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Global Experiences of Tackling Hyperinflation: Tentative Lessons for Zimbabwe

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Executive Summary

Ending hyperinflation is the necessary first step in putting Zimbabwe back on the road to economic recovery. In searching for the required policy ingredients to end hyperinflation, Zimbabwe can draw upon a surprisingly large body of international policy experience from more than 20 countries that, since 1920, have experienced and ended hyperinflation.

The causes of all episodes of hyperinflation have been the same. An already large fiscal deficit in a country with a long history of high inflation suddenly increased dramatically as a result of war, the collapse of the international price of an especially important domestic product or a sharp rise in the interest rates applicable to foreign debt. Lack of access to foreign funding, possibly as a result of debt default, resulted in such deficits being increasingly funded by central banks, which printed money to do so, and prices spiraled upwards as a result. Because hyperinflation was always accompanied by economic collapse, fiscal revenues fell still further, resulting in an increasing reliance on central bank funding of deficits in an ever more vicious cycle of collapsing economic activity, money creation and accelerating rates of price increases.

To end hyperinflation, the fiscal deficit must be slashed and central bank funding of the reduced deficit ended, normally by separating the activities of the central bank from the control of government. Such actions are not easy, as they may lead to increased economic hardship in the short term (by, for example, the scrapping of state subsidies on food or the reduction of employment in the public sector). Moreover, success in combating hyperinflation is seldom followed by a swift improvement in domestic activity. This is because the very large reduction in the fiscal deficit necessary to end hyperinflation initially has a significantly contractionary impact on domestic demand. Thus, many countries experienced false starts on the road to ending hyperinflation, either as a result of too timid initial policy action or an inability to stay the course. But eventually the hardships caused by hyperinflation and its accompanying economic collapse resulted in widespread support for the necessary tough policy adjustments, and the policies necessary to end hyperinflation were successfully implemented.

Ending hyperinflation sometimes also required the establishment of a 'nominal anchor' against which all prices could be measured. This was usually control of either the money supply or the exchange rate. In the latter case, it was important to ensure that the exchange rate did not appreciate too rapidly in real terms (adjusted for inflation), or international competitiveness was quickly undermined, eventually reducing the effectiveness of the nominal anchor.

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Introduction

Zimbabwe's most recent reported official rate of inflation of 231 million per cent¹ is one of the highest ever recorded. Moreover, the true rate of price increase may be even higher than this, as many of the goods measured in the consumer price basket are either subject to price controls or subsidies, are no longer available, or are traded mainly by barter, rendering many price measurements meaningless. Economic activity has shrunk by more than 40 per cent since 2001 and unemployment, poverty and food shortages are now at catastrophic levels.

Despite the current hesitant steps towards establishing a government of national unity in Zimbabwe, it is doubtful that the political support for the necessary policy adjustments — notably a slashing of the budget deficit and the ending of central bank funding of the remaining deficit — exists at this stage. If such support could, however, be achieved, a possible 'silver bullet' to ease the pain of the necessary adjustments may be forthcoming in the form of foreign aid and renewed access to foreign borrowing. Foreign funds could help stabilise the exchange rate and at the same time reduce the magnitude of the deficit reduction required once central bank funding of the deficit has ended. In such circumstances, hyperinflation could end quite quickly, providing a necessary platform for future economic recovery and growth.

This *Brenthurst Discussion Paper* considers the steps required to end hyperinflation in Zimbabwe based on a review of international experiences.

Defining Hyperinflation

While there is no strict agreement on what separates 'very high' inflation from hyperinflation, the latter is usually defined as a period in which increases in consumer prices exceed 50 per cent per month (an annualised rate of increase of some 13,000 per cent).² The best known example of hyperinflation was in Weimar Germany in 1923, when inflation reached some 3.2 million per cent *per month* (prices doubled every two days). The highest rate of inflation ever recorded was in Hungary after World War II, when inflation reached 4.19×10^{16} *per month* (prices doubled every 15 hours).

