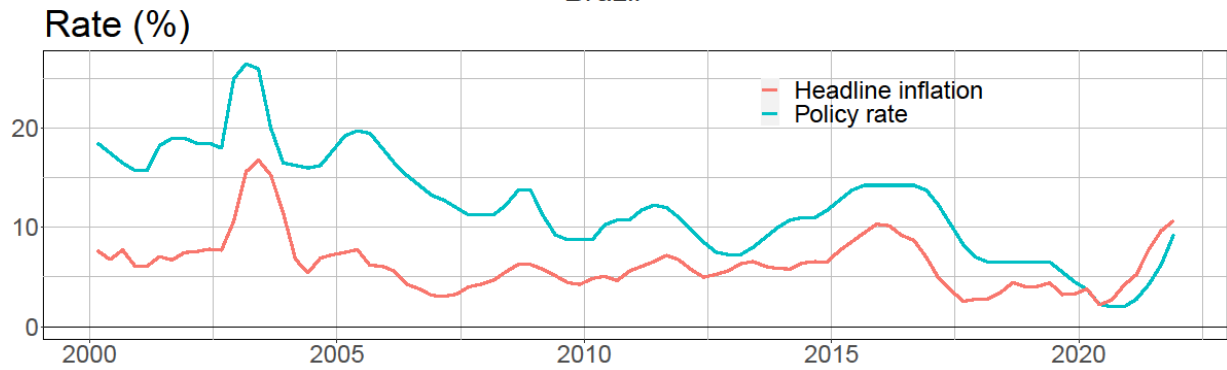
	Dependent variable: Policy interest rate		
	2007 Q1 – 2019 Q4	1998 Q4 – 2019 Q4	2007 Q1 – 2021 Q3
	(1)	(2)	(3)
Core CPI inflation (year-over-year)	0.13 *** (0.02)	0.13 *** (0.02)	0.12 *** (0.02)
Real GDP output gap (percentage deviation)	0.09 *** (0.02)	0.11 *** (0.02)	0.10 *** (0.02)
Lagged policy rate	0.85 *** (0.02)	0.85 *** (0.01)	0.85 *** (0.02)
Quarterly percent change in real exchange rate	-0.06 *** (0.01)	-0.05 *** (0.01)	-0.06 *** (0.01)
Pandemic*Inflation			0.04 (0.04)
Pandemic*Output gap			-0.05 * (0.03)
Pandemic*Lagged policy rate			-0.00 (0.05)
Pandemic*Exchange rate			0.04 (0.03)
Num. obs.	636	858	734
R ²	0.96	0.97	0.96
Number of countries	14	14	14
Number of quarters	52	85	59

