



THE BOSTON CONSULTING GROUP

Why Companies Should Prepare for Inflation

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AT A GLANCE

This BCG Focus is the first of two publications advising companies on preparing for the possibility of inflation.

Despite near-term deflationary pressures in at least some developed economies, the current economic environment is a perfect breeding ground for inflation. As such, companies face a high midterm risk of a prolonged period of inflation.

Inflation has a corrosive effect on business. It discourages productivity growth, leads to inefficient capital allocation, depresses company valuations, and carries the seeds of future recessions. But like any situation of instability and crisis, it also offers opportunities for differentiation.

To protect themselves against the adverse effects of inflation, companies must assess the risks of inflation to their businesses, develop an in-depth understanding of their real costs and prices, and create strategies to protect their gross margins and safeguard their investment programs. How to do so will be the focus of a second publication.

The strategy implications of inflation are these: True profit margins will be squeezed in spite of higher reported profits. Cash requirements will be increased and so will the cost of money. These forces, of course, also lead to a concentration of industry ...

Bruce D. Henderson,
“Inflation and Competition,”
BCG Perspectives, 1969

FOR A TIME, IT seemed that the worst was behind us. In the first quarter of 2010, economic indicators were sending encouraging signals that the crisis was over. Many observers asserted that if the momentum could be maintained a little longer, it would become self-reinforcing. But by early summer, a number of economic indicators in the United States had turned south again. The U.S. economy slowed, and there was rising fear of a double-dip recession that could drag down many other developed economies.

These developments have led to growing fears of deflation. To be sure, some observers have been highlighting the risk of a long-term, Japanese-style deflation for some time—most prominently Nobel laureate economist Paul Krugman.¹ Krugman’s concerns have been echoed more recently by other economists as well, such as Harvard’s Kenneth Rogoff, and even by some central bankers, such as James Bullard, head of the Federal Reserve Bank of St. Louis.²

And yet, while mainstream economic opinion was focusing on the threat of deflation, an out-of-print book published in 1974 on the mechanics of the German hyperinflation of the 1920s was becoming favorite summer reading among London investment bankers.³ The title? *Dying of Money: Lessons of the Great German and American Inflation*. (See the sidebar “The Dynamics of Inflation: Jens O. Parsson and *Dying of Money*.”) Did the bankers know something that the economists were missing?

We believe that the investment bankers may be on to something. Despite near-term deflationary pressures in at least some developed economies, especially those that are carrying high levels of debt, we think that what today’s business leaders should really be worrying about is the threat of *inflation*.

Why? Even if the deflation scenario comes to pass, the probability that it will be severe is low. Most likely, deflation will be in the neighborhood of 1 to 2 percent per year, as has been the case in Japan in the aftermath of its Lost Decade of the 1990s.

THE DYNAMICS OF INFLATION

Jens O. Parsson and *Dying of Money*

There is a surprising paucity of modern literature on inflation economics and its impact on business. Most academic studies of inflationary periods in developed economies focus on the macroeconomic conditions and policy mistakes that led to inflation.¹ Those few that deal with the impact of inflation on business mostly address questions of inflation accounting, valuation, and corporate finance.²

Dying of Money: Lessons of the Great German and American Inflation, written by Jens O. Parsson and published in 1974, is a notable exception. In fact, when it became the favorite summer reading among London bankers in 2010, it created its own inflationary pressures, with hard-to-find used copies trading on eBay for as much as \$699. When Parsson wrote his book, the U.S. economy was on the brink of superinflation. Interest rates were at new highs. Wage and price controls had been imposed by the Nixon administration, although the resulting shortages and market distortions made them politically untenable, and prices were once again set free to rise. And in response to the 1973 Yom Kippur War, Arab oil producers began to shut off the supply of oil, driving up the price.

Parsson describes the mechanics that can lead to rapid inflation and eventually to uncontrolled hyperinflation. Drawing from the German experience during the Weimar inflation of 1920 to 1923, his book illustrates how an initial increase in the money supply fosters prosperity without immediate-

ly leading to significant price increases; how ever-higher rates of money inflation are required to maintain the beneficial stimulus; and, finally, how latent inflationary pressure becomes embedded in the economic system.