Coorey et al. note that there were eight hyperinflation episodes globally between 1920 and 1946, none between 1947 and 1984, and 15 after 1984.³ Zimbabwe, in which the monthly increase in prices has exceeded 50 per cent each month since March 2007, now lifts the number of hyperinflation episodes since 1984 to 16. Hyperinflation was recorded in a number of South American countries in the 1980s. In the early 1990s it occurred in several Eastern European countries following the break-up of the former Soviet Union, as well as in war-ravaged Yugoslavia. Zimbabwe is the only country currently experiencing hyperinflation.

Hyperinflation *versus* 'Very High' Inflation

It is important to distinguish between the existence of very high inflation of, say, 100 per cent per year and hyperinflation. A number of countries (e.g. Brazil) historically experienced very high inflation for a long period of time. While economic growth was

¹ At 29 January 2009, the most recent published inflation statistic was for July 2008.

² Cagan defined a hyperinflation episode as beginning in the month that the monthly rise in prices exceeds 50 per cent and as ending the month before the monthly rise in prices drops below that rate and stays below it for at least a year. Cagan, P, 'The Monetary Dynamics of Hyperinflation,' in Milton Friedman, ed., *Studies in the Quantity Theory of Money*. Chicago: University of Chicago Press, 1956.

³ S Coorey, J R Clausen, N Funke, S Muñoz & B Ould-Abdallah, 'Lessons from high inflation episodes for stabilizing the economy in Zimbabwe', *IMF Working Paper*, April 2007.

significantly below potential during these periods of very high inflation, it was mainly positive and inflation was fairly stable, albeit at very high levels.

Except where hyperinflation followed periods of war (Weimar Germany, Hungary after World War II and Yugoslavia in the early 1990s), all incidents of hyperinflation occurred in countries that already had long histories of very high inflation. This long period of very high inflation was propelled into hyperinflation by a particular event, e.g. the collapse of the price of a key export commodity or the cutting off of access to foreign capital markets following debt default. Having breached the 50 per cent per month rate of increase, prices always accelerated to even higher levels, until eventually hyperinflation was brought under control.

The episodes of hyperinflation in Weimar Germany (15 months) and Hungary (less than a year) were short-lived. Virtual economic collapse quickly followed hyperinflation, and this was in turn soon followed by price stabilisation. But later experiences in Latin America, Zaire⁴ and Ukraine showed that episodes of hyperinflation, or at least very high inflation, can persist for a number of years, accompanied by dramatic declines in economic output, but without total economic collapse.

Causes of Hyperinflation

The causes of hyperinflation are well accepted. All countries that have moved from very high inflation to hyperinflation did so because the central bank printed increasing amounts of money to fund a very large and growing fiscal deficit. The fiscal deficit usually spun out of control for the following reasons:

- ◆ external factors, e.g. the collapse of a critical commodity price, where one firm or industry contributes a significant part of government revenue; a sharp rise in global interest rates; or lack of further access to foreign credit because of debt default;
- ◆ a sudden significant increase in government expenditure (e.g. fighting a war) and an institutional inability to require the central bank to fund the growing deficits of central government, parastatal institutions and state-owned businesses; and
- ◆ because individual and corporate income tax are always backward looking (paid on the previous quarter's, half-year's or year's income), very high inflation destroys the real value of tax receipts relative to current expenditure and drives the fiscal deficit ever upwards. While countries like Brazil survived this deterioration for several years with very high inflation rather than hyperinflation, the erosion of tax receipts meant that governments required more and more central bank funding, and money supply eventually spiraled out of control, fuelling hyperinflation.

Modern Examples of Hyperinflation

Reinhart and Savastano⁵ examined five 'modern' (post-1980) examples of hyperinflation: Argentina (1989–90), Bolivia (1984–85), Brazil (1989–90), Peru (1990) and Ukraine (1991–94). Table 1 shows the length of each of these hyperinflation episodes, the peak 12-month inflation rate reached, the period of time annual inflation exceeded 40 per cent before the peak of hyperinflation and the time it remained above 40 per cent after the hyperinflation peak. Also shown are the main policy measures (nominal anchor and/or exchange rate regime) used to successfully end each hyperinflation episode. Zimbabwe is added to compare the progress of its current hyperinflation experience with those analysed by Reinhart and Savastano.

