

The Net Present Value of Stabilizing Inflation

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Abstract

When countries attempt to stabilize annual inflation rates that are greater than 40 percent, the domestic stock market appreciates by 24 percent on average. The present value of the long-run benefits to shareholders of reducing high inflation outweighs the present value of the short-run costs. In contrast, the average market response is economically weak and statistically insignificant if the pre-stabilization inflation rate is less than 40 percent. Stock market responses also help predict the change in inflation and output in the year following stabilization efforts. This additional result indicates that the stock market evidence for the 81 inflation stabilization episodes studied here is not spurious.

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I. Introduction

The sacrifice ratio approach to inflation stabilization measures the short-run cost of reducing inflation as the sum of undiscounted output losses over some horizon. This approach assumes that there are long-run benefits of stabilizing inflation without making them explicit in a cost-benefit calculation. Therefore, sacrifice-ratio-based analyses do not tell us whether the benefits of stabilizing inflation outweigh the costs.

In contrast, the net present value analysis of stabilization introduced here focuses attention on the central issue: Do the benefits of reducing inflation outweigh the costs? Changes in stock prices reflect both revised expectations about future corporate profits and the discount rate at which those profits are capitalized. Contractionary measures taken to stabilize inflation may raise discount rates and reduce profits in the short run. But the reduction in inflation may increase future profits and reduce discount rates. The stock market response to an unanticipated announcement of a stabilization program removes the temporal dimension of the analysis by collapsing the entire expected future stream of stabilization costs and benefits into a single summary statistic: the expected net benefit (current and future) of the stabilization program.

The results show that stock markets appreciate by an average of 24 percent in real dollar terms when countries attempt to stabilize annual inflation that is high (above 40 percent). In contrast, the average market response is 0 if the pre-stabilization inflation rate is moderate (below 40 percent). Stock market responses also help predict the change in inflation and output in the year following stabilization efforts. This additional result indicates that the stock market evidence for the 81 inflation stabilization programs studied here is not spurious.

The results are not sensitive to the particular definitions of high and moderate inflation which are taken from Bruno and Easterly (1998) and Dornbusch and Fischer (1993). The same conclusion is also reached for stock market responses conditional on alternative classifications of high and moderate inflation.

Reporting the results in real dollar terms requires caution, however. In countries with high inflation, the rate of depreciation of the official nominal exchange rate may not keep pace with inflation. Under such a scenario, the real dollar value of the stock market may become artificially inflated. To account for this possibility, the central estimations are also performed using real local-currency stock returns. They yield the same result. The stock market responds in a positive and statistically significant manner when a country attempts to stabilize high inflation, but there is no significant market response if the pre-stabilization inflation rate is moderate.

It is important to know whether this result is driven by variation in the types of stabilization policies used in high versus moderate inflation. The data suggest that this is not the case. Sixty-nine of the 81 stabilization programs studied in this paper are identified by IMF agreements. The International Monetary Fund (IMF) has been criticized in recent years for the uniformity of its policy prescriptions in all country agreements, irrespective of differences in initial macroeconomic conditions and in country-specific idiosyncrasies (Corden, 1998). The homogeneity of the Fund's stabilization prescriptions across countries suggests that there are not major differences between the packages of stabilization policies pursued in the high and moderate inflation subsamples.

On the other hand, if countries attempt to reduce inflation without help from the

IMF, they may pursue stabilization policies that differ from those prescribed by the Fund. For example, 12 of the 81 stabilization episodes studied in this paper did not involve an official agreement with the IMF. All 12 of these programs were directed at stabilizing high inflation. In 8 of the 12 episodes, the countries involved attempted to stabilize inflation by fixing the nominal exchange rate. In contrast, none of the IMF episodes involved exchange-rate-based stabilizations (ERBS). Furthermore, there is an extensive literature which demonstrates that the short-run real effects of ERBS differ substantially from those observed in more traditional stabilization programs, such as those pursued by the Fund (Végh, 1992; Calvo and Végh, 1998; Fischer, Sahay and Végh, 1999). Therefore, it is important to investigate whether the differential stock market responses are driven by differences between IMF and non-IMF stabilization policies. Various robustness checks in Section III suggest that this is not the case.

After grappling with concerns about robustness, Section IV turns to the issue of how to interpret the central result. Stabilizing high inflation increases the present value of shareholders' claims, whereas stabilizing moderate inflation has no effect. The principle question is: Do the results imply that stabilizing high inflation increases the present value of aggregate output while stabilizing moderate inflation does not? This question must be addressed with caution. Stabilizing inflation could increase capital's share in national output. In turn, increasing capital's share in GDP could generate higher future profits (and therefore stock prices), even if stabilization has no effect on GDP levels or on growth rates. Therefore, we cannot conclude that stabilizing high inflation increases the present value of aggregate output. More generally, conclusions about the effect of disinflation on the present value of aggregate output cannot be directly inferred

from the stock market responses.

Accordingly, Section IV of the paper pursues a narrower question. Do stock market responses to disinflation rationally forecast stabilization outcomes for the economy, apart from the publicly traded corporate sector? Two approaches are employed. To the extent that the stock market response reflects the expected change in the present value of profits from stabilizing inflation, it should have some predictive power for the ex-post change in inflation. Hence, the first approach asks whether the stock market response helps predict the ex-post change in inflation. The second approach explores whether the unexpected change in the stock market helps predicts GDP growth, following the stabilization. While these two approaches do not provide definitive evidence, the stock market responses do help predict the change in inflation and output in the year following efforts to stabilize both high and moderate inflation.

The stock market approach to inflation stabilization has three limitations. First, stock price responses measure the net present value of stabilizing inflation to shareholders, not necessarily to the entire economy. Second, stock price responses measure the change in real wealth that accrues to shareholders, not utility gains per se.¹ Third, to the extent that stabilizations are anticipated, the measured unanticipated change in equity prices will understate the expected impact of stabilization.

Despite these limitations, the stock market approach focuses attention on the relevant issue of whether the benefits of disinflation outweigh the costs and provides new evidence on old debates. For example, the 24 percent jump in real equity prices in anticipation of reducing high inflation seems more consistent with the rational

¹ For example, a rise in expected future productivity can decrease the value of the stock market value if discount rates rise by more than the increase in expected future dividends (Lucas, 1978). Nevertheless, welfare improves. Lucas (2000) studies the utility gains of reducing inflation.

expectations view of disinflation than with the traditional view. Similarly, the negligible stock price response in anticipation of stabilizing moderate inflation appears more consistent with the traditional view than with rational expectations. Together, the results suggest that neither view sufficiently captures the real effects of disinflation across all ranges of initial inflation.

II. Data and Descriptive Findings

The announcement month and year of the 81 inflation stabilization programs are identified using two sources. The first source of event dates is Calvo and Végh (1998). They identify the best-known stabilizations that received a great deal of attention in the literature on inflation stabilization. The second source is the Annual Reports of the International Monetary Fund (IMF). These reports are used to construct a time series of months in which each of the 21 countries effectively announced their intention to stabilize by signing an official agreement with the IMF.

IMF programs typically call for current account stabilization in addition to inflation stabilization. The dual stabilization objectives of these programs do not introduce important biases into the dating procedure. The macroeconomic targets in IMF programs are generated by the IMF's Financial Programming Model, which is based on the monetary approach to the balance of payments (Agénor and Montiel, 1996). Under the monetary approach, balance of payments problems originate from an excess supply of money, with monetization of the government deficit typically seen as the proximate cause of the excess supply. The IMF requires that countries reduce both the fiscal deficit and the growth rate of the money supply in order to stabilize their current account. Thus, the

prescription for stabilizing the current account is tantamount to a traditional disinflation program.

Including the recent IMF agreements in Mexico in 1995, Asia in 1997, Russia in 1998, and Brazil in 1999 would strengthen the central findings of this paper, because these countries were experiencing moderate inflation and stock prices collapsed during the months leading up to their agreements with the IMF. Nevertheless, these episodes are excluded from the sample for two reasons. First, Dornbusch (1998a) argues that the synopsis of stabilization outlined in the preceding paragraph does not provide an accurate description of these recent episodes. He argues that the recent episodes were not inflation crises *per se*, but financial crises; the proximate cause was country balance sheets whose assets and liabilities were misaligned with respect to both maturity structure and currency denomination. Second, as part of these recent agreements, the IMF has imposed major structural and institutional reforms in addition to insisting on its traditional short-run stabilization objectives (Feldstein, 1998).

High inflation episodes are defined as in Easterly (1996) and Bruno and Easterly (1998): 12-month inflation in excess of 40 percent during each of the 24 months leading up to and including the month in which the stabilization was announced. Moderate inflation episodes are defined analogously: 12-month inflation between 10 and 40 percent during each of the 24 months leading up to and including the month in which the stabilization was announced. This definition of moderate inflation corresponds closely to that of Dornbusch and Fischer (1993).

Fourteen of the 81 attempted inflation stabilizations are Calvo and Végh (1998) episodes, 2 of which coincide with IMF agreements — Mexico in 1977 and Argentina in

1991. Thirteen of the 25 attempts at stabilizing high inflation have official IMF sponsorship, and 7 succeed in reducing high inflation to moderate inflation. Seventeen of the 25 episodes occur in Argentina and Brazil. All 56 of the attempts at stabilizing moderate inflation have official IMF sponsorship, and 5 succeeded in reducing moderate inflation to low inflation. Table A1 in the Data Appendix provides details about all of the inflation stabilization programs identified using both data sources.

