

# 19-13 Hyperinflation in Venezuela: A Stabilization Handbook

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President Nicolás Maduro of Venezuela may have survived the political turmoil surrounding popular demands for his ouster, but Venezuela's economic collapse and humanitarian catastrophe have continued to deepen. GDP shrank by close to one-fourth in 2018, 9 out of 10 Venezuelans are living in poverty, and child malnutrition has reached 15 percent in some states. Prices increased by more than 1.6 million percent in 2018, putting pressure on government revenues, eroding households' purchasing power, and disrupting financial intermediation.

Any policy plan that seeks to rebuild the country's economy, regardless of who is in charge of the government, will have to contend with hyperinflation, as no economic

recovery can be possible without first stabilizing the explosive price level. Doing so will require changing the country's fiscal and monetary regimes.

Since late 2018, authorities have been trying to control the price spiral by cutting back on fiscal expenditures, contracting domestic credit, and implementing new exchange rate policies. As a result, inflation initially receded from its extreme levels, albeit to a very high and potentially unstable 30 percent a month. But independent estimates suggest that prices went out of control again in mid-July 2019, reaching weekly rates of 10 percent, placing the economy back in hyperinflation territory. Instability was also reflected in the premium on foreign currency in the black market, which also increased in July after a period of relative calm in previous months.

This Policy Brief describes a feasible stabilization plan for Venezuela's extreme inflation. It places the country's problems in context by outlining the economics behind hyperinflations: how they develop, how they disrupt the normal functioning of economies, and how other countries across history have designed policies to overcome them. The components of an economically and socially sustainable plan to put a stop to Venezuela's extreme inflation for good are no mystery, but they are not easy to adopt, especially when there is political unrest and the sources of assistance are unclear in light of the crisis.

A resilient plan to stop hyperinflation would involve a combination of financial support from multilaterals (such as the International Monetary Fund [IMF], the World Bank, and the Inter-American Development Bank [IDB]); an exchange rate peg; a debt restructuring program that contemplates significant reductions in outstanding principal; and a reallocation of fiscal spending away from inefficient subsidies to energy and other goods and services. This is not the time to advocate for stabilization through austerity, however; Venezuelans are already experiencing a humanitarian crisis. Government authorities should take special care to provide social protection (through transfers, the shoring up of real wages, or other policies that support household consumption) as reforms are implemented.

Absent the possibility to access funds from abroad, a stabilization plan would be forced to drastically reduce expenditures at a time when the socioeconomic conditions of the Venezuelan population are at a critical level, further endangering households' ability to climb out of poverty and poten-

tially jeopardizing the political sustainability of the transition program. Historical experience lends support to the notion that foreign assistance can be central to the success of reforms in a hyperinflationary context. Authorities working toward the reconstruction of the Venezuelan economy should therefore ensure the support of the international community when the transition toward stabilization begins.

Many of the reforms will face especially difficult challenges. Adopting an exchange rate peg and defending it with international reserves, which stand at a historical low of \$8 billion, would be complex. Reallocating public spending away from inefficient energy subsidies would test the resilience of an already battered civil society. Policymakers would face urgent issues on all fronts, including unresponsive tax revenues, a very complex debt restructuring, and the looming threat of overvaluation and speculative attacks. But beating extreme inflation is feasible, if authorities commit to credible policies and ensure continuous support from the rest of the world, particularly the G-7.

## PRESENT SITUATION IN VENEZUELA

Venezuela entered hyperinflation territory in November 2017, when monthly inflation crossed the 50 percent threshold.<sup>1</sup> Today, the economic context coincides with those of other hyperinflationary episodes in history:

- *Large fiscal deficits:* Although the official budget shortfall is unknown, estimates suggest that the fiscal deficit in 2018 stood at about 15 percent of GDP (CEDICE 2019).<sup>2</sup>
- *Extreme levels of money creation:* During the past year, the monetary base grew by more than 73,000 percent, driven by the government's spending needs. Figure 1 shows the last behavior of inflation and the monetary base over the last decade. The accelerating price spiral is especially noticeable starting in mid-2017.
- *Collapse in money demand:* Extreme inflation<sup>3</sup> has led Venezuelans to avoid holding real money balances in

1. It is standard in the literature to define the beginning of a hyperinflation as the point when the monthly change in prices is 50 percent or more. A hyperinflationary episode is assumed to have ended a year after the last month in which the inflation rate exceeds 50 percent.

2. A budget gap of such magnitude is close to Bolivia's worst during its own hyperinflation in 1984–85. For comparison, during the German hyperinflation the highest annual budget deficit was about 22 percent of net national product, in 1923 (Ferguson and Granville 2000).

3. "Extreme inflation" refers to an economic environment in which prices are increasing at a monthly rate of at least 15 percent, whereas "hyperinflation" is used to refer to monthly rates of at least 50 percent. Throughout this Policy Brief,

their own currency, the *bolívar soberano*, further exacerbating the increase in the price level. At the beginning of 2019, the monetary base expressed in real terms (normalized by the price level) was less than 1/10th what it was in early 2011 (figure 2).

In early 2019, the authorities sought to stabilize inflation through a combination of fiscal, monetary, and exchange rate policies. Expenditures were slashed, the value added tax (VAT) rate was increased, lags in tax collection were shortened from 14 to 7 days, banking reserve ratios were increased, and the central bank removed some controls on access to foreign currency while simultaneously conducting interventions in the foreign exchange market.

The magnitudes of the spending cuts are hard to estimate. Resource allocations published in the official budget are unreliable, as ministries' income is routinely supplemented by discretionary "additional credits" from the Treasury that are many times larger than the budget itself, often without disclosure to the public. Nevertheless, the marked reduction in imports, which were less than half their 2015 levels, as well as some tentative reports from local NGOs, suggest that real government expenditures have contracted significantly.

This fiscal consolidation was partially successful: Monthly price increases fell from almost 200 percent in January 2019 to 31 percent in May. But hyperinflation appears to have rekindled since July, and weekly rates have hovered at about 10 percent since then.