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

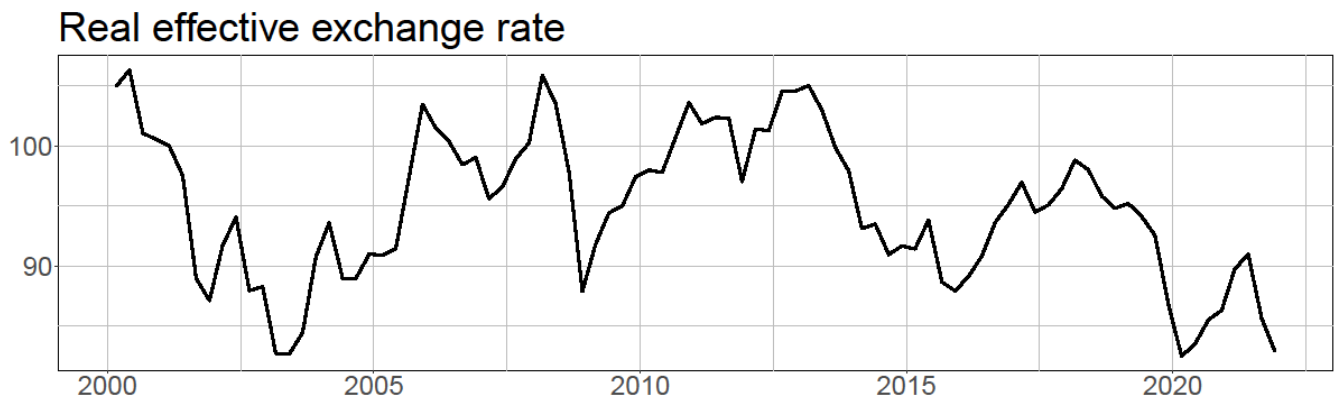
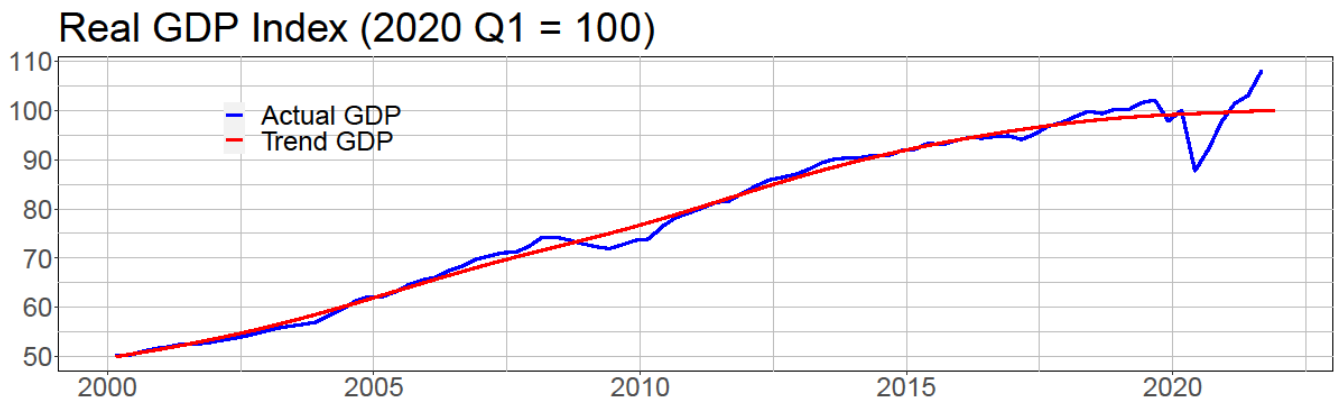
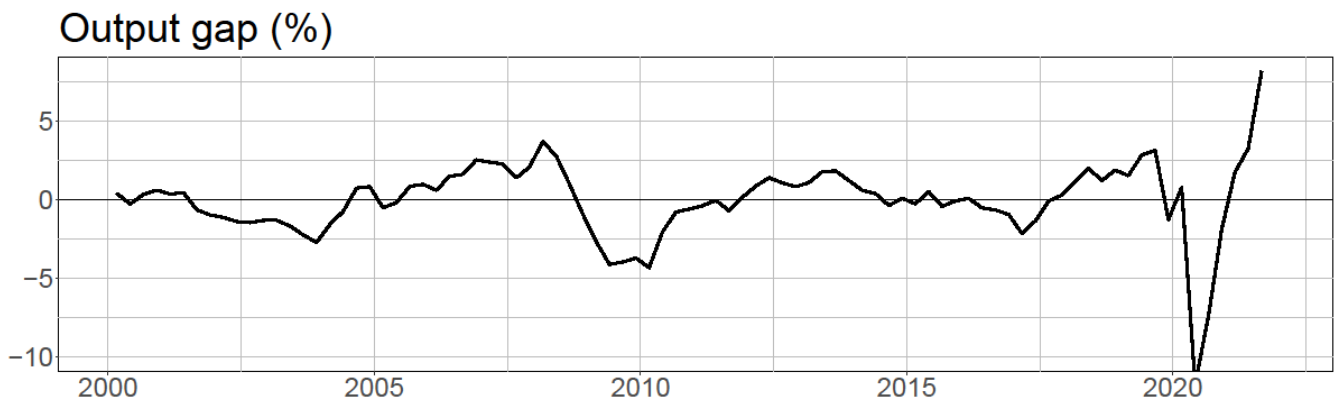
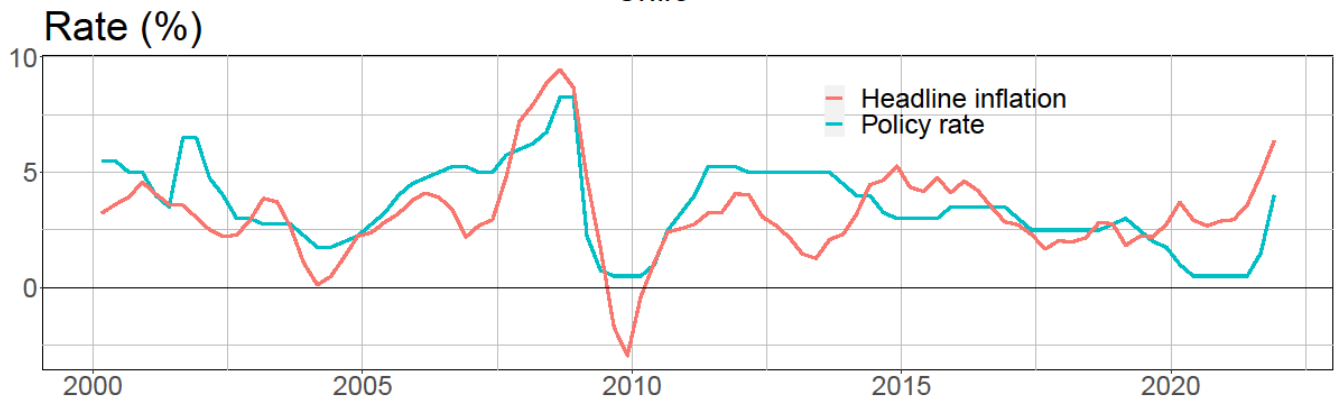
Note: Quarterly panel regression for 14 non-Latin American emerging market economies: China, Czech Republic, Hungary, India, Indonesia, Malaysia, Philippines, Poland, Romania, Russia, South Africa, South Korea, Thailand, and Turkey. Dependent variable is the last daily observed policy rate in each quarter. Exchange rate variable is quarter-to-quarter percent change in quarter-average of real multilateral exchange rate (an increase indicates appreciation). Pandemic is a dummy variable equal to 1 for 2020 Q1 through 2021 Q3, and 0 otherwise. Data are from the Bank for International Settlements (2021) and CEIC. Includes time and country fixed effects, and standard errors are in parentheses.