⁴ P Beaugrand, 'Zaire's hyperinflation, 1990–96', *IMF Working Paper*, April 1997.

⁵ Reinhart & Savastano, *op. cit.*, pp. 20–23.

Table 1: Modern hyperinflation: A short history of episodes in five countries (Zimbabwe included for comparison)					
Episode	Peak 12 month inflation rate (%)	Duration inflation exceeded 40 %		Main nominal anchor	Exchange rate regime
		Before the peak	After the peak		
Argentina May 1989– March 1990 11 months	20,266 (March 1990)	15 years, 2 months	1 year, 10 months	Exchange rate	Currency board, April 1991–1 December 2001
Bolivia April 1984– Sept 1985 18 months	23,447 (April 1990)	3 years, 5 months	1 year, 2 months	Money supply	Dirty float, August 1985–October 1987. De facto crawling peg thereafter.
Brazil Dec 1989– March 1990 4 months	6,821 (April 1990)	14 years, 3 months	5 years, 1 month	Exchange rate	Short-lived disinflation (Collor plan). Inflation rose steadily from July 1991 to June 1994, when the Real Plan, based on a pre-announced narrow crawling band, was adopted. The band collapsed in Jan 1999 and was replaced by a managed float.
Peru July 1990– August 90 2 months	12,378 (August 1990)	12 years, 5 months	3 years, 3 months	Money supply	Exchange markets were unified in Aug 90, and the exchange rate floated until Oct 1993. De facto crawling band thereafter.
Ukraine April 1991– Nov 1994 44 months	10,155 (December 1993)	11 months	2 years, 10 months	Hybrid	Dual exchange markets with periodic attempts to peg official rate. Exchange markets unified in September 1998. De facto crawling peg thereafter.
Zimbabwe March '07–? >18 months	231,150,889 (July '08; highest to date)	8 years, 3 months to July 2008	?	?	?

Source: Reinhart & Savastano, op. cit., p. 21

The section that follows summarises Reinhart and Savastano's key conclusions.

Causes of hyperinflation:

- ◆ Modern hyperinflations were usually preceded by long periods of very high inflation (15 years of above 40 per cent inflation in the case of Argentina, 14 years in the case of Brazil and 12 years in the case of Peru). The example of Ukraine is unusual, as very high inflation lasted for only 11 months before hyperinflation began.
- ◆ Hyperinflation was triggered by uncontrolled increases in money supply stemming from massive fiscal imbalances.
- ◆ Modern hyperinflations usually occurred when countries had no access to global capital markets and had defaulted on their foreign debt (which is why they resorted to central bank funding of fiscal imbalances).

Policies to successfully address hyperinflation:

- ◆ Major reductions in the fiscal deficit — an average reduction of 10 per cent of gross domestic product (GDP) over a three-year period — were needed in all successful cases of ending hyperinflation.
- ◆ The exchange rate regimes that accompanied successful policies to combat hyperinflation were different. Argentina adopted a strict currency board in 1991, but the other successful countries adopted a mixture of 'dirty floats' and dual exchange rates.

Recovery from hyperinflation:

- ◆ Modern hyperinflations were usually followed by long periods during which inflation still remained very high. It took, for example, more than three years for inflation to fall below 40 per cent in Peru, and 14 months for it to do so in Bolivia. In Brazil, a second bout of hyperinflation meant that it took more than five years for inflation to fall sustainably below 40 per cent.