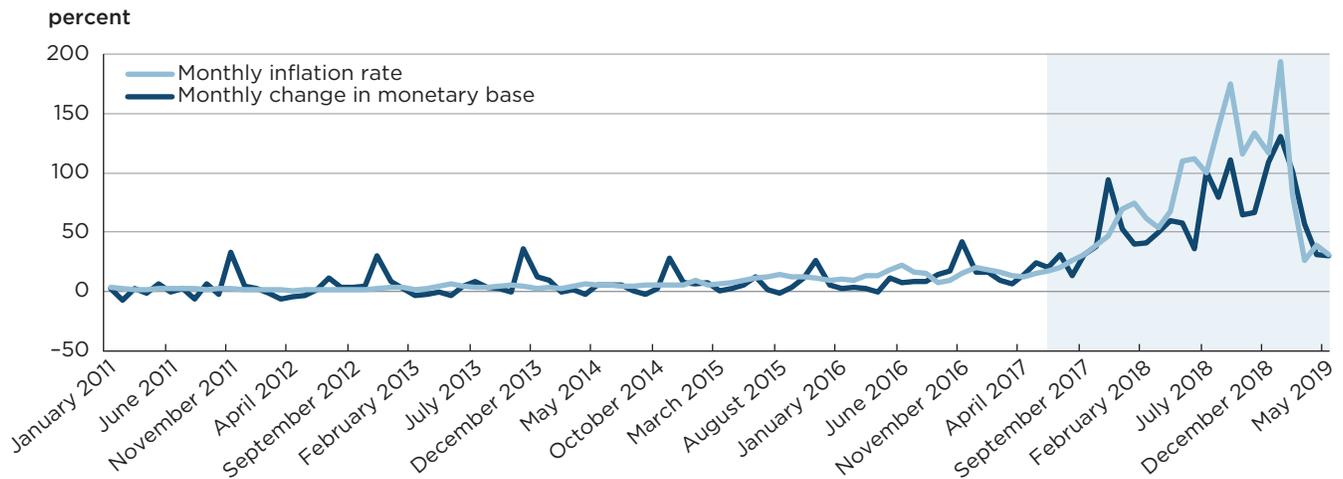
In addition to these fiscal measures, over the past year the exchange rate regime was altered in two important ways. First, in August–September 2018, the government partially lifted currency controls, allowing citizens and firms to purchase and sell foreign exchange. It also unified and devalued the exchange rate and introduced a new currency, the *bolívar soberano*, at a rate that essentially matched the informal price. As a result, the black market spread narrowed considerably (figures 3 and 4).<sup>4</sup>

Second, the government established a fixed exchange rate on January 29, 2019. The new arrangement provided an anchor for prices quoted in *bolívares soberanos* and reined in the explosive price level, with monthly inflation dropping to 30 percent until recently. By April 23, the peg had come

the two terms are often used interchangeably to describe Venezuela's current condition, since the latter implies the former. For a discussion of both terms and their applications, see Dornbusch, Sturzenegger, and Wolf (1990).

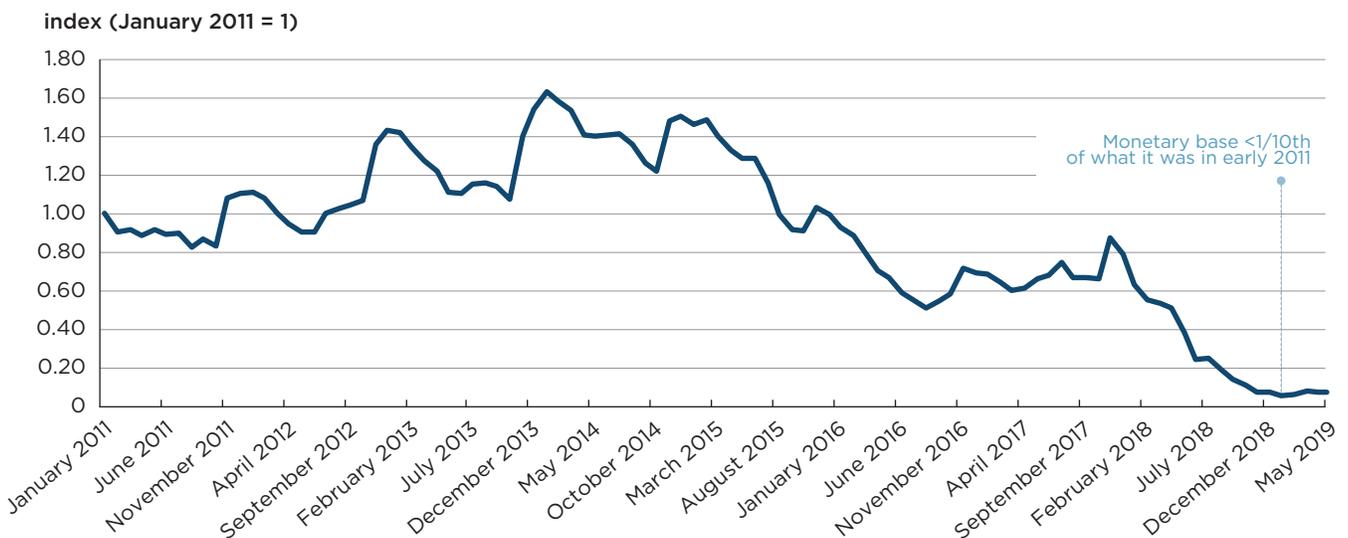
4. In figure 3, the nominally high level reached by the end of the period may obscure the significant gap that existed between the official and black market rates in 2018. Black market spreads, as seen in figure 4, may provide a better sense of the relative differences.

Figure 1  
**Monthly inflation rate and growth rate of monetary base in Venezuela, January 2011–May 2019**



Sources: Data from Banco Central de Venezuela (2019a, 2019b) and Asamblea Nacional (2019).

Figure 2  
**Real monetary base in Venezuela, January 2011–May 2019**



Sources: Data from Banco Central de Venezuela (2019a, 2019b) and Asamblea Nacional (2019).

under pressure, leading authorities to devalue the currency by 57 percent. On May 13, the monetary authorities gave up the fixed exchange rate and moved to a less managed scheme, albeit with constant interventions by the central bank.

