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How Fast Could Inflation Be Eliminated?

The inflation rate, measured by the GNP deflator, decelerated from a 10.7-percent annual rate in the fourth quarter of 1980 to a 6.6-percent rate in the second quarter of 1981. How long would it take, with a non-inflationary monetary policy, to eliminate inflation altogether? Simulation results based on a small econometric model of the U.S. economy the author has developed in recent years suggest that the task could be accomplished essentially within two years' time, and completely within four years' time. But the task could be complicated by shifts that take place in inflation expectations—and most probably would be accompanied by a recession.

Episodes of slowing inflation

Two major decelerations in inflation have occurred during the past 30 years. In the most recent case, the inflation rate dropped from 11.3 percent to 10.2 percent between the fourth quarter of 1974 and the first quarter of 1975, and then fell gradually to a low of 3.6 percent in the first half of 1976 (see chart). The inflation rate thus fell by more than half in a year and a half, and might have fallen even further if fiscal and monetary policymakers had not adopted new stimulative measures in 1977. Special circumstances, such as the Arab oil embargo and other supply factors, also temporarily affected the inflation rate during this episode.

The other major deceleration followed the 12-percent Korean War inflation peak in the first quarter of 1951. After U.S. military forces became involved in that action, consumers bought everything in sight in anticipation of World War II-type shortages. But businesses soon restocked their depleted inventories, and the government increased taxes and imposed credit controls to hold demand growth to a non-inflationary rate. As a result, inflation was eliminated almost immediately. Historically, in several foreign countries, governments have brought hyperinflations to

a screeching halt by instituting reforms that succeeded in strictly limiting government budget deficits and paper-money issuance.

Inflationary expectations

The speed of reducing inflation depends on the speed of adjustment of inflation expectations. In 1975-76, high inflationary expectations were built into the system. The public was understandably dubious after years of observing anti-inflation rhetoric coupled with the actuality of accelerating inflation. Consequently the adjustment was slow and costly. In 1952, in contrast, inflation expectations weren't built in. People expected that wartime inflation would be followed by deflation as they had observed previously. Hence, once they had refilled their larders in 1952, they didn't expect more inflation; and the price adjustment came to an end. The record is clear. If the public accepts anti-inflationary policies on faith, inflationary expectations and the inflation rate adjust rapidly. On the contrary, if a lot of Doubting Thomases have to see inflation fall to believe it, the adjustment is slow and costly in terms of unemployment and recession.

Sustainable inflation

To understand the role of expectations, we should consider the *sustainable inflation rate*—the rate that would be sustained if actual and expected inflation were the same. Actual inflation (P) by definition equals total GNP growth in dollar terms (Y) less real GNP growth (X). Sustainable inflation (P) by definition thus equals spending growth less sustainable real growth (X).

We hypothesize that the public forms inflationary expectations on the basis of certain identifiable factors influencing spending growth and sustainable real growth. Since the latter is strictly limited by the availability of productive factors, inflation is largely a consequence of too much spending. Though the annual real-growth rate fell a full

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percentage point in the 1970's, the inflation rate increased to 10 percent as a consequence of rising spending growth. Nevertheless changes in real growth have sometimes caused inflation. The Plague killed a third of the European population in the 14th Century and caused a decline in output and a substantial rise in prices. That case would not be typical, however. In the 1970's, the observed one-percentage-point reduction in average real growth represented all the supply-side factors contributing to inflation: drought, pestilence, oil cartels, tax rates, environmental-protection regulations, labor and business monopolies, labor-force composition, etc.

Factors influencing spending growth

In our model, monetary growth and trend spending growth together accounted for 6.9 percentage points of the 7.2-percent average spending growth of the 1953-80 period. High-employment government spending had a significant impact, although it washed out in a little over a year, and exports had a small residual effect on total spending. Though only half the variation in spending growth could be explained statistically, monetary growth was the most important identifiable factor with a systematic effect on spending growth—and thus on inflation.

Over the 1953-80 period, spending increased 7.2 percent annually which in itself would sustain a like rate of inflation. High-employment real growth increased 3.3 percent annually, which would reduce inflation by a like amount. Together, spending and real growth thus explained nearly all of the 4.1-percent average inflation rate (see table). The small residual is accountable to two factors. (1) Rising import prices had important supply effects in 1974-75 and again in 1980, but on the average contributed only 0.1 percentage points to average inflation. (2) Demand pressure—the gap between the levels of total demand and supply—varied in both directions over the business cycle, but on the average also contributed only 0.1 percentage points to inflation.

In the framework of our table, *sustainable inflation* represents the inflation rate that would persist on the basis of the underlying inflation determinants other than the cyclical effects of demand pressure. And as the chart shows, inflationary pressure existed whenever sustainable inflation exceeded actual inflation. Persistent inflationary pressure was associated with accelerating actual inflation (for example, 1961-66 and 1971-75), whereas negative inflation pressure was associated with decelerating inflation (for example, 1956-58 and 1975-76). These effects were not always immediate. Despite negative inflationary pressure, inflation increased for a full year in 1956-57 before turning down. Also, because of wage-price controls, inflationary pressure existed alongside stable or falling actual inflation in 1971-72—but the inflation lid blew off when the controls expired in 1973-74.