- ◆ All of the five countries examined by Reinhart and Savastano experienced sharp contractions in economic output during the period of hyperinflation (which were extremely large in the case of Ukraine), but the recovery in economic activity after hyperinflation was generally disappointing. Only in Argentina was there a significant recovery in economic activity in the three years after hyperinflation ended. In Bolivia, Brazil and Peru, the contraction in economic activity was arrested, but in Ukraine the economy continued to contract even after hyperinflation ended. This caused Reinhart and Savastano to warn that 'there are reasons to be cautious about what to expect from macroeconomic policies after hyperinflations end'.⁶
- ◆ One reason identified for the slow pace of economic recovery is the near disappearance of the banking system during hyperinflation and the replacement of money by barter as the means of exchange. Recovery in the banking system was slow even when hyperinflation ended.
- ◆ Although capital flight often reversed once hyperinflation ended, it was not enough to 'jump-start' growth. 'Dollarisation' usually persisted even several years after hyperinflation had ended.

Zimbabwe:

- ◆ As with most of the countries in the Reinhart and Savastano study, Zimbabwe experienced a long period of high inflation (>40 per cent for seven years) before the onset of hyperinflation.
- ◆ Zimbabwe's most recent reported rate of inflation of 231 million per cent in July 2008 is massively higher than anything experienced in the other countries studied. This holds particular challenges for policies to end hyperinflation, which will be discussed below.
- ◆ Hyperinflation in Zimbabwe is proving extremely long-lasting. Most episodes of hyperinflation lasted from just a few months to perhaps 18 months. Ukraine is an outlier, with hyperinflation having lasted 44 months. Hyperinflation has now persisted for nearly two years in Zimbabwe, with no signs yet of it ending.

Policies to Combat Hyperinflation

Theoretically, hyperinflation is 'easier' to defeat than very high inflation. There are a number of reasons why this should be so:

- ◆ In long periods of very high inflation, many prices and wages become indexed, with automatic backward-looking adjustments to compensate for past inflation. This means that prices keep rising in line with past inflation even after current short-term inflationary pressures have declined.
- ◆ In contrast, because price increases in hyperinflation are so dramatic, indexation either becomes irrelevant or is based on very short time periods for price adjustments. As a result, a decline in inflationary pressures impacts much more swiftly than it does in periods of very high inflation.
- ◆ Because hyperinflation is always caused by central banks printing money to fund burgeoning government deficits, the way to end it is obvious: the fiscal deficit must be slashed and central bank funding of this deficit ended. This requires removing the central bank from government control, usually by constitutionally ensuring its independence.
- ◆ Because hyperinflation is always accompanied by economic collapse, even painful policy measures to combat hyperinflation usually enjoy popular support. The impact on economic activity of even very high inflation is less dramatic, tough anti-inflationary measures often do not enjoy as much support and the temptation to 'cheat' to avoid policy rigours is much greater.

⁶ Ibid., p. 22.

In practice, however, dealing with hyperinflation has often proved much harder than the theoretical arguments suggest. As hyperinflation inevitably brings about economic collapse and the erosion of the real tax base, cutting the fiscal deficit can usually occur only if government spending is slashed. Cutting state spending may be extremely difficult at a time of economic collapse, especially if it involves making significant reductions in welfare payments at the time when these are most needed. On rare occasions, foreign aid was available to fund part of the deficit, making the process of adjustment considerably less painful and therefore politically easier to implement.

Thus, Hamann and Prati⁷ note that most countries with very high inflation or hyperinflation make several attempts to defeat inflation before they actually succeed. Beaugrand notes in this regard:

Stopping hyperinflation is no easy task. To reverse its root cause, the government must live within its means, which is precisely what it has been utterly unable to do to start with. Even if a political consensus could emerge, and all parties agreed to join efforts to mobilize government revenue and control expenditure, the constraints might well be such that available means and needs may not be balanced without exceptional measures and/or external assistance. The latter, however, is likely to be forthcoming and on an adequate scale only when clear signs emerge that the authorities have reestablished control over economic and financial developments — that is when hyperinflation has been halted.⁸

Some commentators suggest that even when control of the fiscal deficit and its funding is achieved, this may not be sufficient to permanently end hyperinflation. They argue also for the introduction of a 'nominal anchor' that can serve as a new base against which prices can now be set. Such a nominal anchor could be the money supply. In extreme cases, a 'currency board' fixes the level of a country's money supply to that which can be supported by the country's gold and foreign exchange reserves at a fixed exchange rate. Currency boards attempt to provide an alternative to a discredited central bank that cannot otherwise be trusted to control growth in domestic money supply. The downside to this modern version of the gold standard is that the country's money supply will contract if capital outflows continue after the currency board is introduced, leading to further economic contraction and lack of credibility that the currency board will last, and this will possibly encourage further capital outflows.