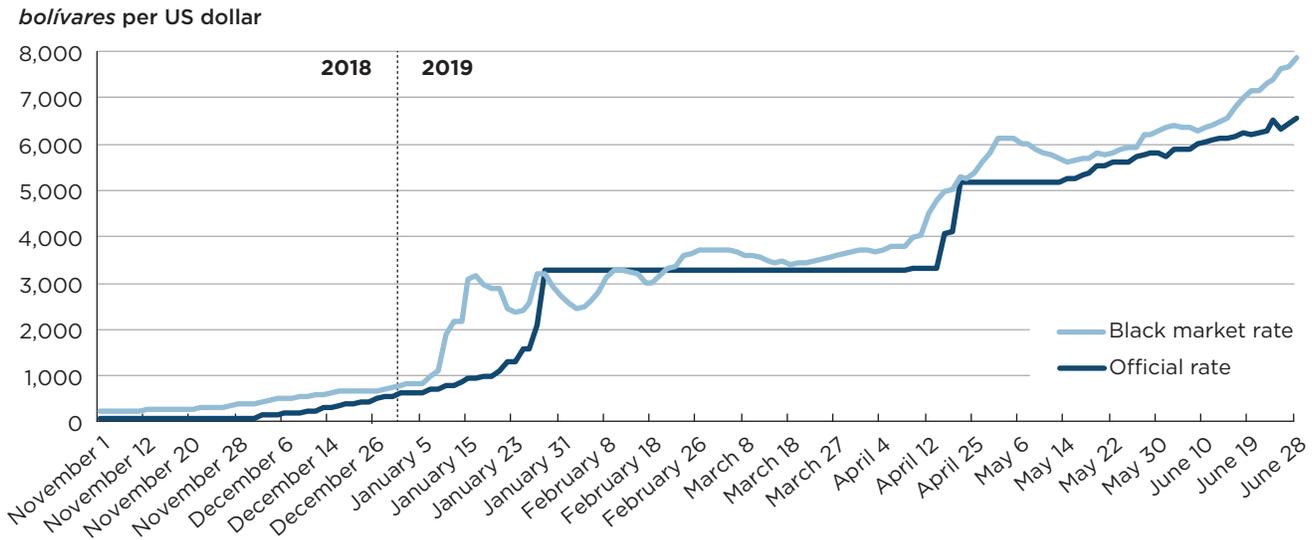
**DYNAMICS OF HYPERINFLATION**

Hyperinflations are an entirely different animal from high and moderate inflations. Under normal circumstances, increases in the price level beyond the rate of economic growth are the result of an “overheating” economy, where aggregate demand is increasing above potential output. The

labor market tightens, putting upward pressure on wages and leading firms to increase prices. Turkey, where inflation reached an annual rate of 11 percent in 2017, was a textbook example of moderately high inflation caused by an “overheating” economy; Brazil in 2011, when prices increased at an annual rate of 6.5 percent, was also an example of inflation caused by excess demand.

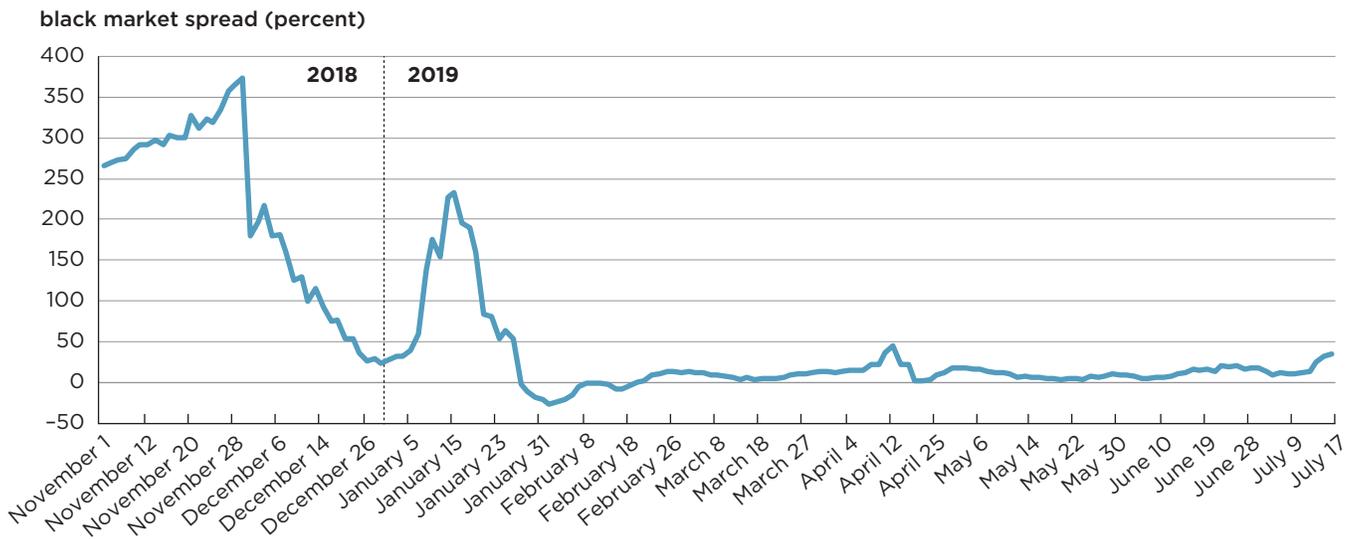
Authorities can prevent the economy from overheating by tightening monetary conditions—that is, raising interest rates—which dampens aggregate demand and brings it back in line with potential output. If they did not “lean against

Figure 3  
**Official and black market exchange rates in Venezuela, November 2018–June 2019**



Sources: Data from Banco Central de Venezuela (2019c) and DolarToday (2019).

Figure 4  
**Black market exchange rate spread in Venezuela, November 2018–July 2019**



Note: The spread is the percentage difference between official and black market exchange rates. Positive values imply that the black market exchange rate was more expensive (i.e., more *bolívars* were required to purchase a dollar) than the official rate.  
 Sources: Data from Banco Central de Venezuela (2019c) and DolarToday (2019).

the wind,” inflation would accelerate. Responsible monetary authorities usually run countercyclical policies to cool down the economy when it overheats.

Hyperinflations are different. They develop when governments finance their spending by printing money. This can happen because of sudden fiscal burdens that authorities cannot match with tax revenues (such as war reparations), or may occur gradually, as a result of many years of

fiscal mismanagement, as in Venezuela. Economist Thomas Sargent accurately summarized the phenomenon in a letter to a Brazilian finance minister in which he wrote “sustained high inflation is always and everywhere a fiscal phenomenon, in which the central bank is a monetary accomplice” (Sargent 2013).

The hyperinflationary process unfolds in two steps. First, there is an increase in the money supply beyond the

amount normally required by the public to conduct transactions: Government authorities spend above and beyond their revenue, making up the difference by issuing bonds absorbed by the central bank, which increases the amount of currency circulating in the economy. This excess spending initially leads to an increase in aggregate demand, which puts upward pressure on the price level as in normal economic conditions.

But if this cycle goes on quarter after quarter, the price-setting behavior of the public changes. Eventually, people come to foresee the increases in the price level and set their expectations of future inflation based on what values it took in the recent past. When this happens, a given period's inflation carries over to the next independently of aggregate demand. Think of unions deciding what wage level to negotiate for the coming year once inflation is the norm: They build it into their contracts on top of any increase in wages corresponding to real output being above potential. This is step one: unhinged inflation expectations. As the price level increases period after period, the government finds that it needs to print more and more currency in order to finance a given level of spending.