Appendix 2: Basic Data

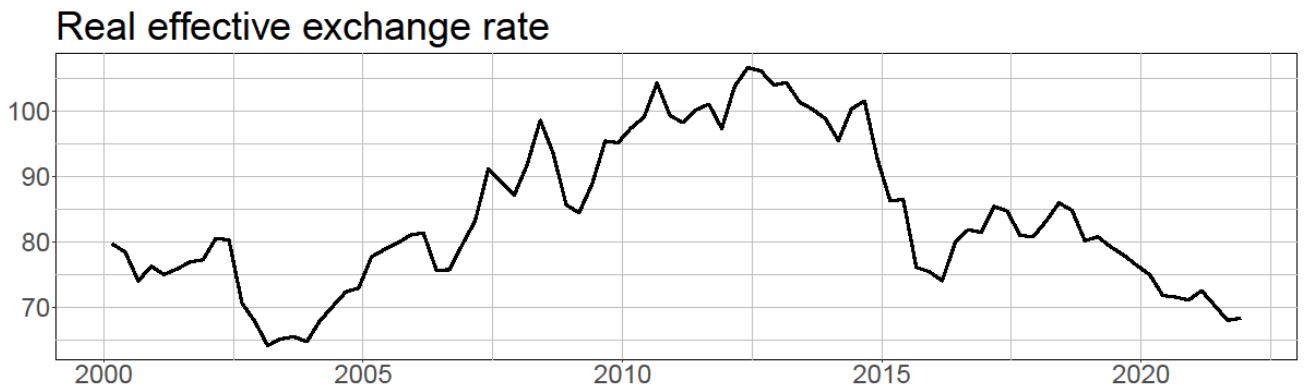
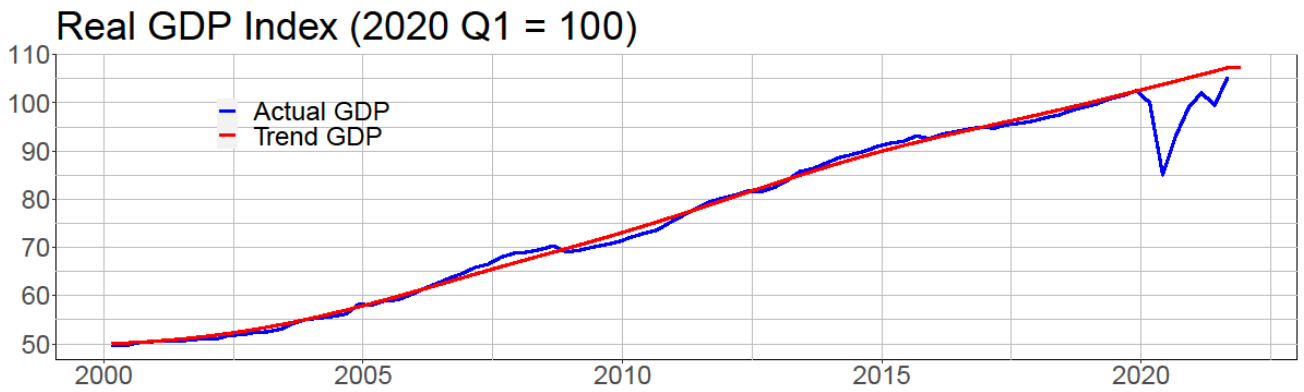
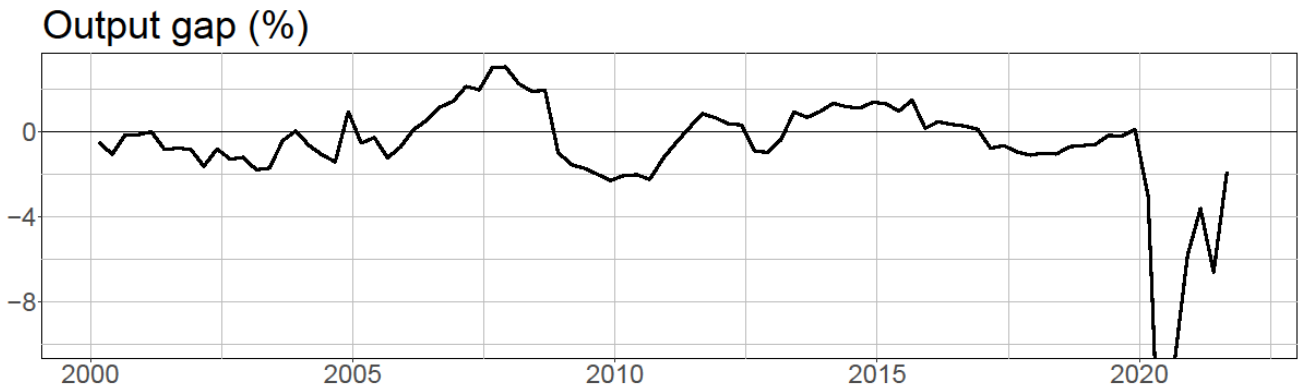
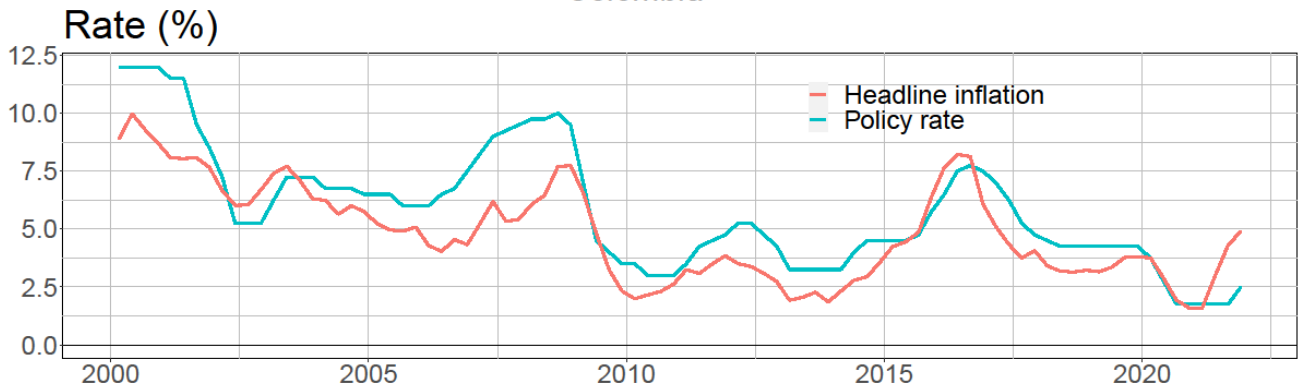
Brazil