An alternative 'nominal anchor' is the exchange rate, which can be pegged or maintained within a fairly narrow band. Such a peg runs the risk that the exchange rate will strengthen sharply in real (inflation-adjusted) terms — because even if hyperinflation ends quickly, domestic inflation is likely to remain much higher than that of the country's major trading partners for some time. This will result in a growing loss of global competitiveness, falling exports and declining foreign exchange reserves, and an eventual requirement to devalue the currency to more realistic levels. This in turn could spark another round of high inflation. To offset this problem, a 'crawling peg' exchange rate, as was the case in Poland after 1991,⁹ can allow for nominal exchange rate depreciation at a slowing rate so as to preserve international competitiveness, while at the same time providing a nominal anchor that reduces inflationary expectations in line with the slowing rate of currency depreciation.

Two studies by Hamann and Prati¹⁰ and Coorey et al.¹¹ examined the attempts by a large number of countries¹² to combat very high inflation (but not necessarily

⁷ A J Hamann & A Prati, 'Beating inflation: The importance of luck, timing and political institutions', *Finance and Development*, June 2003, pp. 12–15.

⁸ Beaugrand, *op. cit.*, p. 23.

⁹ R Kokoszczyński, 'From fixed to floating: Other country experiences: The case of Poland', paper presented at the IMF seminar Exchange Rate Regimes: Hard Peg of Free Floating, Washington, DC, 19–20 March 2001, p. 6.

¹⁰ Hamann & Prati, *op. cit.*, pp. 12–15.

¹¹ Coorey et al., *op. cit.*

hyperinflation). They found the following factors to be important determinants of success:

- ◆ Good luck: The likelihood of success is dramatically reduced if a country experiences adverse external conditions such as a decline in export prices or a sharp increase in global interest rates.
- ◆ Past failures reduce the likelihood of later success, as the credibility of subsequent policies is reduced.
- ◆ The higher the level of inflation and the deeper the resultant economic crisis, the greater the likelihood of success as a consequence of increased political support for anti-inflation policies.
- ◆ New governments possess greater credibility and are more likely to succeed because they do not have the burden of past failure.
- ◆ Countries with strong governments are more likely to curb excessive state spending and are therefore more likely to succeed.
- ◆ To establish credibility, a dramatic shift in policies from those of the past was needed. Most successful programmes were therefore characterised by 'broad-based reform agendas' in which institutional reforms (of the public sector, central bank and improving the rule of law), fiscal stabilisation and price liberalisation were all started at the same time.
- ◆ Large reductions in the fiscal deficit were much more successful than were gradual reductions in reducing inflation and producing a more rapid recovery in economic output.
- ◆ Reductions in quasi-fiscal deficits arising from government funding of state-owned enterprises was often an important part of fiscal deficit reduction.
- ◆ Both fiscal and monetary tightening are critical for success. Too rapid relaxation of either condition often resulted in failure and a return to high inflation.
- ◆ Policies are more likely to succeed when the exchange rate is chosen as a nominal anchor. But excessive real appreciation of the exchange rate during attempted stabilisation can derail the programme and result in failure.
- ◆ Price and exchange rate liberalisation were high priorities, enabling prices to establish their true level and helping to allocate resources more efficiently.
- ◆ Successful countries differed in the importance given to reforming the financial system, privatisation and trade reform.

Seven lessons from the global experiences of combating hyperinflation that are equally applicable to the Zimbabwean experience are summarised in the Table 2 below.