If this process continues unchecked, the money supply grows and inflation accelerates, eroding the purchasing power of the bills in people's pockets. Once this problem becomes serious enough, people begin holding less of their wealth in domestic currency, choosing instead to save in foreign money or use their cash to buy durable goods. The underlying mechanism is that money demand falls, leading to even higher prices for a given level of currency supply in the economy. This is step two.

Meanwhile, the government's budget can worsen rapidly. In the window between the time a tax is set and the time it is collected and spent, extreme inflation erodes the real value of money available to the state (a phenomenon known as the *Tanzi effect*), increasing the fiscal gap that created the problem in the first place and leaving the government with little choice but to print even more money. A vicious cycle of higher inflation, tumbling tax revenues, and accelerating currency creation soon follows. Over time, the printing press becomes the primary source of government income.

Finally, once levels of inflation become extreme, the public's price-setting behavior undergoes a final shift. Nominal signals are so distorted that much of the pricing in the economy is done using foreign currency as a reference; goods may come to be denominated in domestic prices at whatever rate it would take to buy them in US dollars. In effect, money loses its role as a unit of account.

Surprisingly, governments can live with hyperinflation for quite a few years. Zimbabwe's case lasted from 2007 to 2009, the hyperinflation in Zaire (now the Democratic Republic of the Congo) spanned 1991 to 1994, and

Nicaragua's episode ran from 1986 to 1989. That said, there is a time limit: Eventually, decisive reforms need to be undertaken, otherwise the population will either completely switch to transacting in foreign currency or end up forgoing the use of money altogether and taking up bartering.

## HOW ARE HYPERINFLATIONS STABILIZED?

To stop hyperinflation, authorities must cease financing the budget through money creation. They must either eliminate the fiscal deficit or pay for it with resources from abroad.

Most successful stabilization plans adopted a middle ground between these two approaches, using different combinations of fiscal adjustment (expenditure reduction, expansion of tax revenues) and financing from abroad (borrowing from international financial institutions or relying on foreign aid). These measures are often complemented with some form of exchange rate management (pegging the domestic currency to some foreign money). Income policies (price controls) tend not to be especially effective in a hyperinflationary environment, although they have played a relevant role in temporarily stabilizing very high inflations, of about 25 percent a month, as was the case in Israel during the 1980s. Each of these components of a stabilization toolkit is explored below.

### Fiscal Adjustment

Hyperinflations are caused by governments financing their deficits through money creation. It therefore follows that achieving a credible, balanced budget would prevent further monetary financing. Some of the fiscal gap can be temporarily covered with foreign loans during the early stages of reform, but eventually the government has to balance its books. For this reason, most stabilization plans place a strong focus on fiscal adjustment. Fiscal adjustment measures generally include reduction in the government's current expenses (by cutting public investment, shrinking the number of federal and state employees, or other means); reform of the tax code (creating new taxes and/or widening the existing tax base<sup>5</sup>); a legal limitation on the ability of the central bank to provide financial support for the government and state-owned enterprises (reducing quasi-fiscal deficits); and extensive price liberalization (Coorey et al. 2007).

Two important and interrelated facts often go overlooked in the analysis of hyperinflations. First, much fiscal rebalancing is often achieved through the recovery of govern-

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5. There are sources of income for the state other than taxation. Privatization is a prominent example. Because of the large role played by taxes in the budget balance, however, and in order to keep this characterization as general as possible, I focus primarily on the effects of tax levies.

ment revenues rather than large reductions in the level of spending. Stabilization can lead to a sudden revenue recovery through the reversal of the “Tanzi effect” (the erosion of the real value of government income from taxes as a result of the lags with which they are collected, allocated, and spent, which can be significant if inflation is very high). When measures are taken to suddenly halt the exponential rise in prices, be it with an exchange rate peg, income policy, or some very credible announcement from monetary authori-

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ties, the Tanzi effect also stops. A strong and immediate drop in inflation implies that the tax rates set during the explosive period will lead to much higher real tax collection, narrowing the fiscal gap (Franco 1990).

Other important contributors to higher revenues as part of stabilization include the tax gains from adequately priced goods, once price controls and subsidies are removed, and the elimination of exemptions and the raising of rates to more sustainable levels as part of the reform of the tax system, which is frequently a component of a larger reform package. Unfortunately, tax collection after periods of extreme inflation frequently displays some degree of hysteresis, not immediately jumping back to precrisis levels (Dornbusch 1992).

A second fact about hyperinflation stabilizations is that by the time the plan is implemented a significant expenditure adjustment may already have been carried out during earlier attempts to stop the price spiral.

Hyperinflation is not the result of an efficient, optimizing calculation on the part of the government; it is a state of fiscal chaos, with desperate policymakers attempting to simultaneously contain the price level, finance the government’s expenses, and deal with mounting social and economic malaise. In such an environment, the money created is often not enough to cover all of the government’s budgetary needs. Authorities gradually cut back on spending, reallocate resources, and even adopt tax reforms, all of which may lead to a more adequate underlying fiscal balance. If the situation is sufficiently severe, it may even lead to arrears or default on sovereign debt, further reducing the liabilities of

the state. In effect, extreme inflation can force a government to undergo the adjustment that it was unable or unwilling to implement when inflation was lower. Such a dynamic played out in many of the European hyperinflations of the 1920s, as well as in the Latin American episodes of the 1980s.

This has implications for the design of stabilization plans. In some cases, the previous regime may have already achieved spending levels that are much closer to a balanced budget; reversal of the Tanzi effect induced by a sudden stabilization can significantly reduce the remaining fiscal gap. In such a situation, fiscal consolidation is just as much a direct result of short-term price stability as it is a prerequisite.

The extent to which these effects might bring budgets closer to balance varies with the severity of the inflationary episode at the time of the policy intervention. In Zimbabwe, for example, general government expenditures had dropped to a mere 4.4 percent of GDP at the height of the hyperinflation in 2008, whereas in Bolivia in 1984, a year before the inflationary peak, public spending as a share of GNP was still at 33.2 percent (Morales and Sachs 1986, World Bank 2019a, Economy Watch 2019). In the failed Argentine stabilization of 1985, authorities managed to temporarily freeze prices so that the reversal of the Tanzi effect increased real tax collections by almost 4 percent of GNP (Canavese and Di Tella 1988).

A related issue applies to the exchange rate regime. Governments experiencing hyperinflation often implement currency controls, which lead to the emergence of a black market for foreign exchange. The ensuing gap between the official and the parallel exchange rates tends to cripple customs revenues, because import duties are quoted using the official rate. As a result, when reforms unify the exchange rate, the rise in revenues from customs duties can provide further relief to the budget.