The sample includes all countries that: (1) have publicly available stock market data and (2) have undertaken at least one inflation stabilization program (as defined in Section IIIB) at some point since their stock market data became readily available. The 21 countries that satisfy both criteria are Argentina, Brazil, Chile, Egypt, India, Indonesia, Israel, Jamaica, Jordan, Kenya, Korea, Mexico, Nigeria, Pakistan, Peru, the Philippines, South Africa, Thailand, Turkey, Venezuela, and Zimbabwe. The principal source of stock market data is the International Finance Corporation's (IFC) Emerging Markets Data Base (EMDB). Stock price indices for individual countries are the dividend-inclusive, U.S. dollar-denominated *IFC Global Index*. For most countries, EMDB's coverage begins in December 1975, but for others coverage only begins in December 1984. For those countries for which the IFC does not provide stock market data, the analysis uses the share price index given in the IMF's International Financial Statistics (IFS). Each country's U.S. dollar-denominated stock price index is deflated by the U.S. consumer price index (CPI), which comes from the IFS. All of the data are monthly. The consumer price index for each country is also obtained from the IFS. Returns and inflation are calculated as the first difference of the natural logarithm of the real stock price and CPI, respectively.

II.B. Descriptive Findings

There are two key questions to be asked about the relationship between the stock market response and the level of inflation that the stabilization program is attempting to reduce. First, does the magnitude of the stock market response increase or decrease as a function of the level of initial inflation? Second, what is the sign of the stock market response and does the sign depend on the level of inflation?

II.B.1. Is the Market Response an Increasing Function of Ex-Ante Inflation?

Figure 1 provides a rough empirical answer to the first question: The net benefits of stabilization appear to be an increasing function of the level of *ex-ante* inflation. Month “0” is defined as the month in which a given stabilization program is announced. The IFC records the value of a country’s stock market index at the end of the month. The data on stabilization events do not provide the day of the month on which programs are announced. These facts imply that the announcement of a given stabilization program may occur after the day of the month on which the IFC recorded prices. In such cases, the change in the stock market index in month [0] may not reflect the news of the stabilization event. Accordingly, Figure 1 plots the unadjusted cumulative change in the real dollar value of the stock market index in months [0, +1] against the average 12-month inflation rate over the two years prior to implementation. Figure 1 suggests that the two-month stock price change is an increasing function of the ex-ante inflation rate. The higher the ex-ante inflation rate, the greater the stock price response when a stabilization program is announced.

The positive linear relationship apparent in Figure 1 is given by the following

regression equation (robust t-statistics in parentheses $R^2=0.10$, $N=81$):

$$\Delta \ln(\text{stockprice}_{[0,+1]}) = 3.73 + 0.076 * \text{inflation} \quad (2)$$

(1.4) (1.9)

The unconditional relationship is statistically significant but the relationship is also noisy. There are a number of high inflation episodes for which the actual stock price change is close to zero. Explanations for these outliers are considered in Section IV.C.1.

II.B.2. Is the Sign of the Response Uniform Across All Ranges of Ex-Ante Inflation?

Figure 1 shows that, on average, the expected net benefits of stabilizing appear to be roughly zero near the origin, but are clearly positive at high levels of inflation. Table 1 investigates this feature of the data for three different groupings of the 81 stabilization episodes based on levels of average inflation prior to implementation. The first grouping corresponds to the Bruno and Easterly (1998) classification of high versus moderate inflation; the second simply divides the total sample into two groups of equal size: high inflation (40 cases) and moderate inflation (41 cases). The third comparison splits the sample into three groups of equal size: high inflation (27 cases), moderate inflation (27 cases), and low inflation (27 cases). The alternative classification schemes are useful for checking whether the results are sensitive to the Bruno and Easterly inflation classification. In particular, the two-way numerical split creates a superset of the Bruno and Easterly high inflation episodes that is not dominated by Argentina and Brazil. Seventeen of the 25 Bruno and Easterly high inflation episodes are in Argentina and Brazil.

The first three rows of Table 1 report summary statistics for the number of country episodes, the median inflation rate and the median stock price response for the

high and moderate categories under each inflation classification scheme. The fourth row identifies the number of country episodes for which the stock-price change over the two-month-announcement window is less than the country-specific median two-month stock price change.

The last row of Table 1 reports the two-sided p-value of observing at most the corresponding number of stock-price responses to stabilization below their country-specific median two-month percentage stock-price change. The sign tests are significant at the one percent level for the high-inflation episodes under all three inflation classification schemes. The sign tests are never significant for the moderate-inflation episodes. These sign tests should be treated with caution, because they are based on raw returns. However, the consistency of the findings suggests that more careful measurements of the stock market response to stabilizing high versus moderate inflation may not be overly sensitive to any particular classification scheme. For brevity and comparability to previous work, the next section of the paper estimates the stock market response to stabilization conditional on inflation being high or moderate in the Easterly (1996) and Bruno and Easterly (1998) sense.

III. Methodology and Results

The average stock market response to the announcement of an inflation stabilization program is estimated using a simple dummy variable regression framework as in Stulz, Kho, and Lee (2000). Under the assumption that markets are efficient, a country's stock market index will adjust to information about changes in expected future profits or discount rates. Measuring the response of share prices to inflation stabilization events enables us to infer whether the expected net benefits of stabilizing inflation are

positive or negative.

Following Stulz et al (2000) and Stulz and Kho (2000), the world capital asset pricing model (CAPM) is used to measure the expected return on each country's stock market index. The abnormal return associated with a stabilization event is the residual from this model. This implies a stochastic return generating process for country i of the following form that is possibly affected by inflation stabilization events:

$$R_{it} = \alpha + \beta_t R_t^W + \gamma_1 HIGH_{it} + \gamma_2 MOD_{it} + \varepsilon_{it} \quad (3).$$

R_{it} is the real return in dollars on country i 's stock market index in month t . R_t^W is the real return in dollars on the Morgan Stanley Capital Market Index (MSCI) world stock market index in month t . $HIGH_{it}$ is a dummy variable that is equal to one in high-inflation-stabilization months [0, +1] in country i . MOD_{it} is a dummy variable that is equal to one in moderate-inflation-stabilization months [0, +1] in country i . The constant intercept term, α , implicitly assumes perfect capital market integration.² Alternative specifications that allow for country-specific intercepts are also examined and yield similar results.

The usual assumption that ε_{it} is a serially uncorrelated, random error term requires further discussion. Equation (3) is estimated using Feasible Generalized Least Squares (FGLS). An assumption of no serial correlation in stock returns could be justified on the grounds of rational expectations, but the estimation procedure will allow for the possibility of serial correlation. The estimation procedure also allows for heteroscedasticity across countries. However, with an unbalanced panel it is not possible

² For conceptual discussions of the world CAPM see Frankel (1994); Stulz (1999a); Tesar (1999); Tesar and Werner (1995); Tesar and Werner (1998).

to relax the assumption of no contemporaneous correlation of the error term across countries. Therefore, a number of indirect precautions are taken.

First, short estimation windows are used in all of the central results; the assumption that country abnormal returns are not contemporaneously correlated is reasonable if event windows do not overlap in calendar time and overlaps occur less frequently with short windows. The *HIGH* and *MODERATE* stabilization dummies are on for two-month windows, $[0, +1]$. Estimates using one-month windows, $[0]$, are also provided. Second, the extent to which contemporaneous correlation is likely to be a problem with short windows was investigated. With two-month and one-month estimation windows, 29 of the 162 and 11 of the 81 event periods overlap, respectively. These numbers suggest that a small fraction of the abnormal returns from (3) will potentially be affected by contemporaneous correlation. Third, two of the alternative regression specifications to equation (3) will estimate abnormal returns relative to the IFC's emerging stock market index. Since all of the sample countries are emerging markets, the inclusion of a composite emerging market index as a right-hand-side variable will partially control for contemporaneously correlated disturbance terms in the spirit of Ozler (1989).³ Including the emerging market index does not change the results.

Equation (3) constrains the coefficient on *HIGH* to be the same across all months. Thus, the parameter γ_1 measures the average monthly stock market response to all attempted stabilizations of high inflation. Similarly, γ_2 measures the average monthly response to all attempted stabilizations of moderate inflation. Since the dummy variable

³ Ozler estimates a pooled cross-section time series dummy variable model to estimate the average effect of international debt restructuring on U.S. bank stock returns. Bank abnormal returns are estimated relative to returns on the U.S. stock market. She controls for contemporaneous correlation across banks by also including the return on a portfolio of banking industry securities on the right-hand side.

for the event window is two-months long, the total stock market response to each type of stabilization attempt is given by two times the parameter estimate. A different estimation technique would be to use a seemingly unrelated regression (SUR). This approach would have the advantage of providing a unique coefficient estimate for each country for each event. However, there are also several disadvantages to this approach. First, the low power of hypothesis tests in unconstrained systems severely weakens the ability of the event study methodology to detect the impact of the event. Second, SUR requires a balanced panel. Due to the limited time series availability of stock market data, creating a balanced panel would result in discarding almost half of the 81 stabilization events. Given data limitations, the pooled cross-section time series framework seems appropriate.

III.A. Stock Market Reactions to Attempted Stabilizations of High Versus Moderate Inflation

In order to isolate the effects of stabilization, Panel A of Table 2 presents estimates of *HIGH* and *MODERATE*. The first row presents estimates from the benchmark specification given by equation (3). Heteroscedastic-consistent standard errors are reported in parentheses. The estimated coefficient on *HIGH* is 0.121 and is significant at the one-percent level. This means that the stock market increases by an average of 12.1 percent per month in real dollar terms when governments announce their intention to stabilize high inflation. Therefore, the total stock market increase associated with the *HIGH* implementation window is 24.2 percent in real dollar terms. The estimated coefficient on *MODERATE* is 0.001 and is not statistically significant. Therefore, the stock market response to stabilizing moderate inflation is not significantly different from 0. The column labeled “P-Value of *HIGH* > *MODERATE*” shows that the

p-value for a test that the coefficient on *HIGH* equals the coefficient on *MODERATE* is 0.01. Therefore, the coefficient on *HIGH* is significantly larger than the coefficient on *MODERATE*.