Chile

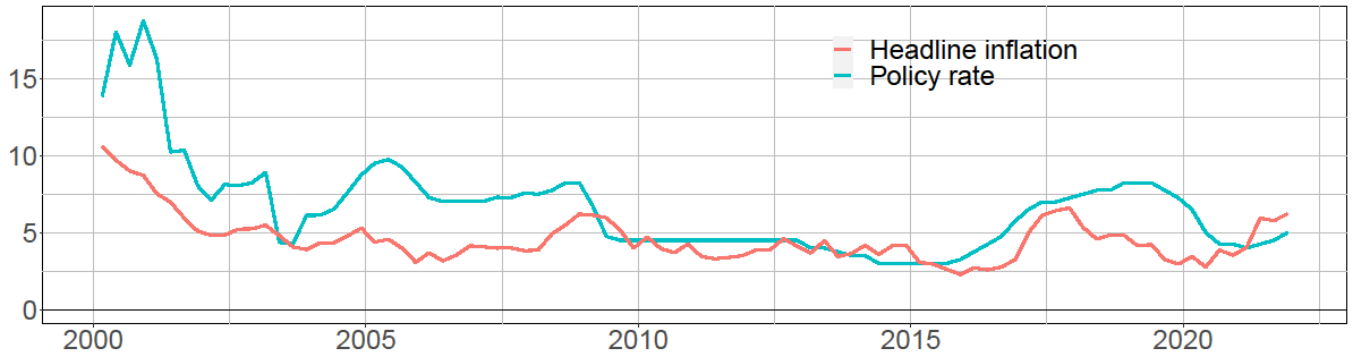


Colombia

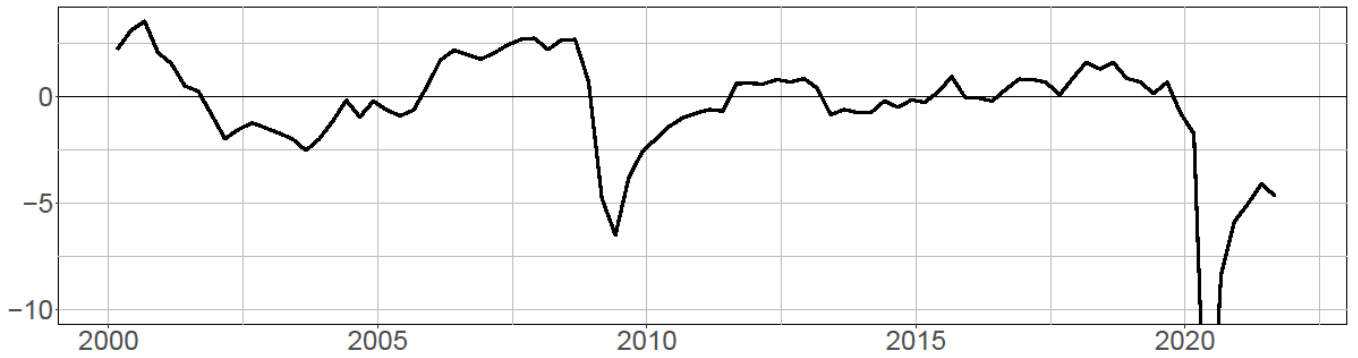


Mexico

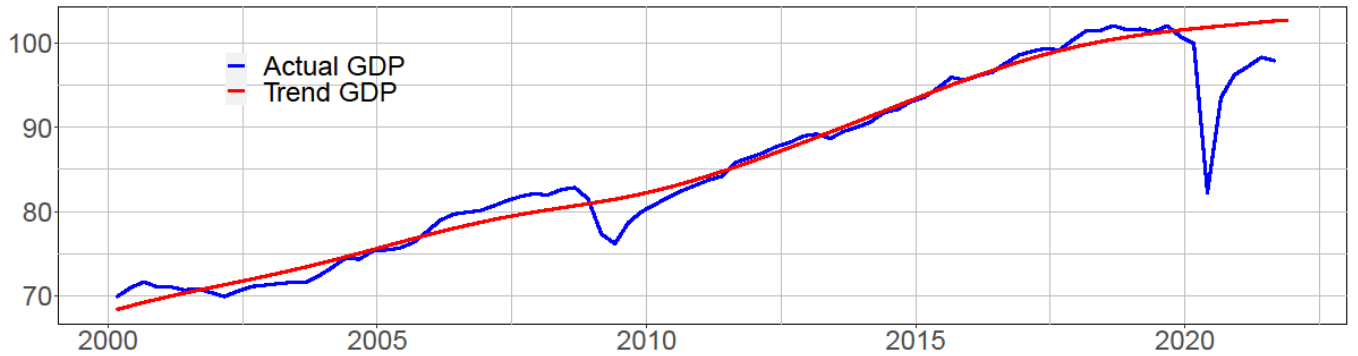
Rate (%)