All of this does not mean that stabilization plans should be fiscally passive, even if previous administrations did embark on significant expenditure reductions, for at least three reasons. First, it is hard to precisely estimate the rate at which real revenues will recover in the months following the implementation of reforms; the risks associated with continued monetization of the deficit in light of persistent fiscal gaps may justify a certain degree of fiscal overcompensation. Second, reforms should and do focus on adjusting the composition of public expenditure, moving resources away from inefficient investment, eliminating subsidies, and correcting relative prices (it is increasingly rare for explosive price levels to develop in countries with few microeconomic distortions). Finally, reform programs that lack credibility—perhaps because of repeated failed stabilizations in the recent

past—may need to implement stronger fiscal consolidation as a sign of authorities' commitment to long-term fiscal sustainability.

Historical examples of the role played by fiscal rebalancing policies during stabilization plans in Hungary, Bolivia, and Peru are discussed in appendix A.

### Financing from Abroad

It is natural for a country implementing a stabilization plan to seek funding from abroad, both to finance spending during the transition and to lend credibility to the sustainability of reforms. Enabling the running of current account deficits can be crucial in countries in which hyperinflation has been accompanied or caused by severe economic and social devastation. The obvious examples are postwar environments, but growth collapses like the one experienced by Venezuela are not conceptually very different.

One important rationale for external assistance is that government spending may need to increase in the short run—to fund the reconstruction of infrastructure, the imports of intermediate and consumption goods, and, in especially critical cases, the caloric recovery of the population. Foreign funds can help prevent this rise in expenditures from forcing authorities back into money creation.

Another important role for foreign funds is the defense of a currency peg. Using the exchange rate to anchor price expectations can be a powerful component of short-run stabilization, but without sufficient reserves, it can lead to a speculative attack and a consequent devaluation, reigniting inflation and eroding public trust in authorities' commitment to long-term price stability.

Stabilization complemented with resources from abroad can take the form of bilateral or multilateral lending. In the 1920s, such lending meant credits from the League of Nations; in more recent times, it has implied loans from the IMF. Support is not always debt related; it can take the form of financial aid or grants, although such support is less common.<sup>6</sup>

In modern episodes of extreme inflation, recent research suggests that countries receiving IMF assistance show greater fiscal flexibility, lower growth rates of the monetary base, and lower exchange rate volatility—albeit with a greater burden of external debt on exports (Saboin-García 2018).

Foreign funds are not, however, a necessary condition for the effectiveness of stabilization policies in the short run. Of the 30 cases of stabilization carried out between 1980 and 2005—all of which reduced the rate of growth of the price

level by more than 600 percentage points within a year—more than a third received less than 4 percent of GDP in official external financing (Coorey et al. 2007). External support can also not substitute for structural reforms. As evidenced by the case of Greece in 1944 (see appendix A), insufficient fiscal consolidation and inadequate state capability can very quickly lead to the reappearance of explosive prices.

A final form in which external support can help balance an unstable country's budget is debt relief—the rescheduling or even restructuring of the government's existing liabilities. Debt relief is usually deemed necessary when the fiscal burden of liabilities with the rest of the world would make stabilization impossible. The iconic case is the role played by Germany's war reparations in the run-up to its hyperinflation in 1922. Parallels can be found in the debt crises in Latin America in the 1980s and Eastern Europe after 1989.

A brief review of the role played by external support in the stabilization plans of Nicaragua, Israel, and Greece is provided in appendix A.

### Exchange Rate Policies

The use of the exchange rate as a nominal anchor—pegging the domestic currency to some foreign money as a way to stabilize the price level and reestablish a reliable unit of account—is the norm in stabilization plans, either temporarily (as in Bolivia in 1985) or permanently (as in Argentina in 1991).<sup>7</sup> Notable exceptions include the dirty float of the lira in Italy after 1947 and Zimbabwe's 2009 dollarization.

There are three reasons why fixing the exchange rate can help control an explosive price level. The first is that it works quickly. Price-setting behavior during episodes of extreme inflation tends to be less backward-looking and more exchange rate-based, for the reasons described earlier, so fixing the price of domestic money in terms of foreign currency can have an immediate effect on the speed at which prices are updated.

The second reason follows from the first: A sudden pause in price changes resulting from a peg can lead to a reversal of the Tanzi effect in the very short term, helping close the fiscal gap.

The third reason follows from the first two: A visibly stable exchange rate early on in a reform, as well as a jump in tax revenues, can become an important psychological factor for the public and lend credibility to the program. It can be especially crucial when the public mistrusts the ability of the authorities to bring the price level under control, as

6. The Anglo-Hellenic plan of 1945, for example, supplemented the Greek government's revenues through the sales of aid goods (Makinen 1986).

7. The fact that the Argentine currency board collapsed a decade later does not change the fact that authorities intended for it to continue well after hyperinflation had been eliminated.

can happen when repeated stabilization plans have failed (Dornbusch 1985).

A crucial question for policymakers facing a move to a peg is the level at which the exchange rate should be fixed. One frequent answer is that it should be set at a level in line with immediate, postreform macroeconomic fundamentals. The problem with such an approach is that the aftermaths of stabilizations are never completely inflation-free: Percentage changes in the price level may drop from four or five digits to two or even single digits, but an inertial component persists for some time. As a result, stabilizing countries tend to experience real appreciations in the months and years after successful reforms are implemented. It is with this concern in mind that pegs are often set at an “overshot,” or overdepreciated level, in expectation of the appreciation that will follow. Another alternative is to establish a fixed exchange rate only briefly and then immediately transition to a more flexible arrangement, like a crawling peg.

Appendix A provides a review of the exchange rate arrangements implemented during the stabilization of extreme inflations in Poland, Taiwan, and Argentina.

### **Income Policies**

Wage and price freezes (commonly referred to as the “heterodox approach”) are another set of tools that are sometimes, but not always, included in stabilization efforts. Because they are meant to deal with the persistent effects of institutionalized backward-looking inflationary expectations, their applicability tends to diminish once an economy moves into a sustained period of hyperinflation, as opposed to simply very high inflation. Nevertheless, income policies can be an important supplement to more orthodox approaches, for at least two reasons.

First, they can help break inflationary inertia—that is, stop poststabilization wages and prices from increasing because of previously agreed contracts or out of precautionary habit. Contracts may be partially or even fully indexed to past inflation and may feature very short update frequencies. In normal times, wages and prices tend to be updated no more frequently than once a year. In contrast, people living in countries suffering from an inflationary spiral will eventually demand that contracts be changed quarterly, monthly, or even weekly, to reflect recent changes in the average price level. This dynamic presents an additional challenge for stabilization, because some degree of inflation will persist even if the underlying fundamental imbalances are resolved overnight. Indexation also magnifies the effects that some components of stabilization can have on the price level, such as devaluations or subsidy reductions. Inertia is a common feature in high inflation environments, but research suggests

that, as the price level accelerates, the degree of inflation persistence becomes significantly lower (Fischer, Sahay, and Végh 2002).