Table 2 also presents estimates of *HIGH* and *MODERATE* using alternative specifications. Row 2 presents estimates that use real US stock returns, R_t^{US} , in place of R_t^W in equation (3). Row 3 presents estimates that use the real dollar return on the IFC Emerging Market index, R_t^{LDC} , in place of R_t^W . Row 4 presents estimates that use all three sets of returns simultaneously. As an alternative to the market model in equation (3), Row 5 presents estimates based on simple mean-adjusted abnormal returns:

$$R_{it} = \alpha + \gamma_1 HIGH_{it} + \gamma_2 MODERATE_{it} + \varepsilon_{it} \quad (4).$$

As a final specification, Row 6 presents estimates using a statistical model in which mean-returns may differ across countries by allowing for country-specific intercept terms:

$$R_{it} = \alpha_i + \gamma_1 HIGH_{it} + \gamma_2 MODERATE_{it} + \varepsilon_{it} \quad (5).$$

Letting the intercept terms vary across countries allows for the possibility that average expected returns may differ across countries due to imperfect capital integration.⁴

The central result is the same under all six specifications. The stock market responds positively and significantly to the announcement of programs directed at stabilizing high inflation, with the average effect ranging from 11.3 to 12.2 percent per month. Thus, the total effect is between 22.6 and 24.4 percent. The response to announcements directed at stabilizing moderate inflation is small and never significant.

⁴ For surveys of the literature on imperfect capital market integration see Stulz (1999a, b); Tesar (1999); Tesar and Werner (1998). For empirical evidence on the real effects of increased capital market integration see Collins (1999); Henry (2000a, b).

The estimate of *HIGH* is always significantly larger than the estimate of *MODERATE*. Panel B of Table 2 also presents estimates based on month [0] only. These estimates closely match the month [0, +1] estimates. In some cases, the month [0] estimate is smaller than the month [0, +1] estimate, which suggests that not all of price change is captured in month [0].

As a final robustness check, the analysis explores whether the results are sensitive to whether real returns are measured in dollars or local currency units. The potential problem is that in high-inflation countries, the rate of depreciation of the nominal exchange rate may not keep pace with inflation. If inflation exceeds the rate of nominal depreciation, then the currency is appreciating in real terms, which means that the real dollar value of the stock market may become artificially inflated. In order to see whether the results in Table 2 are driven by real appreciation of the local currency *vis-à-vis* the dollar, all of the regressions were re-estimated using real local currency returns instead of real dollar returns as the left-hand-side variable.⁵ The results were virtually identical to the estimates that use dollar-denominated returns.

III.B. Are the Differences Between High and Moderate Inflation Driven by Market Anticipation?

The estimates in Table 2 may understate the stock market response if the market anticipates the announcement of stabilization programs. In particular, suppose that news of future announcements are leaked to the public. Countries with high inflation also have a long history of failures. Thus, the market may be less prone to believe announcements

⁵ As another robustness check, the dividend yield, D/P , was also used as a left-hand-side variable. The dividend yield is a real variable that has no currency units, since the exchange rate appears in both the numerator and the denominator. In the Gordon Model, $D/P=r-g$, where r is the discount rate on equity and g is the expected growth rate of dividends. The results using dividend yields as a LHS variable are consistent with those based on real returns measured in both dollars and local currency.

by these governments. If this is the case, the stock market may increase in anticipation of stabilizing moderate inflation. Under this scenario we would incorrectly infer that there are significant differences in the market response to announcements of stabilization programs directed at stabilizing high and moderate inflation.

To explore this possibility, equation (3) is used to estimate abnormal returns and cumulative abnormal returns for the 12 months prior and the 12 months following announcements of stabilization programs directed at high and moderate inflation. Two important caveats are in order here. First, in the span of a 24-month window there is a lot that could be going on and the estimates do not control for this. Second, with long estimation windows, the problem of overlapping event windows is likely to be more severe and the standard errors are therefore more subject to problems stemming from cross-country correlation in the error term. Keeping these limitations in mind, the numbers may be useful in providing a crude sense of whether the market anticipates stabilizations.

Table 3 presents the results. There is no substantial run-up in prices preceding high-inflation announcements. The cumulative abnormal return from month -12 to -1 is close to 0. In the case of moderate inflation, the market experiences a cumulative fall of about 16 percent. This fall in prices is consistent with the view that stabilization of moderate inflation is a negative net present value event for shareholders and the market anticipates these events. This fact reinforces the differences between HIGH and MODERATE evident in Table 2

III. C. Are the Results Driven by Differences in the Policies Used in High and Moderate Inflation?

The evidence in Sections III.A. and III.B. suggest two key results. The stock market responds positively and significantly when a country announces its intention to stabilize high inflation. There is no significant market response if the pre-stabilization inflation rate is moderate. It is important to know whether these results are driven by variation in the types of stabilization policies used in high versus moderate inflation. The uniformity of IMF programs suggests that there are not major differences between the packages of stabilization policies pursued in IMF-sponsored attempts at stabilizing high and moderate inflation. However, 12 of the 81 stabilization episodes studied in this paper did not involve an official agreement with the IMF. All 12 of these programs were directed at stabilizing high inflation. In 8 of these 12 episodes, the countries involved attempted to stabilize inflation by fixing the nominal exchange rate. In contrast, none of the IMF episodes involved exchange-rate-based stabilizations (ERBS). Therefore, it is important to investigate whether the differential stock market responses are driven by differences between IMF and non-IMF stabilization policies.

Three robustness checks suggest that this is not the case. First, the average stock market reaction to ERBS is statistically indistinguishable from those for non-ERBS. Second, the difference between the average stock market response to attempted stabilizations of high and moderate inflation remains economically and statistically significant when the non-IMF-sponsored programs are excluded from the high inflation sample. Third, there is no significant difference between the average stock market reaction to the attempted stabilization of high inflation in the IMF and non-IMF subsamples. Subsections III.C.1 and III.C.2 provide the details about these robustness checks.

III.C.1. Are the High Inflation Results Exclusively an Exchange-Rate-Based Stabilization Phenomenon?

There is an extensive literature on inflation stabilization in developing countries, which demonstrates that countries that have stabilized inflation by fixing the nominal exchange rate have experienced output booms (Calvo and Végh, 1998; Fischer et al., 1999; Végh, 1992). All of these exchange-rate-based stabilization (ERBS) episodes were implemented in high-inflation regimes. Therefore, this subsection investigates whether the positive and significant stock market response to high-inflation announcements reported in Table 2 is unique to ERBS, or is a more general outcome associated with stabilizing high inflation.

In order to address this issue, the 25 attempts at stabilizing high inflation are split into two groups: those that were exchange-rate-based and those that were not. A total of 8 of these 25 episodes are identified as exchange-rate-based stabilizations by Calvo and Végh (1998) and Fischer et al. (1999). After separating these two kinds of stabilizations the following panel regression is estimated:

$$R_{it} = \alpha + \beta_i R_t^W + \gamma_1 NONERBS_{it} + \gamma_2 ERBS_{it} + \varepsilon_{it} \quad (6).$$

NONERBS is a dummy variable that equals 1 in months [0, +1] of all non-exchange-rate-based attempts at stabilizing high inflation. *ERBS* is a dummy variable that equals 1 in months [0, +1] of all exchange-rate-based attempts at stabilizing high inflation.

Panel A of Table 4 shows that the estimated coefficients on *ERBS* range from 10.5 to 15.2 percent per month, and all are significant at the one percent level. These estimates are consistent with the finding that exchange-rate-based-stabilizations are associated with output booms (Calvo and Végh, 1998; Fischer et al., 1999; Végh, 1992;).

The point estimates of the coefficient on *NONERBS* range from 10.2 to 12.1 percent per month and are also significant at the one-percent level. The column labeled “P-Value of *ERBS*>*NONERBS*” shows that the p-value for an F-test that the coefficient on *ERBS* is significantly different from the coefficient on *NONERBS* is not significant for any specification in Table 4. Therefore, the point estimates of *ERBS* are statistically indistinguishable from those for *NONERBS*.

The evidence in Table 4, taken together with the evidence in Table 2, suggests that the stock market responds more favorably to the announcement of stabilization programs directed at high inflation than to those directed at moderate inflation, regardless of whether the stabilization program is exchange-rate-based or not. Thus, the stock market evidence also supports Easterly’s (1996) finding that output booms are not limited to exchange-rate-based stabilizations of high inflation. However, this point should not be overstated, because the results are based on relatively few observations (25 total, 8 *ERBS*).

III.C.2. Are the High Inflation Results Driven by Difference in IMF and Non-IMF Sponsored Stabilization Programs?

Two additional sets of empirical tests suggest that the differential stock market responses are not driven by differences between IMF and non-IMF stabilization policies.⁶ First, the stock market response to high and moderate inflation announcements were re-estimated excluding the non-IMF-sponsored programs from the high inflation sample. Specifically, a new dummy variable called *IMFHIGH* was created. This variable takes on the value one just in those cases where attempts to stabilize high inflation were

⁶ For brevity, the results are simply reported and the accompanying tables are not included. These tables are available upon request.

announced through an official IMF agreement. The coefficient on IMFHIGH was positive, significant, and significantly different than the coefficient on MODERATE. Thus, the difference between the average stock market response to high and moderate inflation announcements remains economically and statistically significant when the non-IMF-sponsored programs are excluded from the high inflation sample.

Second, estimations were performed to compare the mean response of the stock market to IMF and non-IMF sponsored attempts at stabilizing high inflation. The coefficients on IMFHIGH and NONIMFHIGH were both positive and significant. However, the hypothesis that $IMFHIGH=NONIMFHIGH$ could not be rejected. Thus, the evidence suggests that there is no significant difference between the average stock market reaction high inflation announcements in the IMF and non-IMF sub-samples. Overall, the evidence in this subsection and in III.C.1 suggest that the central empirical result is not driven by differences in the way countries attempt to stabilize high versus moderate inflation.