Table 2: Seven lessons from international experiences of hyperinflation
1. Hyperinflation seldom materialises overnight and is usually preceded by a protracted period of high and variable inflation.
2. Stabilisation may take years if fiscal policies are not adjusted appropriately. Even when fiscal adjustment is implemented, it takes time to achieve low inflation, especially when money is used as the nominal anchor.
3. Sharp reductions in fiscal deficits are always a critical element of a stabilisation programme, regardless of the choice of monetary anchor.
4. Unifying exchange markets and establishing currency convertibility are often essential ingredients of stabilisation, irrespective of the choice of main nominal anchor.
5. Output collapses during, and sometimes in the run-up to, hyperinflation. Although stabilisation measures cap the implosion in economic activity, there is little evidence to suggest that they kindle a robust rebound in economic activity.
6. Hyperinflation is accompanied by an abrupt reduction in financial intermediation.
7. Stopping a hyperinflation does not restore demand for domestic money and domestic currency assets to the levels that prevailed before the hyperinflation began. Capital returns to the country when high inflation stops, but dollarisation and other forms of indexation dominate financial intermediation for many years.

Source: C M Reinhart & M A Savastano, op cit., p. 23

¹² They examined 51 and 30 episodes of high inflation, respectively.

These lessons are developed into the main ingredients of a possible policy package for ending hyperinflation in Zimbabwe in the following section.

Year	Year-on-year price increases (%)
1990	16
1991	24
1992	42
1993	28
1994	22
1995	23
1996	22
1997	19
1998	32
1999	59
2000	56
2001	72
2002	133
2003	365
2004	350
2005	238
2006	1,017
2007	6,724
2008 (July)	231,150,889

Lessons for Zimbabwe

Zimbabwe's path to hyperinflation shown, above, in Table 3 was similar to that of most other countries that have experienced hyperinflation. Annual consumer inflation, having been consistently around 20–30 per cent per annum from 1990 to 1998, first breached 50 per cent in March 1999 and 100 per cent in November 2001. A typical period of 'very high inflation' followed, until in March 2007 the monthly increase in prices exceeded 50 per cent and hyperinflation as usually defined officially began.¹⁴ The subsequent spiraling of inflation to ever higher levels is also typical of other hyperinflation episodes. But the level that inflation has reached — some 231 million per cent at the latest measure — is extreme by comparison to almost all modern examples of hyperinflation. In Latin America and the Ukraine the peak of year-on-year inflation was in the thousands. Few countries have ever experienced inflation rates that are measured in the millions. Moreover, as was noted above, hyperinflation in Zimbabwe has now persisted for almost two years. This is an unusually long period, but is not unique, as hyperinflation in Ukraine persisted for 44 months.

The collapse of economic activity in Zimbabwe has also been extreme compared with most other modern hyperinflation countries. While true numbers are sketchy, most estimates suggest that economic activity in Zimbabwe has contracted by more than 40

¹³ Source: Reserve Bank of Zimbabwe.

¹⁴ It is widely recognised that the official consumer price index (CPI) underestimates the true level of inflation because of price controls, the absence of many goods from the shelves and the fact that the weights of the CPI no longer reflect the actual consumption patterns of average Zimbabwean households.

per cent since 2001. This compares with GDP declines of less than 20 per cent in Argentina, Brazil, Peru and Bolivia in the late 1980s and probably exceeds that of Ukraine in the early 1990s.

Policies to end hyperinflation in Zimbabwe

While hyperinflation in Zimbabwe has now reached levels that few countries have experienced historically, the cause of the problem is identical to all other countries that have experienced hyperinflation, namely, a very high fiscal deficit that is being funded by money printed by the Reserve Bank of Zimbabwe. Coorey et al.¹⁵ estimate that while in 2006 the official budget deficit of Zimbabwe was 5.4 per cent of GDP, once all 'quasi-fiscal activities' were taken into account, the true fiscal deficit was some 25 per cent of GDP. When losses of the Reserve Bank on foreign exchange subsidies to public enterprises and government, compensation to exporters for an overvalued exchange rate, and interest payments on open market operations are included, the overall financing requirement of government and the Reserve Bank of Zimbabwe in 2006 could have been as high as 80 per cent of GDP.¹⁶