A second use for income policies is meant to deal with a subtler issue. In general, sudden disinflation can have unwanted distributional consequences, by transferring wealth from debtors to creditors. If, for example, certain loans had been extended with fixed rates based on a given expectation for the path of the future price level, a policy that significantly reduces inflation halfway through the loan term would imply a jump in the real rate on that asset. Income policy can help alleviate this implicit transfer by redetermining the effective rates that must be paid on existing contracts in a manner consistent with the authorities’ expected poststabilization rate of change of the price level. Doing so can have important implications for the fiscal balance if, as in most cases of extreme inflation, the public sector is a net debtor (Kiguel 1991).

As useful as they may be, income policies should not be considered a substitute for the macroeconomic and structural reforms that are needed to bring the government budget back to a sustainable path. It can be tempting for authorities to rely on price controls and delay the implementation of urgent fiscal measures. The result is often repressed inflation, current account imbalances, and the reappearance of extreme inflation a few months later.

Appendix A provides examples of income policies deployed in Argentina and Israel.

### **IMPLICATIONS FOR A STABILIZATION PLAN IN VENEZUELA**

To put a stop to deficit monetization and align the public’s expectations with a credible plan, new fiscal and monetary regimes would have to draw from many of the policies from the stabilization toolkit described above. Venezuela has its own challenges, however. This section describes context-specific considerations for fiscal consolidation, foreign borrowing, and exchange rate arrangements that might be involved in a stabilization plan for the country. Income policies (wage or price controls) should not play a major role: As inflation inertia is likely to be low, state capability to adequately control consumer prices is limited, and such policies have already been widely discredited with the public over successive failed attempts.

#### **Fiscal Consolidation**

There have been many cases where stabilization required a strong contractionary response on the part of authorities in order to achieve a near-balanced budget. Venezuela is not one of those cases. The extent of the humanitarian crisis and

the continuous reduction in basic services provided by the state over the past few years suggest that, on the fiscal side, a stabilization plan should focus primarily on reallocating rather than reducing spending. Further contraction of the economy could have serious long-term consequences for the country.

## **The extent of the humanitarian crisis and the continuous reduction in basic services provided by the state over the past few years suggest that, on the fiscal side, a stabilization plan should focus primarily on reallocating rather than reducing spending.**

Independent estimates suggest that almost 90 percent of the Venezuelan population was living under the income-based poverty line in 2017, with two-thirds living in extreme poverty. Since then, the situation has worsened (España and Ponce 2018). The fact that many of the country's poor have fallen into this condition only recently—almost half of the total—is especially important, because households that only recently fell into poverty generally experience different vulnerabilities from those that have lived in poverty longer. Financial support from the state can help the former avoid making decisions that would have long-term implications for their ability to escape poverty, such as selling productive assets or allowing children to drop out of school. Any further retrenchment of government spending in areas like housing, education, or health services could have devastating and very long-lasting consequences for Venezuela's families and the country's economic recovery (España, Morales, and Barrios 2016).<sup>8</sup>

Spending reallocation is essential. Painful but necessary reforms, including the removal of price controls and energy subsidies, need to be undertaken in the very short term to make the Venezuelan economy more efficient. These adjustments will be very hard on most households, highlighting how important it is that the government compensate workers to protect their living standards. (This idea is not new; rela-

tive price adjustments combined with wage compensation were at the heart of Poland's stabilization plan in 1989.)

Possible candidates for spending reallocation may include subsidies and other transfers to the public and private sector, wasteful public investment, and public finance at the state and municipal levels. Detailing such reforms goes beyond the scope of this Policy Brief, but subsidy reduction is especially important, for at least two reasons. First, it implies a strong correction in relative prices, which is essential to reintroduce market signals that foster investment. Second, it is an area where large amounts of government resources could be put to better use. Subsidies to gas, electricity, and gasoline cost the Venezuelan state close to 5.6 percent of GDP in 2015 (Armas 2016). That said, in the current context of severe economic hardship for Venezuela's households, it would be expected that a sizable part of the proceeds from adjusting energy prices would be focused on compensating families for the increase in the cost of living.<sup>9</sup>

Turning to revenues, there is room for debate on how realistic it is to expect Venezuela to cover the initial fiscal gap purely through an increase in tax collections instead of relying on foreign lending. If state capability for tax collection has become severely eroded, the tax regime has become complex and hard to navigate, and Venezuelan households and firms have increased their tax evasion, it may take time to see income from taxation recovering to precrisis levels.

Consider recent regional examples. During the Peruvian hyperinflation, the tax revenue-to-GDP ratio hit rock bottom in 1989, at 7.9 percent, recovering to 1977 levels only by 1992. Argentina went from 4.8 percent in 1990 to 5.5 percent in 1992 and 8.0 percent in 1993 (World Bank 2019b). This stepwise recovery casts some doubt on the capacity for authorities in Caracas to rebuild government revenues quickly.

As discussed above, correcting the domestic price of oil may play a significant role in closing the fiscal gap. An interesting historical counterpart may be Bolivia's 1985 stabilization, in which adjusted prices for petroleum products generated additional income to the state of almost 6 percent of GDP (Mann and Wolfson 1989). However, Venezuela's state oil company, *Petróleos de Venezuela (PDVSA)*, faces serious legal and financial challenges, and this presents an additional difficulty for policymakers. After years of mismanagement, refineries are now running at one-quarter of capacity. PDVSA's liabilities are a ticking time bomb for

8. Venezuelans who have been living in extended hardship may need different forms of assistance. Like people who have recently fallen into poverty, many of these households will need immediate access to improved nutrition and medical care in the short run. But these households are also likely to need long-run policies, such as retraining programs. None of these solutions is compatible with expenditure reduction.

9. Poland's 1989 stabilization plan serves as a useful historical example: The original formulation of the policy memo for the reforms suggested redirecting one-half to three-quarters of the savings from subsidy reduction to wage increases.

whatever government succeeds Maduro, as the company has accumulated arrears with third-party providers and issued significant debt by using shares in its US-based subsidiary, Citgo, as collateral. Its assets abroad, which are vital to the commercialization of the country's oil, are at significant risk of being seized by creditors.

The early months of a new administration are likely to involve developing legal protections for the company's assets outside the country (see Walker and Cooper 2017). This challenging scenario suggests that PDVSA's output is unlikely to react in the short term. Authorities may expect higher revenues from increases in prices, but it seems unrealistic to bet on a strong boost in revenues from an expansion in traded quantities.