Despite innumerable special factors—wage-price controls, strikes, crop failures, oil embargoes, and the like—a systematic and significant relationship existed over the 1953-80 period between monetary growth and spending growth, and in turn between spending growth and inflation. Our research illustrates that association, and shows the timing of adjustment of actual inflation to sustainable inflation. The estimated adjustment reflects the time required for the economy to adjust expectations and prices to the underlying factors systematically associated with inflation.

What would happen now if monetary growth were reduced enough to eliminate inflation permanently? According to the author's model it would be necessary to hold M1B growth at an annual rate of zero to 3 percent, which is about the range of M1B growth in recent months. The adjustment would not be instantaneous, requiring four years altogether. But the inflation rate could be reduced by more than half in one year, and by nearly four-fifths in two years. In other words, the inflation rate would be 2 percent or less after two years' time—in contrast to the

7.3-percent figure forecast by the Administration for 1982.

In our analysis, we have simply evaluated how soon inflation could be eliminated if the authorities set monetary growth at a noninflationary rate and left it there. We found that, with the same response as in the past, inflation could be cut in half in one year and eradicated in four years. However, the cost could be a recession of about a year's

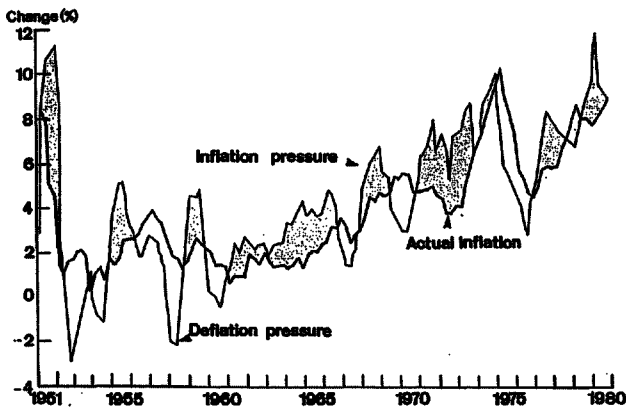
duration—similar to those experienced by the U.S. economy in earlier periods of decelerating inflation. That the U.S. economy has survived the anti-inflationary decompression chamber before is somewhat reassuring. That it might again require a disquieting case of the recession bends is not a cheerful prospect—but then, neither is inflation.

William G. Dewald

Underlying Causes of Inflation
(1953-1980)

	Average (Percent)	Estimated Weight	Contribution to Average Inflation (Percent)
Trend Spending Growth	1	2.426	2.4
M1-B Monetary Growth	4.3	1.039	4.5
High Employment Government Spending Growth	7.69	-0.003	0.0
Exports Growth	10.56	0.024	0.3
Spending Growth	7.24	1.000	7.2
High Employment Output Growth	3.33	-1.000	-3.3
Import Price Inflation	4.74	0.027	.1
High Employment Output Growth Adjusted for Import Price deflation			-3.2
Demand Pressure (Level)*	1.59	0.034	.1
Inflation			4.1

* Demand pressure is defined as the difference between the level of estimated real demand and high employment output, both in logarithms. The level and growth rate of high employment output were adjusted to incorporate effects of factors estimated to offset inflation autonomously such as import prices. About four-fifths of the variation in inflation was accountable to these underlying factors.



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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT
(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 10/7/81	Change from 9/30/81	Change from year ago	
			Dollar	Percent
Loans (gross, adjusted) and investments*	153,707	413	11,648	8.2
Loans (gross, adjusted) — total#	132,725	330	12,640	10.5
Commercial and industrial	40,275	44	5,273	15.1
Real estate	54,655	80	6,007	12.3
Loans to individuals	23,136	- 75	- 830	- 3.5
Securities loans	1,787	255	802	81.4
U.S. Treasury securities*	5,682	9	- 824	- 12.7
Other securities*	15,300	74	- 164	- 1.1
Demand deposits — total#	42,028	- 349	- 4,370	- 9.4
Demand deposits — adjusted	29,194	564	- 5,045	- 14.7
Savings deposits — total	29,774	248	- 232	- 0.8
Time deposits — total#	86,201	1,001	21,107	32.4
Individuals, part. & corp.	78,287	995	21,844	38.7
(Large negotiable CD's)	34,204	346	9,734	39.8
Weekly Averages of Daily Figures	Week ended 10/7/81	Week ended 9/30/81	Comparable year-ago period	
Member Bank Reserve Position				
Excess Reserves (+)/Deficiency (-)	85	222	90	
Borrowings	3	99	38	
Net free reserves (+)/Net borrowed(-)	82	123	52	

* Excludes trading account securities.

Includes items not shown separately.

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