Significantly reducing this deficit and financing requirement and ceasing to fund it through money printed by the Reserve Bank must form the cornerstone of any policy to successfully end hyperinflation in Zimbabwe. The global experience of countries that successfully ended very high inflation and hyperinflation suggests that a cut in the fiscal deficit of at least 10 per cent of GDP (from 25 per cent to 15 per cent of GDP on 2006 measures) is necessary¹⁷ and the quasi-fiscal activities and subsidies of the Reserve Bank must be ended. Such reductions will not be easy in a country where GDP has already contracted more than 40 per cent since 2001. The reduction in the fiscal deficit can almost certainly be achieved only by a significant reduction in the public sector wage bill, with negative consequences for already sky-high unemployment. It is also unclear what impact a significant reduction of subsidies paid to state-owned enterprises will have on the latter's output, even if price controls on their products are simultaneously removed.

For such policies to succeed, global experience suggests that Zimbabwe needs a government with strong popular support and high credibility. Credibility requires also that control and leadership of the Reserve Bank of Zimbabwe be separated from government so that its funding of the fiscal deficit ceases. The Reserve Bank of Zimbabwe must be independent, both legally and in practice.

In addition, because of the extraordinary high levels to which inflation has risen, Zimbabwe should introduce a nominal anchor against which declining inflationary expectations can be managed. Zimbabwe has already tried to introduce both money supply and exchange rate-based nominal anchors, but these failed because of the absence of fiscal discipline. Nonetheless, a credible policy to combat hyperinflation through fiscal discipline will also require a new attempt to introduce a nominal anchor.

Kovanen¹⁸ notes that there are two conditions necessary for a nominal anchor to be successful:

- ◆ There needs to be a clear long-term relationship between the anchor variable and prices.
- ◆ The anchor variable needs to be both credible and supported by other policies, especially fiscal policy.

¹⁵ Coorey et al., op. cit., p. 9.

¹⁶ Ibid., p. 9.

¹⁷ Ibid., p. 10.

¹⁸ A Kovanen, 'Zimbabwe: A quest for a nominal anchor', *IMF Working Paper*, July 2004, p. 9.

Kovanen finds that in pre-hyperinflation Zimbabwe, the amount of currency in circulation had the strongest linkage to the level of prices and therefore suggested that currency in circulation (money supply) would provide the best nominal anchor for future anti-inflation policies. However, he acknowledges that statistical relationships broke down even during the period of very high inflation that preceded hyperinflation and therefore the linkage between money supply and prices may no longer be as strong as his findings suggest.

Given the likely breakdown of past relationships and the extent to which the parallel currency market and the collapse of the exchange rate have become almost symbolic of the extent of hyperinflation in Zimbabwe,¹⁹ using the exchange rate as a nominal anchor would probably be the most effective policy instrument today. This conclusion is supported by an analysis of international experience in combating very high inflation by Bruno, who notes: 'Inflationary experience ... has shown that the exchange rate, in the absence of another reliable measuring rod, often serves as the indicator to which pricing agents attach themselves, even when their product is not tradable.'²⁰

The extremely low level of foreign exchange reserves in Zimbabwe makes the introduction of an exchange rate nominal anchor extremely difficult. There is, however, a potential 'silver bullet', namely, foreign aid and access to foreign capital,²¹ which would significantly ease the pain of the policy adjustments necessary to end hyperinflation. This may be especially important if the policies of the government in Zimbabwe do not enjoy the near-universal support domestically that is usually expected following the trauma of hyperinflation and economic collapse. Foreign aid and capital will reduce the extent to which the fiscal deficit must be cut once Reserve Bank funding of the deficit has ended. At the same time, it will provide the necessary foreign exchange for the establishment of a credible exchange rate anchor.