### **Funding from Abroad**

The early stages of a transition would probably take place in an environment with limited room for fiscal adjustment, as the humanitarian crisis places a lower bound on spending and tax revenues are likely to recover only gradually. Stabilizing the price level while providing relief to the country's population would require significant financial assistance from the rest of the world.<sup>10</sup>

## **Stabilizing the price level while providing relief to the country's population would require significant financial assistance from the rest of the world.**

In practice, this means that much of the existing budget deficit would be covered through some combination of loans, grants, and foreign aid. Multilateral and bilateral financial assistance would help cover deficits without forcing the government to slash spending on day one. External assistance would give Venezuelans some much needed breathing space and make a comprehensive reform program politically and socially sustainable.

The exact amount of funds needed depends on many factors, including the state of the humanitarian crisis when stabilization is implemented, the speed at which revenues recover, the outcome of debt restructuring negotiations, and the country's terms of trade.

As a hypothetical exercise, one might consider what shape foreign assistance might take if the Venezuelan authorities needed to finance the entirety of the fiscal gap by borrowing from abroad. If the fiscal deficit as a percentage of GDP at the time of stabilization were close to 2018 levels, then, using IMF projections for Venezuela's output in 2019 (IMF 2019), such a scenario would require funding from abroad on the order of \$11.5 billion for the first year alone.

A program of this magnitude could be pulled off only with a strong financial commitment from the IMF. Under a normal Stand-By Arrangement (SBA), Venezuela would be able to request a total of \$22.5 billion, of which only \$7.5 billion could be disbursed over the first 12 months. Country authorities would have to request exceptional access to allow for additional frontloading.

Even under these simplified assumptions, actual financing needs could turn out to be much higher or lower, for at least two reasons. On the one hand, there is plenty to be done on the fiscal front to progressively bring the budget closer to balance, reducing the amount of foreign funding required. On the other, the social and economic reconstruction of Venezuela will require persistent current account imbalances to purchase the medicines, food, and capital and intermediate goods needed to provide humanitarian relief and rekindle the development of the private sector, which would tend to increase the amount of external support consistent with a stabilization plan.

The latter point merits further discussion. Imports have collapsed in tandem with the rest of the economy, going from \$27.5 billion in 2015 to \$9.1 billion in 2017. If, for example, a new government determined that it is essential to bring imports back to their 2015 levels, which were about the same as in 2006, when the country reached peak oil production (a level that presumably serves as a proxy for a reasonable economic environment), doing so would require an extra \$18.4 billion (Observatory of Economic Complexity 2015).

Of course, assistance from abroad should not finance the entirety of the possible increase in imports: If foreign goods are demanded by the private sector, firms could shoulder the load through the use of trade credits and collateralized loans. The broader point is that during the initial stages of a transition, the expansion of imports might increase the fiscal deficit beyond its current level, especially if the private sector contracts further.

The support of international organizations will be essential, because capital markets are unlikely to be a reliable source of funds over the medium term, given that a sizable share of the country's outstanding bonds (totaling approximately \$65 billion–\$70 billion) has been in default since 2017.

10. The capacity for the government to cover its fiscal gap by borrowing domestically is very limited given the economic collapse.

Debt restructuring is likely to play a prominent role in any type of hyperinflation stabilization plan, as burdening the state with interest payments would put additional pressure on the fiscal balance and risk reigniting deficit monetization. Arguments in favor of debt relief for Venezuela have already begun making the rounds in the US policymaking sphere (see, for instance, Nelson 2018). Venezuela faces a particularly challenging scenario, because in addition to renegotiating its outstanding bonds and the maturing liabilities of PDVSA it will have to simultaneously renegotiate the terms of its bilateral loans with countries such as China and Russia. The authorities will likely need to appeal to the G7 as a coordinating body to orchestrate support for financial assistance from multilaterals as well as debt relief from the Paris Club, which would include a reprofiling of maturities while the price level is stabilized and a sizable haircut on outstanding principal to set the path of public debt back on a sustainable trajectory.

### Exchange Rate Policy

The Maduro government's recent use of a fixed exchange rate to stabilize the price level provides a valuable lesson: Although inflation decreased significantly, the fact that very high levels continued almost half a year after implementation of this type of nominal anchor suggests that lack of credibility may have prevented the scheme from fully guiding pricing behavior. An exchange rate-based stabilization plan can lack credibility if the public believes that there are not enough resources to defend the peg, that the fiscal and monetary paths set by the government are inconsistent with a low inflation environment, or that free convertibility will not be a feature of the system over the medium run.

For a new regime seeking to implement a stabilization program, a transitional fixed exchange rate is still likely to be the way to go, especially given that a large number of Venezuelans already transact and quote prices in US dollars. To reduce the possibility of devaluation down the line, the authorities would have to provide very strong signals to make the peg credible, including, in all likelihood, new currency and fiscal commitments that will make the country's fundamentals sustainable. Just as important would be the availability of foreign exchange reserves for the central bank to provide liquidity and fend off fears of speculative attacks.

One central issue for future policymakers regarding the use of a fixed exchange rate as a nominal anchor is how to choose the exact value of the *bolívar soberano*, in terms of foreign currency. This issue is particularly challenging because the existing official rate may not reflect the market-clearing price that would result if the public had free access to foreign exchange transactions, and the black market rate is not an adequate measure, because it includes costs involved in the illegal procurement of foreign currency. The spread between the two recently narrowed to double digits, making this judgment call easier. An appropriate point for a would-be exchange rate peg is likely to be a weighted average of the two, with higher weight placed on the going black market rate.

Another important challenge is that no matter how successful a future stabilization plan might be, prices will continue to rise for some time after the exchange rate has been fixed, albeit at much lower levels. The ensuing inflation differential between Venezuela and its pegged counterpart will lead to a sustained real appreciation; current account imbalances; and, if the issue is not tackled quickly, an inevitable devaluation that will jeopardize the anchoring of the public's expectations. In anticipation of this problem, the actual value of the peg could initially be set at some "overshot" measure (say 20 percent undervalued) to provide an initial cushion. Over the short term (perhaps about a year or so after price stabilization is underway), the authorities would move to a crawling peg arrangement to keep the real exchange rate from appreciating further (see Dornbusch and Fischer 1986 for a discussion of this problem).

### CONCLUSION

Putting a stop to extreme inflation must be a first-order priority to stabilize the Venezuelan economy and set the country on the road to reconstruction. The authorities should avoid stabilization through austerity. Strong financial support from the international community should be secured.

Other countries have struggled with, and eventually overcome, hyperinflation—many of them with higher deficits or more rapid changes in their price level than Venezuela. Successful stabilization requires a credible plan to transition toward a fiscally responsible framework, the financial resources to carry it out, and the political will to sustain it over time.