IV. Does the Stock Market Get it Right?

This section of the paper asks whether the stock market rationally forecasts stabilization outcomes. The analysis employs three approaches. The first approach examines if controlling for previous failed stabilizations strengthens the positive relationship between the stock market response and the ex-ante inflation rate. The second approach asks whether the stock market response helps predict the ex-post change in inflation. The third approach explores whether the unexpected change in the stock

market helps predicts ex-post GDP growth.⁷

IV.A. Stock Market Responses and Ex-Ante Inflation Rates Revisited

If the stock market is rational, then it may place a lower probability of success on stabilization programs that follow on the heels of failed attempts. A lower probability of success will decrease the stock market response to news of stabilization. Therefore, a low probability of success may explain why the stock price change is close to zero for a number of high-inflation episodes in Figure 1. This discussion suggests that the relationship between the stock market response and ex-ante inflation after controlling for past failures should be stronger than the unconditional relationship documented in Section III.B. Two approaches are taken.

First, equation (2) is re-estimated. This time the inflation rate is interacted with a variable called *PREVFAIL*. *PREVFAIL* is equal to one if there was a failed stabilization in the previous 24 months (robust t-statistics in parentheses $R^2 = 0.22$, $N=81$):

$$\Delta \ln(\text{stockprice}_{[0,+1]}) = 2.21 + 0.203 * \text{inflation} - 0.158(\text{inflation} * \text{prevfail}) \quad (8)$$

(0.9) (3.6) (-2.6)

The conditional relationship between the stock market change and the average pre-stabilization inflation rate is stronger than the unconditional one. Relative to equation (2) the coefficient on *INFLATION* is higher, the robust t-statistic is larger, and the R-squared is bigger. The interactive term, *INFLATION*PREVFAIL* also has the expected negative sign and is significant.

As a second pass at the data, Figure 2 plots the implementation window stock

⁷ The approaches taken here are similar in spirit to Dominguez, Fair, and Shapiro (1988) and Shapiro (1988). Dominguez et al. examine whether stock price data help forecast the great depression. Shapiro uses stock prices and dividend yields to study the success of economic policy in smoothing the volatility of real activity in the U.S. after World War II.

price change versus the average 12-month inflation rate for only those episodes that were not preceded by a failed stabilization in the previous 24 months. There are 41 such episodes. Figure 2 and equation (9) below exhibit a tighter positive linear relationship between the stock price change and inflation than Figure 1 and equation (2), which do not control for past failures. The trend line in Figure 2 is given by the following equation (robust t-statistics in parentheses $R^2=0.48$, $N=41$):

$$\Delta \ln(\text{stockprice}_{[0,+1]}) = -2.51 + 0.237 * \text{inflation} \quad (9)$$

(-0.9) (4.7)

The outlier in the upper right hand corner of Figure 2 is Peru. In 1989 and 1990 the average inflation rate in Peru was 344 percent and real GDP fell by 12.3 and 5.5 percent, respectively. In August of 1990 Alberto Fujimori was inaugurated as the new prime minister and implemented a sweeping stabilization program, which came to be known as “Fujishock.” The stock market increased by 100 percent in real dollar terms between August and September. In 1991 inflation fell to 44 percent and real GDP grew by 6.7 percent. The positive linear relationship in Figure 2 remains significant if Peru is removed.

IV.B. Do the Stock Market Responses Predict Ex-Post Changes in Inflation?

To the extent that the stock market response predicts the expected net benefit that will accrue to shareholders as a result of stabilizing inflation, it should also have some predictive power for the ex-post change in inflation. Specifically, the ex-ante stock price response should be negatively associated with the ex-post change in inflation. Figure 3 examines whether the data support this prediction. The variable on the y-axis is the change in inflation: The average 12-month inflation rate in the year after announcement

of the stabilization minus the 12-month inflation rate in the two years prior to announcement. The variable on the x-axis is the unexpected stock price change (as measured by the cumulative abnormal return for months [0,+1]). The trend line in Figure 3 is given by the following equation (robust t-statistics in parentheses $R^2=0.05$, $N=81$):

$$\Delta inflation = -6.60 - 0.546 * \Delta \ln(stockprice_{[0,+1]}) \quad (10)$$

(-1.2) (-2.2)

The stock price responses to stabilization announcements seems to have some unconditional predictive power for what will happen to inflation in the following year.

IV.C. Do the Stock Market Responses Predict Future GDP Growth?

To the extent that the stock market responses to stabilization announcements capitalize the expected net output benefits, there should be a positive relationship between the ex-ante stock price changes and GDP growth outcomes following the announcement. The unexpected stock market change should reflect the “news” about future GDP growth. If the sample mean is taken as a measure of the expected future growth rate, then the deviation of GDP growth from its country-specific sample mean is a metric of the news in GDP growth.

Figure 4 compares the average deviation of real GDP growth in years [0, +3] with the average deviation over the pre-announcement period (years [-3, -1]), for all episodes of attempted stabilizations of high inflation. Region B, the area above the average pre-stabilization deviation, is substantially larger than Region A, the area below. Figure 5 compares the average deviation in stabilization years [0, +3] with the average deviation

over the pre-stabilization period, for all episodes of attempted stabilizations of moderate inflation. In this figure, Region B is not substantially larger than Region A. Overall, the comparisons appear at least roughly consistent with the discounted evidence provided by the stock market (Table 2).

Figure 6 plots the GDP-news measure versus the unexpected stock price change. The graph suggests that the stock market has predictive power. The corresponding regression confirms the statistical significance of the apparent relationship (robust t-statistics in parentheses $R^2=0.09$, $N=81$):

$$GDPDEVIATION = -0.42 + 0.0476 * \Delta \ln(stockprice) \quad (11)$$

(-1.0) (2.9).

Equation (11) indicates that, on average, an unexpected stock price increase of 100 predicts GDP growth in the following year that is 4.76 percentage points above its sample mean. This equation should not be given a causal interpretation. It does not say that the unexpected stock market change causes growth.

V. Discussion

Traditional wisdom holds that efforts to reduce inflation will cause a fall in output in accordance with the Phillips Curve (Friedman, 1968; Gordon, 1982; Lucas, 1973; Okun, 1978; Phelps 1968; Tobin, 1972). In contrast, advocates of rational expectations argue that stabilization need not be costly if policy makers credibly commit to reducing inflation. Under rational expectations, the initial level of inflation should be largely irrelevant. Sargent (1982) provides supporting evidence for the rational expectations view. He presents case studies of four countries that abruptly halted post-World War I hyperinflations at virtually no cost to output.

More recent work finds that countries may even experience output booms while stabilizing high inflation (Végh, 1992). Calvo and Végh (1998) document seven episodes of expansionary stabilization of high inflation. Fischer et al., (1999) document nine episodes. Easterly (1996) provides broader evidence against the traditional view of disinflation. He studies twenty-eight episodes of high inflation that were successfully stabilized and shows that output expanded on average. In contrast to the recent evidence that reducing high inflation is expansionary, Dornbusch and Fischer (1993) conclude that moderate inflation can be reduced to low inflation only at a substantial short-term cost to output. This conclusion is based on their case study of four countries that successfully reduced moderate inflation to low inflation.

Taken together, the recent evidence seems to suggest that disinflation is expansionary when starting from high levels of inflation, but contractionary when inflation is moderate. However, these studies focus exclusively on episodes where inflation was successfully reduced. Calvo and Végh (1998) argue that selection bias clouds the interpretation of studies that focus exclusively on episodes where inflation was successfully reduced, instead of all attempts at stabilizing inflation. To illustrate the theoretical content of Calvo and Végh's argument, imagine that a country experiencing high inflation implements a stabilization program. Now suppose that this country experiences a favorable output shock. The shock creates two measurement problems. First, it causes an output boom, which generates a specious positive correlation between stabilization and output growth. Second, the boom generates a windfall in tax revenue, which reduces the government's need for inflationary finance and therefore raises the probability of a successful stabilization.

Figure 7 illustrates the empirical thrust of Calvo and Végh's (1998) selection bias critique. The figure plots the average deviation of annual output growth from its sample mean for two subsets of the high inflation episodes to be studied in this paper: those that were successfully stabilized and those that were not. The graph for the successful cases suggests that stabilizing high inflation is expansionary, but it is also consistent with the view that stabilizations succeed because they coincide with favorable exogenous shocks. Indeed, the figure shows that unsuccessful stabilizations are associated with below average growth.

However, the graph for the unsuccessful stabilizations is also consistent with multiple interpretations. Countries may experience recessions because (1) stabilization policy is contractionary; (2) growth may not improve because the government is not committed to stabilizing inflation; (3) attempts at stabilizing high inflation may fail because of adverse exogenous shocks. Thus, the general message of Figure 7 is that selective examination of *ex-post* realizations of GDP growth may not accurately measure the real effects of stabilization policy. In a world where people are rational and forward-looking, one ideally wants an *ex-ante* measure of the effect the stabilization program is expected to have on current and future real output.

This paper introduces the stock market as just such an *ex-ante* measure. The stock market collapses the entire expected future stream of stabilization costs and benefits into a single summary statistic: the expected net present value of the program to shareholders. Again, measuring the expected effect of stabilization on the present value of profits is not equivalent to measuring its expected effect on the present value of output. Nevertheless, the stock market approach focuses attention on the relevant issue of

whether the benefits of disinflation outweigh the costs and provides new evidence on old debates.

For example, under the traditional view of stabilization, the total social cost of disinflation increases monotonically with the initial level of inflation. The 24 percent jump in real equity prices in anticipation of reducing high inflation seems at odds with this prediction. On the other hand, the negligible (and possibly negative) stock price response in anticipation of stabilizing moderate inflation appears more consistent with the traditional view than with rational expectations.