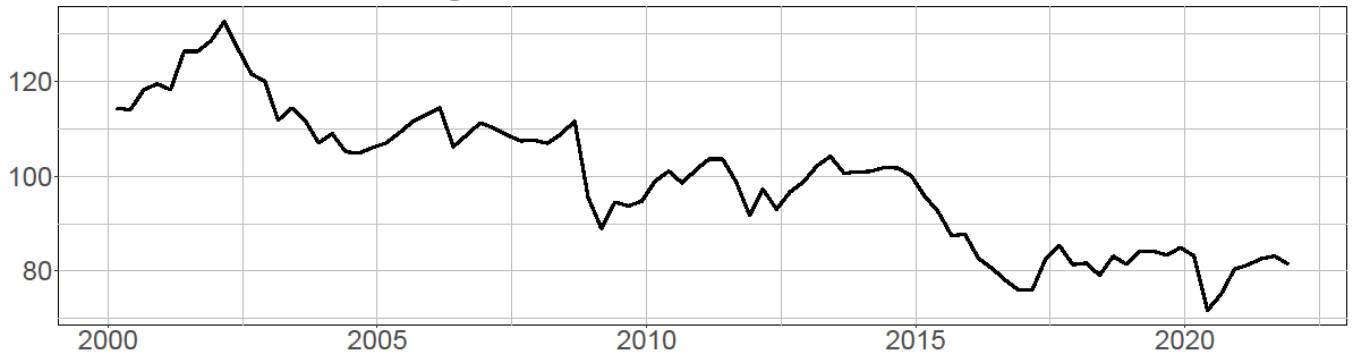
Output gap (%)



Real GDP Index (2020 Q1 = 100)

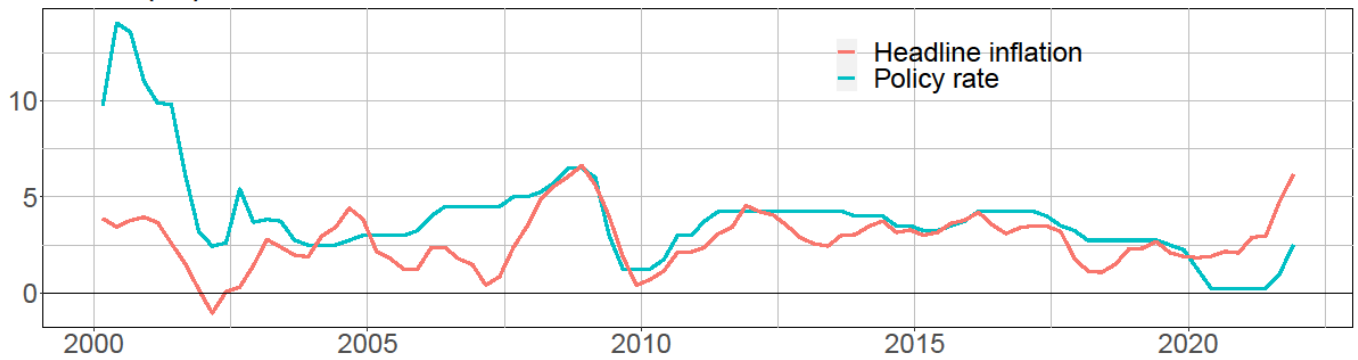


Real effective exchange rate

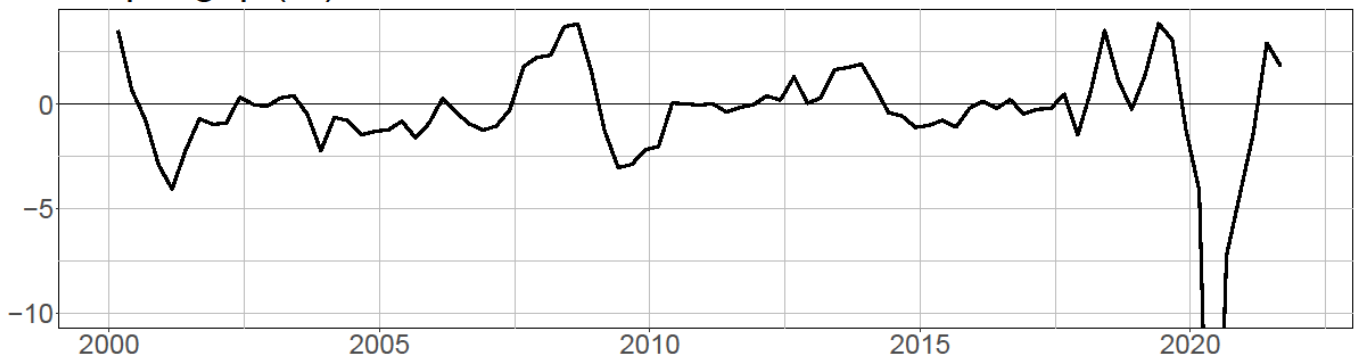


Peru

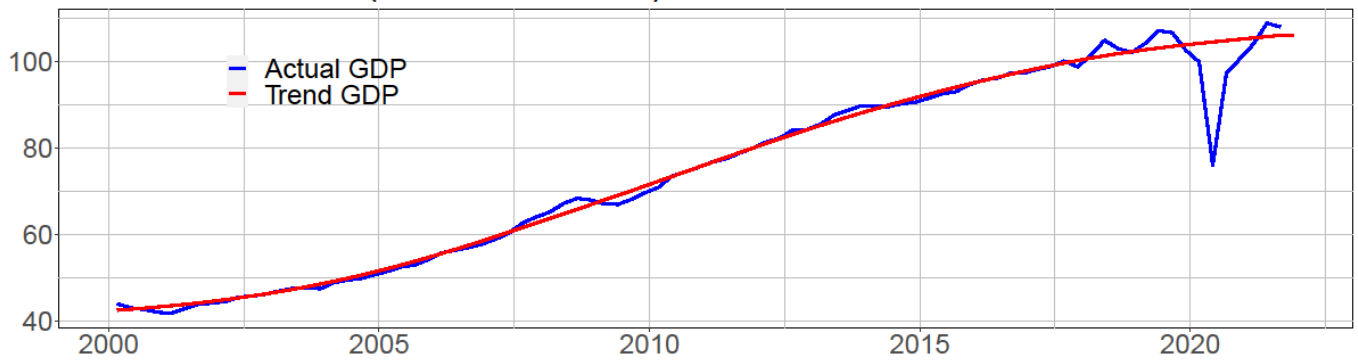
Rate (%)