## APPENDIX A

### LESSONS FROM HYPERINFLATION STABILIZATION POLICIES IN OTHER COUNTRIES

#### Fiscal Rebalancing in Hungary, Bolivia, and Peru

**Hungary 1924:** The reversal of the Tanzi effect seems to have played a prominent role in achieving fiscal balance during the Hungarian stabilization of 1924. Expenditures immediately before and after the reform were fairly stable (going from 409 million gold crowns in 1923–24 to 422 million in 1924–25) while revenues jumped from 192 million to 453 million gold crowns. Most taxes were unchanged during the early stages of the program (an exception was the introduction of a land tax).

**Bolivia 1985:** The Bolivian experience offers a more nuanced picture. Central government tax revenues fell from more than 9 percent of GNP in 1979 to 1.3 percent in early 1985. Income and sales taxes were heavily influenced by collection lags, and revenues collected from the state oil company dropped sharply, as a result of the delay in the pricing of petroleum goods. In the second half of 1985, revenues jumped back to 10 percent of GNP, thanks partly to the reversal of the Tanzi effect and increased revenues from the correction in hydrocarbon prices. On the expenditure side, spending on fixed assets, materials, and nonpersonnel services as a share of GNP fell 1.4 percentage points between 1981 and 1984, although expenses for personnel increased 0.8 percentage point, highlighting the issue of spending reallocation (Morales and Sachs 1986). (Not all stabilization plans featured such quick recoveries in revenues. See, for example, the case of Greece in 1944, described in the next column.)

**Peru 1990:** Much of the contraction in fiscal expenditures in Peru took place before stabilization even began. Between 1975 and 1990, when hyperinflation reached its peak, per capita government spending fell 83 percent, with most of the reduction occurring in the late 1980s. Between 1987 and 1990, real spending in subsidies collapsed and real expenditures in public sector salaries fell 75 percent (Webb 1991).

#### Financing from Abroad in Nicaragua, Israel, and Greece

**Nicaragua 1990:** Nicaragua received \$884.5 million in grants in 1991—roughly half of its GDP—and \$604.6 million in loans. These resources helped relieve the budget constraint, leading to the recovery of imports, central bank reserves, and infrastructure spending and a reduction in the government's arrears (Aravena 2000).

**Israel 1985:** Foreign assistance commitments can be an important complement to stabilization by strengthening the credibility of the plan. The 1985 Israeli program was supported by a grant from the United States totaling \$1.5 billion over two years, which served as a confidence booster for the reforms. (Blejer and Liviatan 1987).

**Greece 1944:** The failed Greek stabilization of 1944 serves as a reminder that outside assistance cannot substitute for adequate fundamentals. Despite sizable foreign aid from the United Kingdom and the United Nations—which together amounted to almost half the government's revenues in the early stages of the program—fiscal reforms were very limited and the civil service was unable to enforce tax hikes to close the fiscal gap. Explosive inflation eventually reignited (Makinen 1986).

#### Exchange Rate Arrangements in Poland, Taiwan, and Argentina

**Poland 1990:** During its transition away from a centrally planned economy, the Polish government established a fixed exchange rate as part of its package of reforms to rein in the exploding price level. The policy proved successful in moving the price level away from borderline hyperinflation but inflation remained very high nonetheless (70 percent a year in 1991). To offset the ensuing real appreciation, authorities devalued the zloty and switched from a dollar peg to one based on a basket of currencies. The measure proved insufficient, and in October 1991 the regime was switched to a crawling peg (Kokoszczynski 2001).

**Taiwan 1949:** The experience of Taiwan during the Chinese civil war provides an unusual historical example of stabilization with a peg without immediate fiscal correction. Facing extreme inflation, in June 1949 the authorities instituted a new currency—the New Taiwan Dollar—which was to be pegged to the US dollar, fully backed by gold and silver, and partially convertible into foreign exchange, to finance imports. In the six months following the reforms, annual inflation dropped from 729 percent to 82 percent. Little to no fiscal adjustment took place, however; military and reconstruction expenses placed a sizable burden on the budget, and monetary financing of the deficit continued. During the second half of 1949, the volume of narrow money (M1) rose 290 percent. Yet hyperinflation was temporarily subdued: In 1950, inflation reached 89 percent, while M1 increased by 99 percent. Eventually, with the arrival of US foreign aid, the deficit was brought under control; by 1952, the change in the wholesale price index fell to 3.4 percent (Makinen and Woodward 1989).

**Argentina 1991:** Argentina's peg to the dollar as part of the stabilization plan of 1991 provides a lesson on the dangers

of overvaluation. The program was very successful in halting hyperinflation and resetting the public's expectations about a new trend in sustained growth. However, to develop this credibility, the authorities fostered the dollarization of contracts across the economy, effectively tying the solvency of many firms and residents to the stability of the real exchange rate. Meanwhile, the government ran persistent, if not particularly large, deficits. The system worked as long as the dollar value of incomes and tax revenues was stable. But when the economy was eventually hit by large enough exogenous shocks, higher rates on public debt and a fall in the dollar value of incomes ensued, leading to the eventual collapse of the peg and a severe financial crisis (Galvani, Heymann, and Tommasi 2003).

### Income Policies in Argentina and Israel

**Argentina 1985:** Faced with high and accelerating prices, the Argentine Austral Plan combined orthodox and heterodox policies in an attempt to keep the economy from spiraling into hyperinflation. Among other measures, wages and prices were frozen, and a novel mechanism—the *desagio*—was introduced to reduce the value of financial contracts established before the stabilization at a rate consis-

tent with the new inflation path. Although inflation initially dropped very quickly (from 348 percent during the first half of the year to 20 percent in the second half), the nominal controls distorted relative prices. The authorities realized that controls could be maintained only temporarily. During this time, seigniorage continued (exceeding 3 percent of GDP) and budget deficits remained (albeit at a lower level). By mid-1986, inflation reignited.

**Israel 1985:** In 1985, Israel implemented an aggressive stabilization plan to halt its very high inflation. Alongside decisive fiscal adjustment, cuts in subsidies, and reductions in the budget deficit by 8 percent of GDP (Fischer 1995), the authorities instituted wage and price controls, which, as in the Argentine case, were successful in curbing inflation immediately (the monthly change in the price level went from almost 30 percent in July to less than 5 percent in August). In contrast to the Argentine experience, the Israeli plan proved successful and inflation was permanently brought under control. Although the causes for the different outcomes in the two cases are subject to debate (see Kiguel 1989), it seems likely that the differing paths of fiscal consolidation played an important role.

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