VI. Alternative Interpretations and Extensions

The interpretation that the high inflation results are more consistent with rational expectations is not airtight. The short-run costs of stabilizing high inflation may simply be swamped by the long-run benefits, in which case the high inflation results could be consistent with the traditional view. Similarly, it may be possible that stabilizing moderate inflation is costless in the short run, but also generates minimal long-run growth benefits (Burton and Fischer, 1998; Bruno and Easterly, 1998). Hence, the moderate inflation results could also be consistent with rational expectations.⁸ The stock market data cannot resolve all of these issues but they provide comprehensive, *ex-ante* evidence that efforts at stabilizing high inflation have very different real implications than those directed at moderate inflation. Future research may uncover the underlying mechanisms responsible for these differences.

⁸ The moderate inflation results for months $[0,+1]$ could also be consistent with disinflation being neutral. However, the pre-stabilization window evidence in Table 3 suggests that this is not the case.

First, it would be helpful to have a sense as to how much of the observed stock market responses are due to changes in discount rates versus profits. One approach might be to look at data on total market dividends and dividend yields. These data would allow for a crude analysis of changes in discount rates and cash flows using the dividend discount model as in Blanchard (1993). Unfortunately, these data are not available for the entire sample period in all countries.

Second, the observed differences in the stock market responses for cases of high versus moderate inflation may be driven by exogenous factors for which the analysis is unable to control. For example, stabilizing high inflation might signal broader future macroeconomic reforms, whereas stabilizing moderate inflation might not (Bruno and Easterly, 1996; Collins, 1990).⁹ In such cases, the stock market may respond more favorably to attempted stabilizations of high inflation, even if there are no substantial differences in the expected real effects of stabilizing high versus moderate inflation per se. Using short event windows reduces the chance of contamination from confounding major events that are unrelated to stabilization. However, even a short window does not entirely eliminate the concern. The evidence relating the stock market response to ex-post inflation and growth outcomes is also subject to a similar critique.

Third, there is the potential for reverse causality. If strong economic performance drives policy-makers to initiate stabilization programs, then the estimated stock market response to attempts at stabilizing high inflation may be upward biased.¹⁰ The pre-

⁹ The differences between high and moderate inflation may also be a function of the way in which inflation interacts with the taxation of financial assets (Feldstein, 1980). A detailed study of the tax systems of the 21 countries in the sample lies outside the scope of this paper.

¹⁰ Collins (1996) makes a similar conceptual point with respect to drawing conclusions about the real effects of moving from a fixed to flexible exchange rate regime.

stabilization-window evidence (Table 3) and the data on GDP growth (Figures 4 and 5) do not suggest reverse causality, but the possibility cannot be dismissed.

Finally, most of the moderate inflation episodes are identified using IMF agreements. Section I of the paper provides evidence in support of the view that IMF programs are tantamount to traditional disinflation programs. If inflation reduction is not a major objective of IMF programs, then the stock market results for the cases of moderate inflation may suggest that IMF programs are of marginal net benefit when inflation stabilization is not the major objective.

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Figure 1. The Stock Market Response to Implementation of a Stabilization Program as a Function of the Pre-Stabilization Level of Inflation

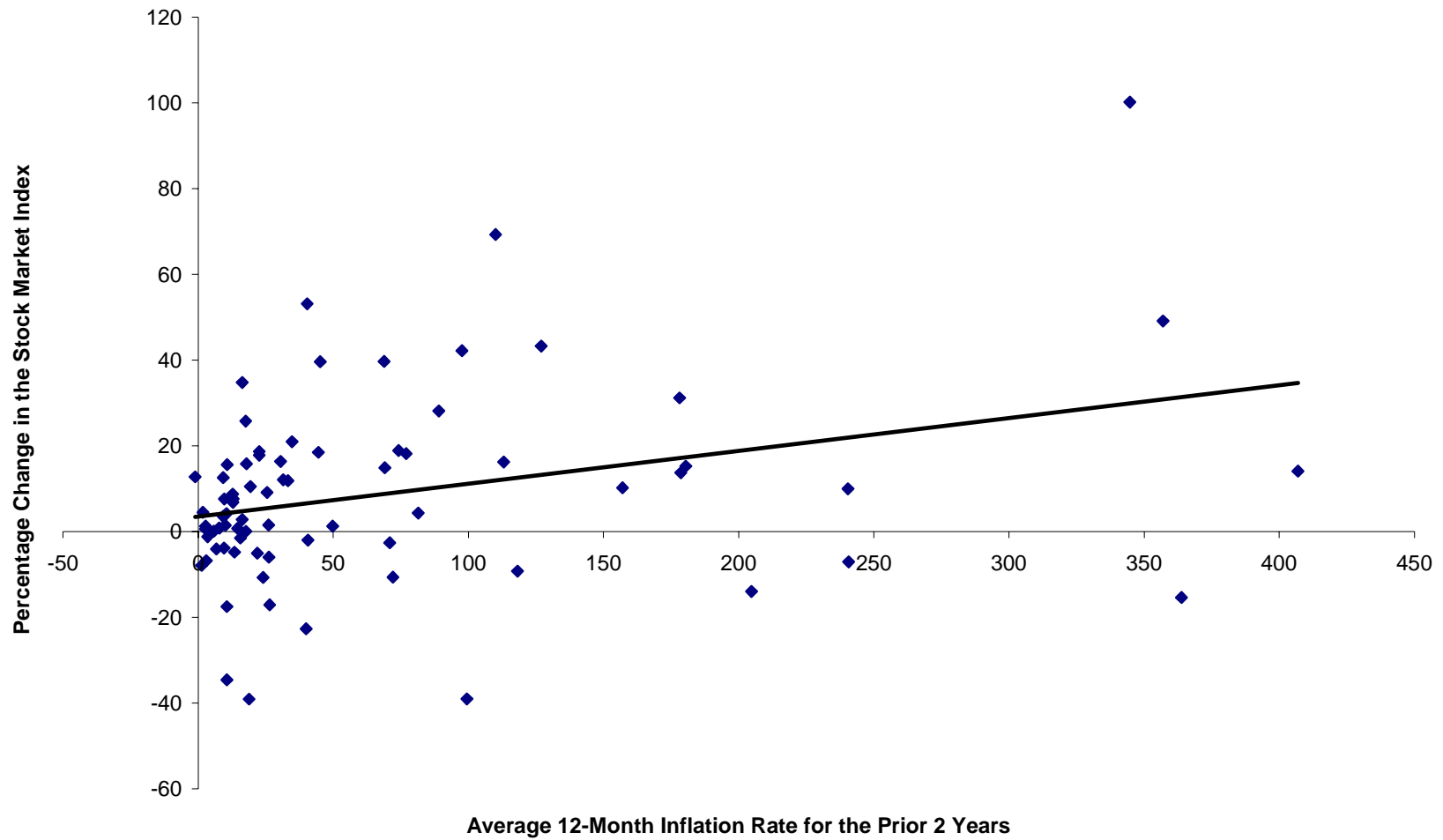


Figure 2. The Stock Market Response to Implementation of a Stabilization Program as a Function of the Pre-Stabilization Level of Inflation: No Failed Stab in Previous 24 months

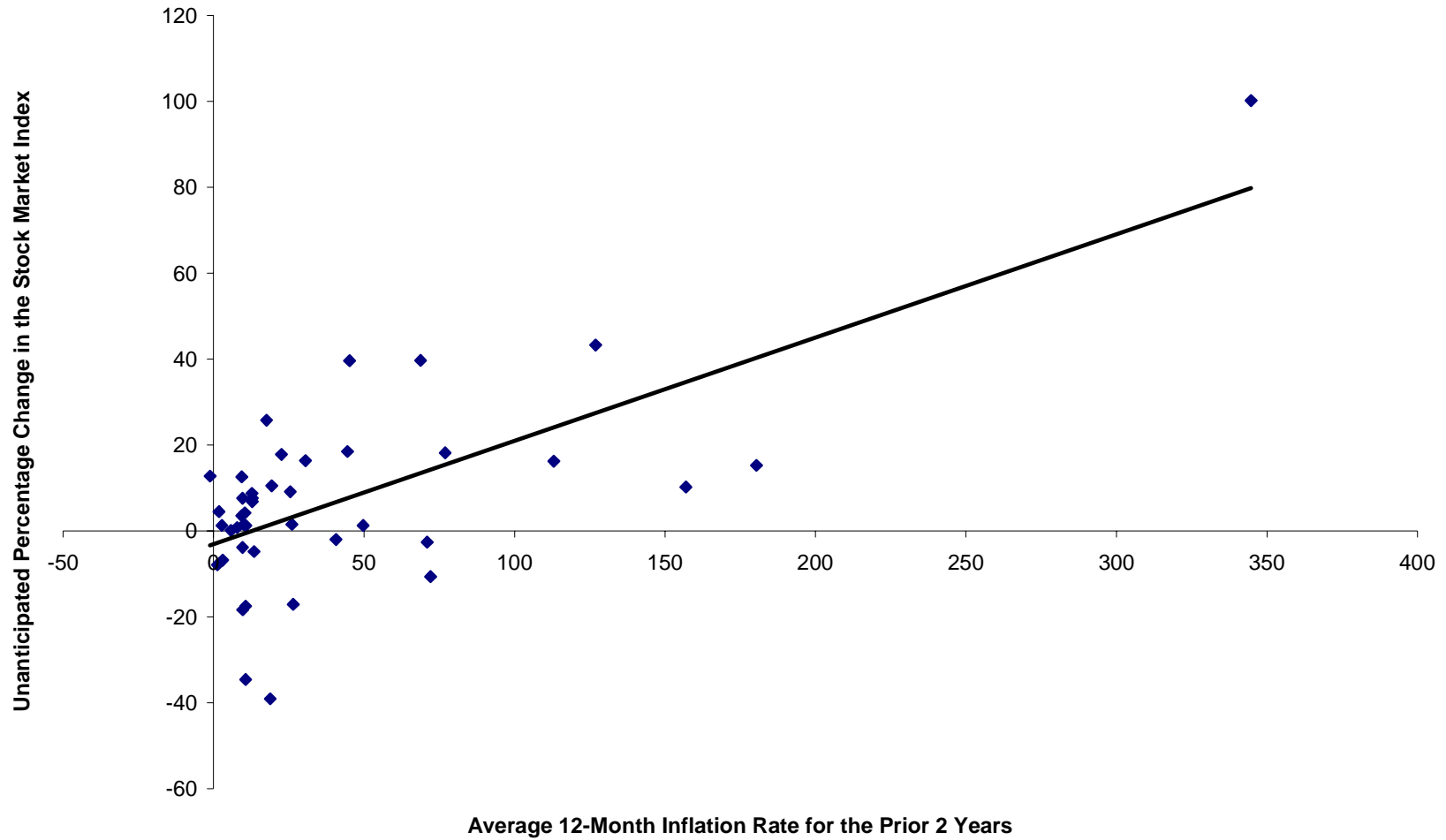


Figure 3. Change In the Inflation Rate in Year +1 as a Function of the Stock Market Response to Implementation of a Stabilization Program