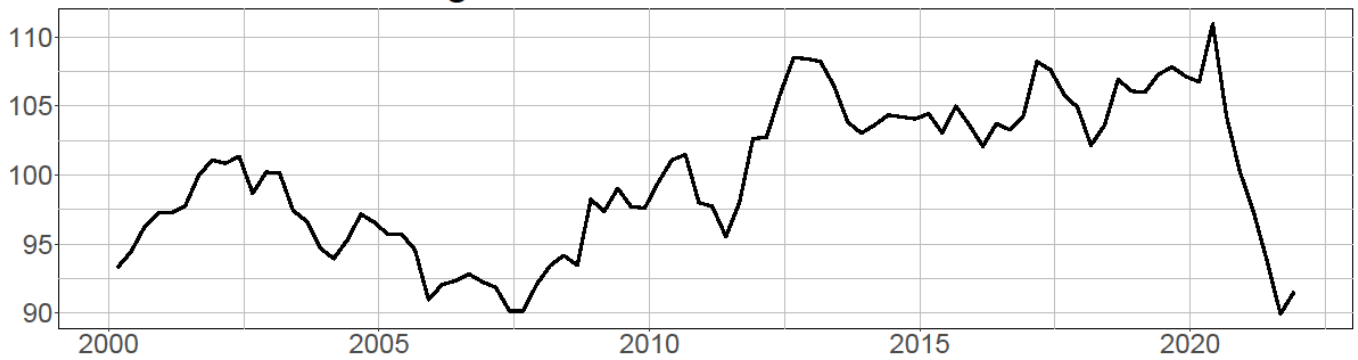
Output gap (%)



Real GDP Index (2020 Q1 = 100)



Real effective exchange rate



Appendix 3: Summary of Latin American Monetary Policy Statements

This appendix reviews the actions taken by Latin American central banks during the pandemic period and how these actions were explained in the banks' monetary policy statements.

Brazil

At the first policy meeting of 2020 in February, Brazil lowered its policy rate to 4.25% in an effort to reverse weak economic performance in 2019. The Bank identified both upside and downside risks to inflation but ultimately erred on the side of caution to provide more support to the economy. By March, the coronavirus dominated monetary considerations and the Board voted to decrease the policy rate by 50 basis points to 3.75%. The bank emphasized that although Brazilian economic indicators had not yet shown signs of being depressed by the virus, the pandemic was leading to a global slowdown and asset price volatility that made the environment challenging for emerging market economies. The rate was lowered to 3% in May 2020 amidst a deeper contraction in Brazilian economic activity than first thought and low inflation, despite larger-than-expected capital outflows.

Some board members believed the scope for further expansionary monetary policy was limited, and the May statement committed itself to only one more rate cut of 75 basis points. However, by August, the Bank cut rates by an additional 100 basis points, to 2 percent. The Bank all but swore off further rate cuts in the immediate future as it strived to balance the risk of a resurgence of inflation with current low inflation readings and still-weak economic activity.

In September of 2020, the Bank stressed that inflation might begin creeping up in the short-term because of increases in food prices and some service prices. However, amid uncertainties about global and domestic economic growth, the Bank maintained the policy rate at 2% and introduced forward guidance to the effect that the withdrawal of monetary stimulus would begin only when "inflation expectations...are sufficiently close to the inflation target." Upward revisions in the Bank's inflation projections continued throughout October to December, in part due to persistent exchange rate depreciation, oil price increases, and income transfer programs. This inflation shock was thought to be "temporary," so the Bank would not take action unless inflation expectations became unanchored. By December, however, the Bank judged the balance of inflation risks to have become tilted towards the upside, and it stated suggested that the time for interest rates normalization might soon arrive.

In January 2021, the Bank reported that growth in the fourth quarter of 2020 was stronger than expected, but uncertainty about future growth remained high. By March 2021, with domestic inflation expectations now above target and global inflation rising, the Bank raised the policy rate by 75 basis points. It raised rates the same amount in both May and June, noting that the slow pace of supply recovery, the persistence of high energy and commodity prices, and the strong return of demand had caught it by surprise. Despite the surge of the Delta variant, the committee raised the policy rate by 100 basis points to 5.25% in August due to very persistent core inflation; "the strategy of a quicker monetary adjustment is the most appropriate to guarantee the anchoring of inflation expectations." In September and October 2021, the Bank raised the policy rate to 7.75%, recognizing that central banks around the world will soon begin tightening--creating a challenging scenario for emerging markets—and that inflation is likely to remain high, despite slowing domestic growth. It noted that uncertainty regarding fiscal policy had increased the risk of deanchored inflation expectations, and stated its intention to "advance the process of monetary tightening even further into restrictive territory."

Colombia

At the first policy meeting of 2020 in January, the Colombian central bank projected that inflation would continue to converge to target, economic growth would be stable, and global prospects would remain moderate. With this in mind, it kept rates steady at 4.25%.