In the absence of foreign aid, it is unlikely that the necessary fiscal deficit reduction or any nominal anchor will enjoy the credibility necessary to end hyperinflation. This is acknowledged by Coorey et al., who conclude:

For Zimbabwe, strengthening relations with donors and mobilizing external financing would ease the burden of the initial adjustment needed for a strong, upfront reduction in inflation. The more financing that is available, the less drastic the initial fiscal adjustment needed to obtain a given reduction in inflation and the greater the room to address the possible social dislocation from the reduction in the size of the public sector (including public enterprises) Longer term financing would also be needed to support a medium term structural reform program to address the extensive distortions and ensure that the stabilization is sustained. At the same time, if a credible stabilization package is implemented upfront and followed by reforms to restore investor confidence, Zimbabwe's economy is sufficiently diversified and its long-term potential strong enough to be able, most likely, to attract significant private capital inflows over the medium term.²²

With sufficient foreign exchange reserves in place from foreign aid or borrowing, the exchange rate could be pegged, probably at something approaching the current parallel

¹⁹ The extent to which prices in Zimbabwe continued until quite recently to be measured in domestic currency was unusual of hyperinflationary experiences. This has now changed, and the degree to which Zimbabwe has undergone the same 'dollarisation' (in practice often South African rands) that characterised hyperinflation experiences elsewhere is perhaps most starkly illustrated by the presentation of the January 2009 budget in US dollars (reported by Reuters, 29 January 2009).

²⁰ M Bruno, 'Stabilization and reform in Eastern Europe: A preliminary evaluation', *IMF Staff Papers*, 39(4), December 1992, p. 33.

²¹ Coorey et al. (op. cit. p. 12) argue that access to external funding is not a necessary condition for ending hyperinflation in Zimbabwe. They note that in many of the successful cases of reducing very high inflation globally, countries had access to external funding only after the stabilisation policies had already begun to succeed, and private capital inflows, including foreign direct investment, also tended only to follow stabilisation success.

²² *Ibid.*, pp. 13–14.

or black market rates. It should then either be allowed to float or be actively depreciated at a slowing pace (a 'crawling peg'). Either way, it will be necessary to avoid massive real appreciation as a consequence of the inevitable lag between policy implementation and a reduction in domestic inflation to anything remotely like that of Zimbabwe's major trading partners. Such real appreciation would rapidly undermine the credibility of the nominal peg, as Zimbabwe's exports would quickly become uncompetitive.²³

It is unclear what impact policies to combat hyperinflation will have on output in Zimbabwe over the short term. The international experience of countries recovering from hyperinflation outlined above is not encouraging. Economic output in most of these countries has usually stopped contracting almost immediately, but it has usually been a year or more before economic activity started to expand. This is because of the continued corrosive impact of past hyperinflation and the initial contractionary impact of sizable reduction in the fiscal deficit. Coorey et al. note that if lower inflation is to be accompanied by a rapid recovery in output, it is essential in Zimbabwe's case that policies to end hyperinflation be accompanied by measures to address fundamental structural problems, including public enterprise and civil service reform, central bank reform, public expenditure and tax reform, governance, property rights, and increased policy predictability.²⁴ Agreement on land tenure may also be needed to achieve sustained growth in agriculture and the economy more generally.²⁵

Such broad-based policies require boldness and decisiveness. Again, this is in line with global experience, where the evidence from policies that have successfully tackled hyperinflation and very high inflation and those that have not points to the 'clear advantage of the big bang approach at the inflation stabilization stage'.²⁶

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²³ A difficulty in accumulating reserves is that residents, battered by years of currency collapse and lack of policy credibility, may wish to hold foreign rather than domestic currency, thereby draining foreign currency abroad. One way of addressing this is to allow residents to hold foreign currency accounts locally. *The Economist* (17 July 2008) notes that Argentinians held 60 per cent of bank deposits in foreign currency three years after the high inflation of the 1980s ended. In Peru and Bolivia, the comparable figure three years after their inflation crises was 80 per cent of bank deposits held in foreign currency.

²⁴ Coorey et al., op. cit., p. 11.

²⁵ Ibid., p. 12.

²⁶ Bruno, op. cit., p. 27.