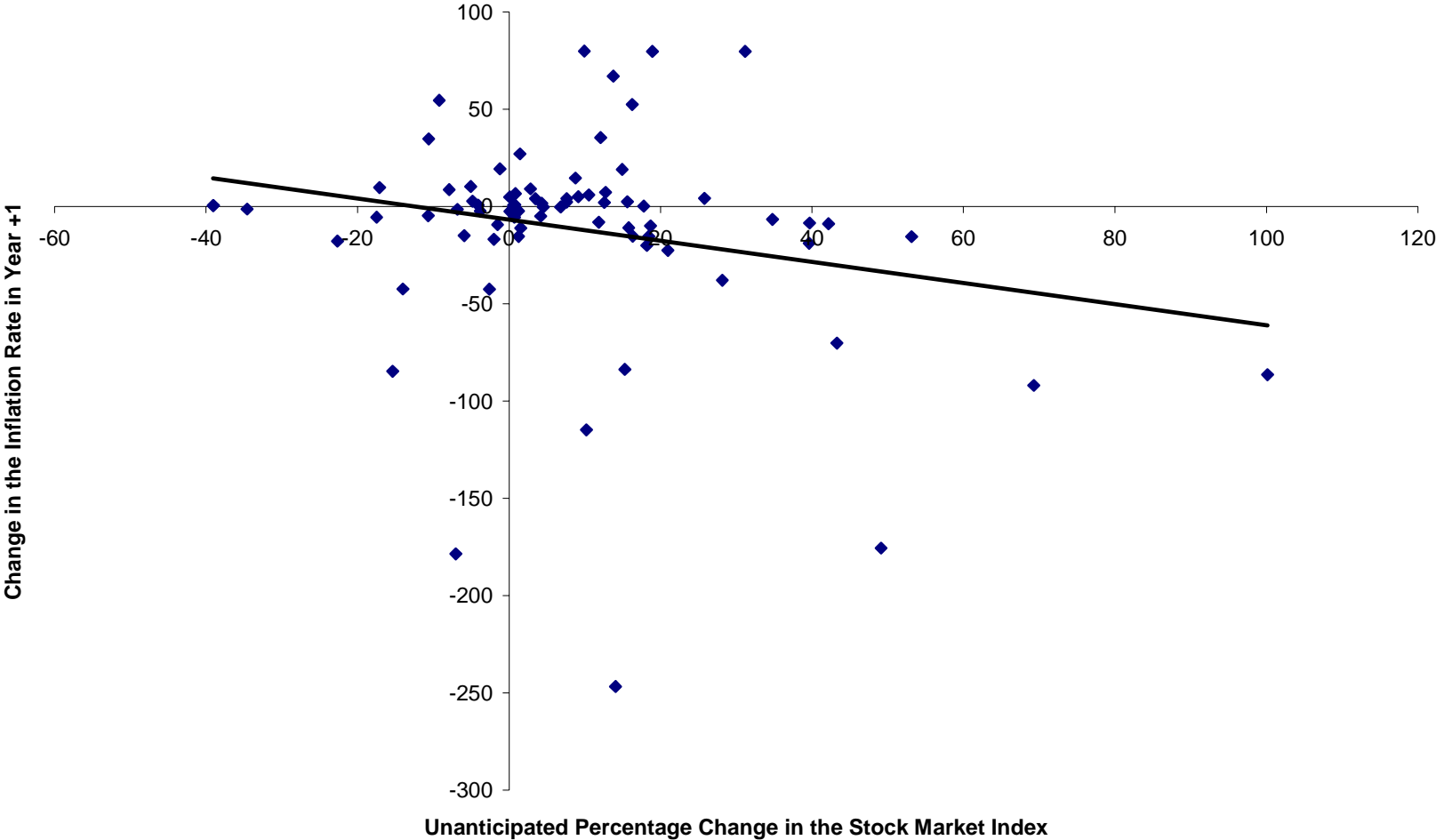


Figure 4. Average Deviation of Real GDP Growth From Country-Specific Sample Mean: All Attempted Stabilizations of High Inflation

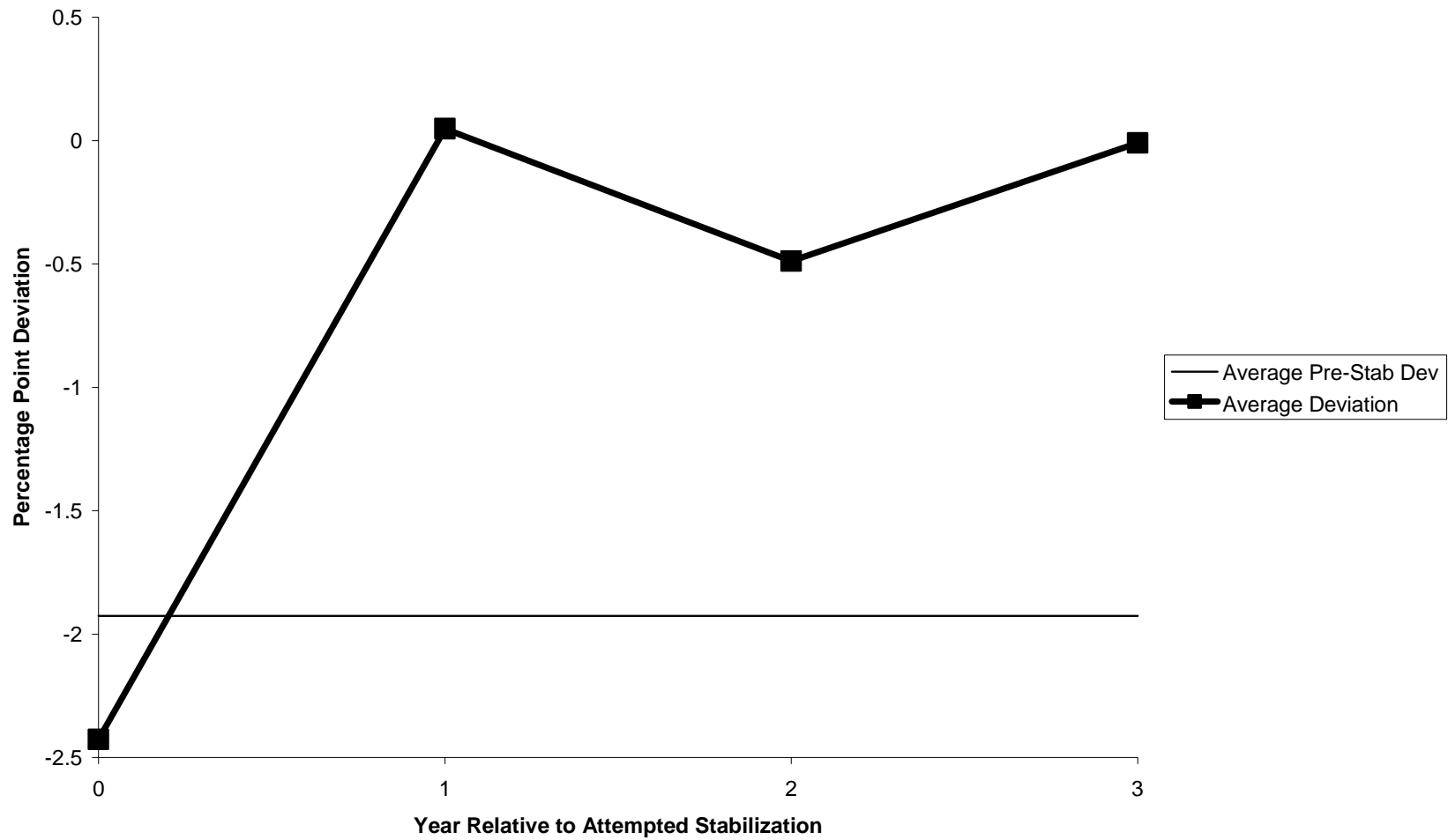


Figure 5. Average Deviation of Real GDP Growth From Country-Specific Sample Mean: All Attempted Stabilizations of Moderate Inflation