In mid-March, the Bank enacted extraordinary liquidity measures including relaxing regulations on reserve requirements and auction participation, expanding repo operations, and supporting the economy with a supply of US dollars. The Bank also decreased the policy rate to 3.75% to cushion domestic demand and relieve financial burdens on households. In April, the Bank again decreased rates by 50 basis points to 3.25%.

Between May and August, the Bank decreased rates by a further 125 basis points in order to combat declining inflation expectations, weak aggregate demand, and spare productive capacity. The Bank said that although financial conditions had improved since the onset of the pandemic, considerable domestic and global uncertainty remained. In September, the board voted to decrease the rate to 1.75 percent, despite some concerns about inflationary risks.

Through the end of 2020 and early 2021, the Bank maintained the rate unchanged amidst concerns of new variants, surges of COVID-19, and what it described as risks of financial instability. In December 2020 and January 2021, a minority voted for a 25 basis point cut in the policy rate in order to avoid a downwards slide in inflation expectations. However, the majority pointed to signs of a strong recovery and didn't want to disrupt markets by evidencing excessive worries about the economy.

Beginning in March 2021, the Bank revised up its growth projections for Colombia on the back of high levels of global liquidity and strong growth in advanced economies. The Bank also reported higher-than-expected inflation, and it urged the Colombian congress to approve a fiscal adjustment program so that it could maintain an expansive monetary policy without compromising macroeconomic stability. Uncertainty over future waves of the pandemic and inflationary spillovers from further fiscal stimulus in the United States weighed heavily on policymakers.

By June, it was clear that supply chain issues were contributing to higher food and headline inflation, but core inflation remained below target. The Bank warned that short-term inflationary pressures could persist through the first quarter of 2022. In September 2021, the board raised the policy rate by 25 basis points, driven by strong GDP growth in the third quarter. Since much of the inflation emanated from international supply shocks, the board did not deem the interest rate hike as a significant policy to combat price increases.

In October 2021, the board hiked rates by 50 basis points to 2.5%, noting that inflation forecasts and inflation expectations had increased significantly over the course of the year. Despite concerns about a possible slowdown in growth, the committee felt that "a smaller increase could risk the need for a more restrictive monetary policy stance in the future."

Chile

In the last month of 2019, the Central Bank of Chile maintained its main policy rate at 1.75 percent, expressing concern about the effects of the US/China trade war on global economic and financial conditions as well as domestic market volatility caused by social unrest. By January 2020, the Bank was actively monitoring the coronavirus situation within China. On March 16, the Bank lowered the policy rate by 75 basis points to 1 percent and enacted additional liquidity measures, despite noting that Chile was yet to be impacted by the virus. By the end of March, the committee lowered the policy rate by a further 50 basis points to its "technical minimum;" reflecting concern over downside risks to inflation despite the flight of global investors from emerging market assets and the depreciation of the peso.

In May of 2020, the Bank maintained its stance at the effective lower bound but emphasized its intent to maintain highly expansionary monetary policy and sustain its use of unconventional tools. Policy makers believed inflationary pressures to be well-contained in the face of larger-than-expected falls in global economic activity. Actions taken by the Chilean and advanced economy central banks had supported financial markets, narrowing Chilean credit spreads noticeably.

The intensity of the COVID-19 outbreak in Chile by June 2020 forced the Bank to expand its use of unconventional tools and asset purchases. Interestingly, the Bank estimated that it would keep the policy rate at its lower bound “over the entire projection horizon” of two years. It repeated this prediction in July 2020, although by then the worst of the COVID-19 wave had begun to pass and the Bank was pointing to the price of copper as China’s economy regained steam.

By September 2020, amid a strengthening economy, the Bank acknowledged that near-term inflation might prove higher than expected because of the magnitude of fiscal stimulus, but asserted that medium-term inflationary pressures remained low. In December, it weakened its forward guidance only slightly, stating it anticipated maintaining the policy rate at the lower bound “over most of the two-year monetary policy horizon.”

By March 2021, the Bank was noticeably more concerned about inflation. It commented on the American Rescue Plan’s implications for inflation in the US and devoted significant space in the statement to explaining the contributors to higher inflation in Chile. In May, Chile announced that it would begin tapering its asset holdings amidst rising global inflation and strong domestic growth.

In July and August 2021, the Bank raised interest rates, first by 25 basis points (to 0.75 percent) and then by a further 75 basis points (to 1.5%). The Bank emphasized the “need to avoid the accumulation of macroeconomic imbalances that...could trigger a more persistent increase in inflation.” In October, the policy rate was raised by 125 basis points to 2.7 percent amidst a deterioration in Chilean financial markets driven by inflationary and political uncertainty. The Bank believed it needed to take immediate action to reverse the trends in realized and expected inflation.

Mexico

In the last month of 2019, the Bank of Mexico governing board lowered the policy rate by 25 basis points to 7.25 percent. They noted that global trends in decelerating growth and low inflation in advanced economies were tilting risks biased to the downside, necessitating further support to the Mexican economy. In February 2020, the governing board lowered the policy rate another 25 basis points in response to the Chinese economic lockdown, though that had yet to affect global conditions, as well as continuing slack in the Mexican economy.