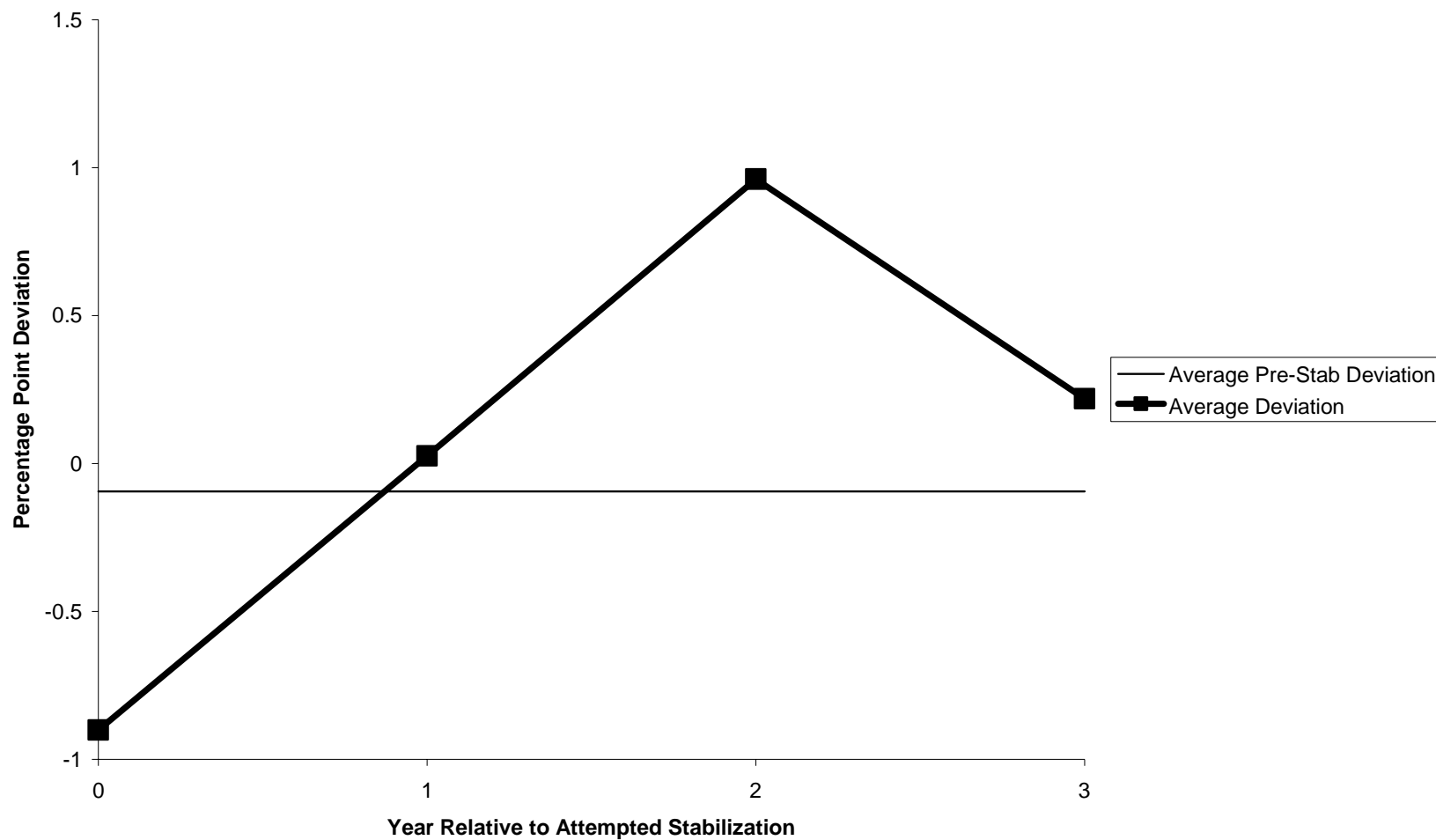


Figure 6. GDP Growth "News" in Year +1 as a Function of the Stock Market Response to Implementation of a Stabilization Program

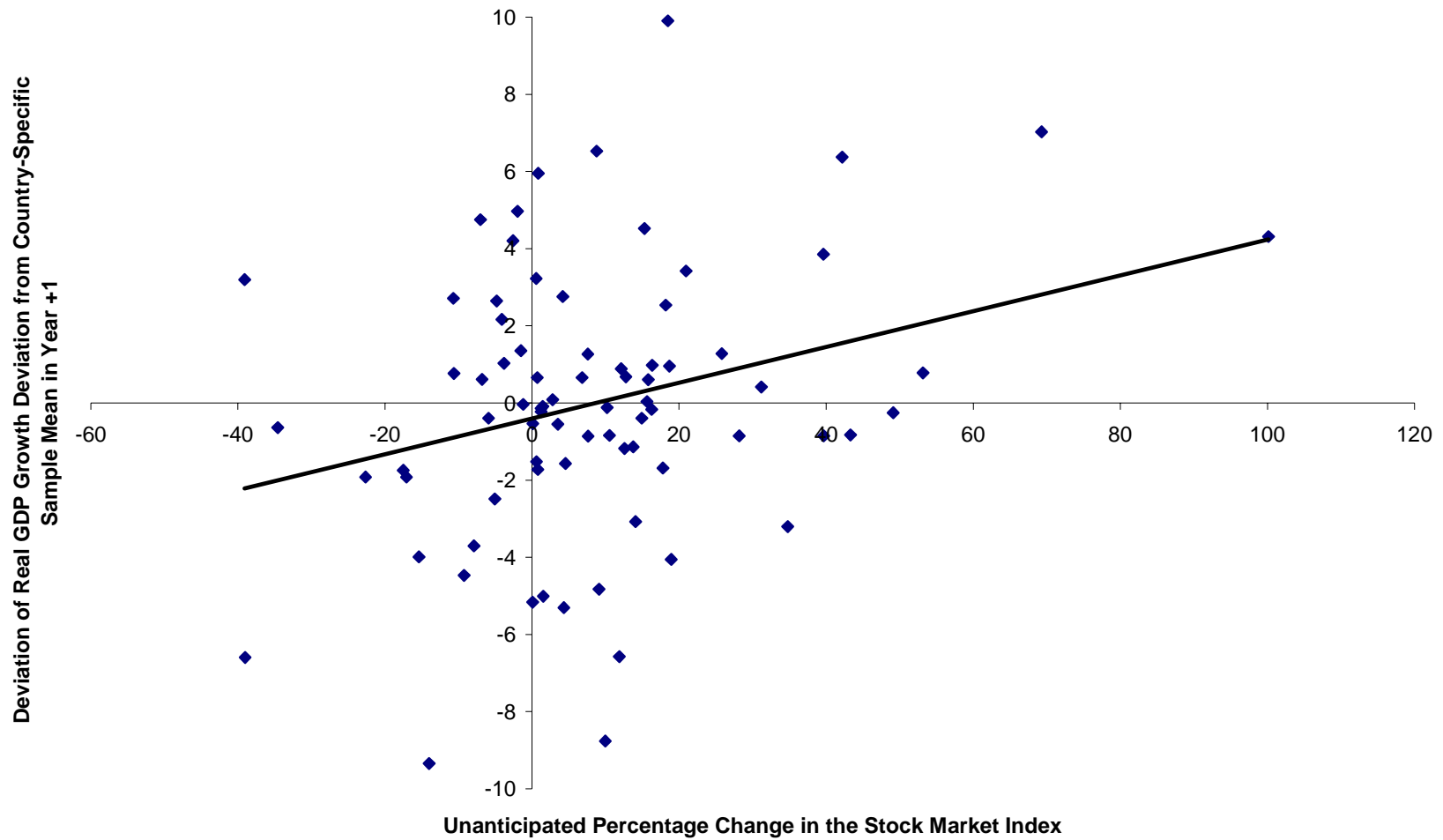


Figure 7. Average Deviation of Real GDP Growth From Country-Specific Sample Mean Around Attempted Stabilizations of High Inflation Episodes

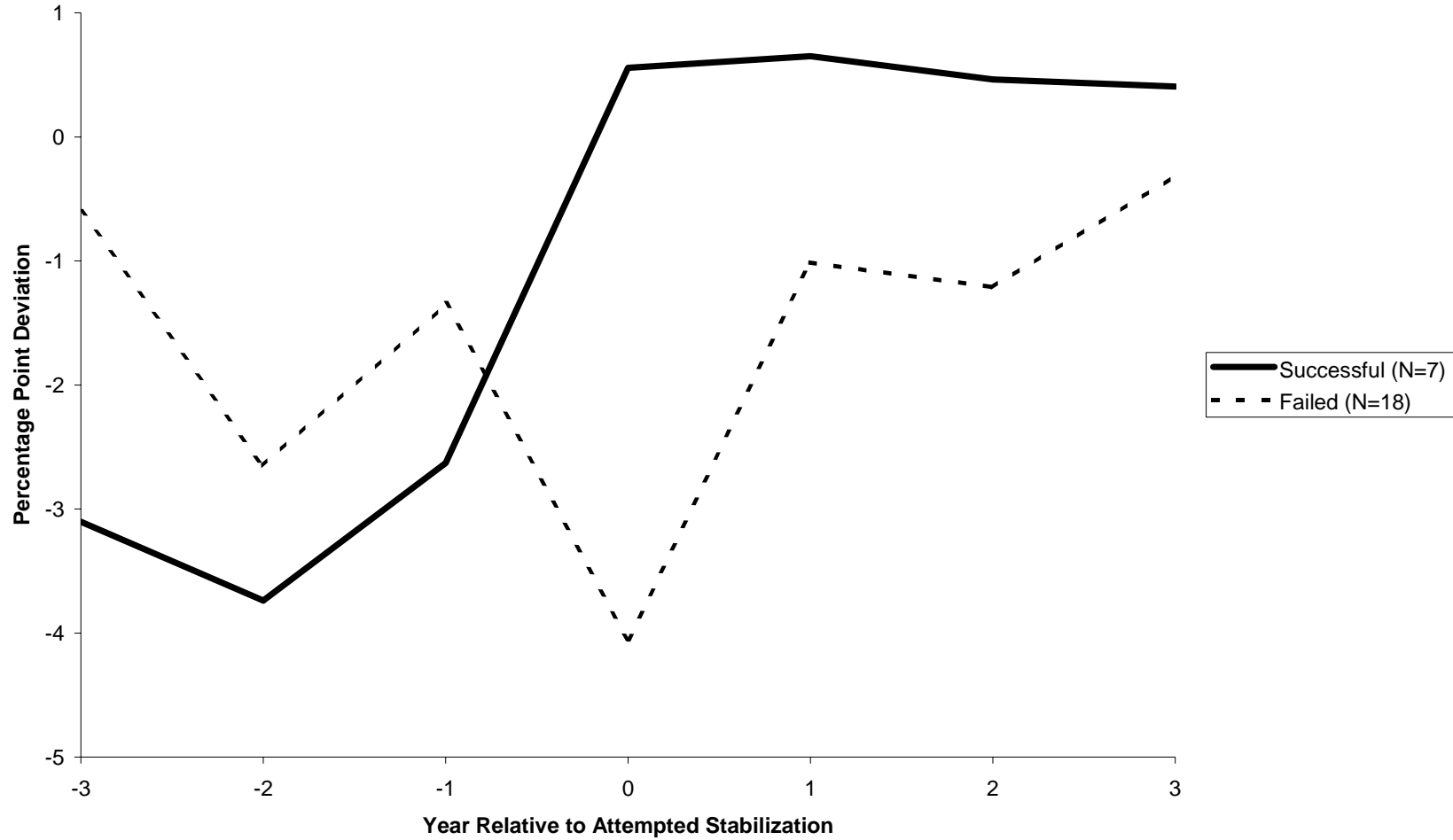


Table 1. Differences Between Median Stock Price Reactions to Attempted Stabilizations of High Versus Moderate Inflation Under Three Different Classifications of High and Moderate Inflation

	<u>Bruno Easterly Classification</u>		<u>Two-Way Numerical Split</u>		<u>Three-Way Numerical Split</u>		
	High	Moderate	High	Moderate	High	Moderate	Low
Number of Episodes	25	56	40	41	27	27	27
Median Inflation	118	15	77	11	116	26	10
Median Stock Price Change	16	1	14	1	15	11	1
Number Negative	6	25	11	20	7	10	14
P-Value	0.01	0.25	0.01	0.5	0.01	0.12	0.65

Notes: Table 1 divides the 81 stabilization episodes into three groups based on levels of average inflation prior to implementation. The first grouping corresponds to the Bruno Easterly (1998) classification of high versus moderate inflation; the second simply divides the total sample into two groups of equal size: high and moderate inflation. The third comparison splits the sample into three groups of equal size: high, moderate, and low inflation. The first three rows provide summary statistics for each grouping: the number of episodes, the median inflation rate and the median stock price response for the high and moderate categories under each inflation classification scheme. The fourth row reports the number of episodes for which the stock price change over the two-month-implementation window is less than the median (country-specific) two-month stock price change. The last row reports the two-sided p-value of observing at most the corresponding number of stock price responses to stabilization below the median (country-specific) two-month percentage change in the stock price.

Table 2. Differences Between Average Stock Market Reactions to Attempted Stabilizations of High Versus Moderate Inflation Under the Bruno Easterly Classification of High and Moderate Inflation

	Panel A: Month [0, +1] Estimates			Panel B: Month [0] Estimates		
	HIGH	MODERATE	P-Value of HIGH>MODERATE	HIGH	MODERATE	P-Value of HIGH>MODERATE
World	0.121*** (0.023)	0.001 (0.01)	0.00	0.126*** (0.032)	-0.004 (0.012)	0.00
U.S.	0.119*** (0.023)	0.001 (0.01)	0.00	0.121*** (0.032)	-0.006 (0.012)	0.00
LDC	0.113*** (0.026)	0.005 (0.012)	0.00	0.081** (0.037)	0.008 (0.02)	0.08
All	0.114*** (0.026)	0.006 (0.012)	0.00	0.080** (0.037)	0.006 (0.02)	0.07
Constant-Mean	0.122*** (0.023)	0.001 (0.01)	0.00	0.124*** (0.032)	-0.003 (0.01)	0.00
Country-Mean	0.122*** (0.001)	0.001 (0.01)	0.00	0.122*** (0.033)	-0.003 (0.01)	0.00

Notes: The left-hand-side variable is real, dollar-denominated stock returns. The estimation procedure is feasible generalized least squares. Heteroscedastic-consistent standard errors are given in parentheses. The column labeled Month [0,+1] presents estimates of HIGH and MODERATE using the two-month announcement window described in the text. The column labeled Month [0] presents estimates of HIGH and MODERATE using the one-month announcement window described in the text. The first row presents estimates of HIGH and MODERATE from the benchmark specification using a World stock return index. Row 2 presents estimates of HIGH and MODERATE from a specification that uses U.S. stock returns in place of a World stock return index in equation (3). Row 3 presents estimates that use the IFC Emerging Market index. Row 4 presents estimates that use all three sets of returns simultaneously. Row 5 presents estimates of HIGH and MODERATE based on simple mean-adjusted abnormal returns. Row 6 presents estimates using a statistical model, which allows for country-specific intercept terms. The column labeled P-Value of HIGH>MODERATE: shows the p-value for a test that the coefficient on HIGH is significantly larger than the coefficient on MODERATE. The symbols ***, **, and * denote statistical significance at the 1 percent, 5 percent, and 10 percent confidence levels, respectively.

Table 3. Does the Stock Market Anticipate Attempted Stabilizations? Abnormal Returns and Cumulative Abnormal Returns Associated With the 12-Month Window Preceding Attempted Stabilizations of High Versus Moderate Inflation Under the Bruno and Easterly Classification of High and Moderate Inflation

Month Relative to Stabilization	Panel A: World-Return Model				Panel B: Constant-Mean-Return Model			
	High Inflation		Moderate Inflation		High Inflation		Moderate Inflation	
	AR	CAR	AR	CAR	AR	CAR	AR	CAR
-12	-.036	-.036	-.008	-.008	-.038	-.038	-.010	-.010
-11	-.033	-.069	-.018	-.026	-.033	-.070	-.016	-.026
-10	-.053	-.122	-.012	-.038	-.050	-.121	-.014	-.040
-9	.007	-.116	-.010	-.048	.002	-.119	-.012	-.052
-8	-.005	-.121	-.007	-.054	-.003	-.122	-.007	-.058
-7	.027	-.094	.011	-.043	.028	-.094	.012	-.047
-6	.042	-.052	-.020	-.063	.043	-.051	-.019	-.065
-5	.035	-.018	-.023	-.086	.037	-.014	-.024	-.090
-4	-.005	-.022	-.030	-.116	-.004	-.018	-.030	-.120
-3	.057	.035	-.026	-.142	.060	.041	-.026	-.146
-2	-.028	.006	-.008	-.150	-.025	.016	-.007	-.153
-1	-.030	-.023	-.014	-.163	-.032	-.016	-.013	-.166
0	.088	.064	-.008	-.172	.085	.069	-.007	-.173
1	.126	.190	.011	-.161	.127	.196	.011	-.162

Notes: The abbreviation AR stands for abnormal return. The abnormal return for month [n] is defined as the coefficient on a dummy variable that takes on the value 1 in nth month before implementation of the stabilization. The abnormal returns in Panel A are calculated using regression equation (3) in the text. The abnormal returns in Panel B are generated using regression equation (4) in the text.

Table 4. Differences Between Average Stock Market Reactions to Exchange-Rate-Based (ERBS) Versus Non-Exchange-Rate Based Stabilizations (NONERBS) of High Inflation

	Panel A: Month [0, +1] Estimates			Panel B: Month [0] Estimates		
	Exchange-Rate-Based Stabilization	Non Exchange-Rate-Based Stabilization	P-Value of <i>ERBS>NON ERBS</i>	Exchange-Rate-Based Stabilization	Non Exchange-Rate-Based Stabilization	P-Value of <i>ERBS>NON ERBS</i>
World	0.152*** (0.037)	0.102*** (0.029)	0.28	0.154*** (0.052)	0.109*** (0.041)	0.49
U.S.	0.148*** (0.037)	0.100*** (0.029)	0.31	0.146*** (0.052)	0.106*** (0.041)	0.55
LDC	0.105*** (0.04)	0.121*** (0.034)	0.77	0.039 (0.055)	0.113** (0.049)	0.308
All	0.122*** (0.034)	0.105*** (0.04)	0.75	0.035 (0.055)	0.116** (0.049)	0.27
Constant-Mean	0.152*** (0.037)	0.102*** (0.029)	0.29	0.151*** (0.052)	0.108*** (0.041)	0.52
Country-Mean	0.150*** (0.037)	0.103*** (0.029)	0.32	0.149*** (0.052)	0.106*** (0.042)	0.52

Notes: The left-hand-side variable is real, dollar-denominated stock returns. The estimation procedure is feasible generalized least squares. Heteroscedastic-consistent standard errors are given in parentheses. The column labeled Month [0,+1] presents estimates of the stock market response to exchange-rate-based and non-exchange-rate-based stabilizations of high inflation using the two-month announcement window described in the text. The column labeled Month [0] presents estimates of ERBS and NONERBS using the one-month announcement window described in the text. The first row presents estimates using the benchmark specification using a World stock return index. Row 2 presents estimates of ERBS and NONERBS from a specification that uses U.S. stock returns in place of the World stock return index in equation (6). Row 3 presents estimates of ERBS and NONERBS from a specification that uses the IFC Emerging Market index. Row 4 presents estimates of ERBS and NONERBS from a specification that uses all three sets of returns simultaneously. Row 5 presents estimates based on simple mean-adjusted abnormal returns. Row 6 presents estimates using a statistical model, which allows for country-specific intercept terms. The column labeled P-Value of ERBS>NONERBS shows the p-value for a test that the stock market response to exchange-rate-based stabilizations of high inflation is significantly different from the stock market response to non-exchange-rate-based stabilizations of high inflation. The symbols ***, **, and * denote statistical significance at the 1 percent, 5 percent, and 10 percent confidence levels, respectively.