In the intervening month, global conditions drastically deteriorated. The Bank of Mexico pushed the committee meeting ahead by one week and lowered the policy rate by 50 basis points on March 20th. They also adopted other measures to provide liquidity and support domestic financial markets. These measures were taken despite the fact that the peso exchange rate plunged, government bond yields rose, and risk premia increased. In April, the Bank lowered rates by another 50 basis points, even while stressing the decline in appetite of international investors to hold emerging market assets, leading to volatility in foreign exchange markets. The Bank expected a decline in GDP of 5 percent in H1 2020 relative to the previous year (actual GDP turned out to be 10.3 percent below previous-year levels in H1 2020).

In May of 2020, the Bank again lowered the policy rate by 50 basis points, stressing the need to support financial markets against foreign exchange market volatility. However, actions taken by advanced economy central banks had stabilized international financial markets to some degree and contributed to better performance of Mexican markets. Global spillovers are very important at this stage. Declines in oil prices were exerting significant downward pressure on inflation, for which medium and long-term outlooks were still uncertain.

In June and August, Bank communications became more positive, noting that global financial markets were benefitting from massive fiscal, monetary, and financial stimuli in advanced economies and the reopening of some activity. The major downside risks remained the pandemic’s impact on output and global disinflation, disrupted supply chains notwithstanding. The Bank thus decreased the policy rate by another 100 basis points over the course of the summer. Mexican inflation crept up,

but not to a degree that worried the Bank, though it noted the upside risk to inflation associated with pent-up consumer demand being released.

By September 2020, the Bank was focusing more closely on the pickup in inflation, but noted that inflationary risks were still limited by the depressive impact of the pandemic, and it lowered rates by 25 basis points in order to support economic growth. The Bank held rates steady at the final two meetings of the year, explaining that while growth had picked up globally it remained heterogeneous and below pre-pandemic levels, and it wanted to confirm that current elevated inflation rates would be converging down to target. In February 2021 some downtick in inflation readings allowed the Bank to lower rates by 25 basis points to support the economy against the winter COVID-19 surge. Rates were then held steady through the spring, despite a resurgence of inflation and a brightening of the Mexican economic outlook.

In May, the Bank acknowledged for the first time that inflation risks were tilted to the upside, and in June, it raised rates by 25 basis points, the first hike since 2019. In its statement, the Bank described high US inflation as “noteworthy” and identified several domestic and external positive inflation shocks (pent-up demand, supply chain disruptions, and mechanical contributions) that contributed to the decision, though these shocks were described as “transitory”. These conditions persisted through the fall, leading the bank to hike rates three more times for a total increase of 75 basis points. In all, the Bank of Mexico is intent on ensuring that inflationary shocks, though temporary, do not bleed into the process of price formation and inflation expectations, leading to persistent inflationary pressures.

Peru

Beginning in January of 2020, the Central Bank of Peru maintained the policy rate at the moderately low level of 2.25 percent, reflecting contained inflation risks and the slowdown in economic growth from 4 percent in 2018 to 2 percent in 2019. The Bank identified global growth risks from trade tensions and geopolitical events. The first mention of coronavirus occurred in the February 2020 statement as a source of global uncertainty.

On March 12, the Bank reported that “the risks regarding global and local economic activity have been accentuated by the impact of COVID-19, and volatility in international financial markets has increased significantly.” At that time, the committee still maintained the policy rate at 2.25 percent, but seven days later, the Bank cut the rate by 100 basis points. It did so again in April, to 0.25 percent since inflation was forecast to near the 1 percent lower bound of the target range and the output gap had widened significantly. The Bank also began liquidity easing operations such as security and currency repos.

In May 2020, the Bank introduced forward guidance that it “considers it appropriate to maintain a strong expansionary monetary stance for an extended period and while the negative effects of the pandemic on inflation and its determinants persist.” By June, the Bank had begun to see improved business expectations indicators as economic activity gradually resumed in the summer. Nonetheless, the July statement projected that inflation would fall below target in both 2020 *and* 2021 due to a significant weakening of domestic demand, and this assertion was repeated through most of the fall.

The first shift in the language on inflation occurred in the December 2020 statement: “Inflation in 2020 will lie at the center of the target range due to transitory factors; and inflation in 2021 is expected to be around the lower limit of the target range, as domestic demand, although in recovery, will remain low.” Despite some pickup in the near-term inflation projection and improved growth at the end of the year, however, in January 2021, the Bank added a new monetary operation (Operations Conditional on the Expansion of Long-Term Credit “in order to reinforce the transmission of its monetary policy towards long-term interest rates”).

In subsequent months, the Bank acknowledged further increases in core inflation and inflation expectations, though not at worrisome rates; the Bank remained more focused on the weakness in economic activity, which was being depressed by successive waves of the covid pandemic. In June 2021, however, prices became much more of a concern as core inflation neared 2 percent and inflation expectations hit 2.6 percent, 80 basis points above its level in January. As such, the Bank was “especially attentive to new information referring to inflation expectations” in its forward guidance. In July, one-year ahead inflation expectations hit 3 percent. The Bank noted that financial markets were becoming highly volatile amidst this uncertainty.

To combat inflation, the Bank raised the policy rate by 25 basis points in August 2021, but noted that real rates still remained very accommodative and that this increase did not “necessarily imply a cycle of successive increases”. The Bank raised rates another 50 basis points in September as headline inflation hit 5 percent and inflation expectations breached the 3 percent upper limit of the target range.

Through November 2021, the Bank increased the policy rate by another 100 basis points to 2 percent. The committee still predicts that inflation will return to target range in the second half of next year once “transitory” factors recede. Nonetheless, inflation expectations sat at 3.6 percent in November, almost 200 basis points over its January level. In October, the Bank significantly modified its forward guidance to say “the Board sees the convenience of maintaining an expansionary stance for an extended period through a gradual withdrawal of monetary stimulus.”