Parsson's book goes on to describe how this entire system seems under control as long as trust in the fundamental value of the currency is preserved—but it starts to break down when the population loses confidence. "The economics of disaster commence," he writes, "when the holders of money wealth revolt." This revolt is expressed by the simple act of getting rid of money and money wealth as quickly as possible—out of fear that the longer it is held, the less value it will have.

Is the Weimar experience likely to be repeated in economies such as the United States today? We don't think so. And yet the recent interest in Parsson's book among bankers and other financial experts indicates that inflationary scenarios are back on the agenda of many practitioners.

NOTE

1. Recent examples include Allan H. Meltzer, "Origins of the Great Inflation," Federal Reserve Bank of St. Louis Review, March/April 2005, pp. 145–175; and Isabel Vansteenkiste, "What Triggers Prolonged Inflation Regimes? A Historical Analysis," European Central Bank Working Paper No. 1109, November 2009.

2. Examples include Hawkins, "Inflation Accounting and Analysis" (cited elsewhere); Mathews, "Inflation and Company Finance" (cited elsewhere); and Alfred Rappaport and Robert A. Taggart, Jr., "Evaluation of Capital Expenditure Proposals Under Inflation," *Financial Management*, Vol. 11, No. 1 (Spring 1982), pp. 5–13.

What's more, many companies—both in Japan and in sectors of the economy that have a recent history of price declines, such as telecommunications or information technology—have already had to cope with deflation, so the techniques for doing so are relatively well known, making it easier for businesses to adapt. (See the Appendix, “Coping With Deflation: Lessons from Japan.”)

By contrast, should the inflation scenario come to pass, the probability that it could be severe is much higher. The threat may be less immediate than the risk of deflation, but it is likely to have a more profound impact on business competition over the long term. And the vast majority of companies are unprepared—for the simple reason that few executives in leadership positions today have ever had the experience of managing in a period of high inflation.

In many respects, the current economic environment is a perfect breeding ground for inflation. The loose monetary policy of many central banks, with extremely low interest rates and unprecedented quantitative easing schemes, has strongly inflated the monetary base and central banks' balance sheets. At the same time, ongoing fiscal-stimulus packages have left many governments with huge debt levels that they may be tempted to inflate away. Ultimately, inflation may be the price we pay for the successful prevention of another Great Depression.⁴

Higher inflation rates can appear to be beneficial at first because they not only reduce the real burden of servicing debt but also, to the degree that price increases lead to rising wages, increase disposable income. But continued inflation destabilizes the economy, discourages productivity growth, leads to inefficient capital allocation, depresses company valuations, and carries the seeds of future recessions. That's why senior executives need to start now to think through the consequences of inflation on their business, understand their company's exposure, and prepare for an inflationary scenario that may materialize sooner than many expect.

An Alarmist View?

At first glance, this view may appear to be unduly alarmist. After all, today's debt markets suggest little expectation of inflation on the part of lenders. One way to measure inflation expectations is by comparing nominal bond yields with inflation-indexed bond yields. In October 2010, the difference between the two—the so-called breakeven inflation rate—ranged from 1.6 percent in Germany to 2.7 percent in the United Kingdom. In the United States, the estimated future inflation rate derived from 30-year U.S. Treasury bonds currently stands at 2.3 percent. Still, uncertainty is high: inflation forecasts for 2011 in the United States, again based on Treasury yields, range between 0.5 percent and 3.2 percent.⁵

Nor do the typical scenarios for inflation found in neoclassical economics, which are all based on imbalances in supply and demand, seem to fit the current economic environment. For example, *demand-pull inflation* occurs when an increase in aggregate demand encounters inelastic aggregate supply, such as when an economy is running at full capacity. Because companies cannot meet an increase in demand by expanding supply, prices rise—and rising prices and low unemployment allow workers to demand higher wages, further adding to the inflationary spiral. But this

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is hardly the case today, especially in the United States: home prices and consumer confidence are still low, and retail sales are improving but are still dampened by the deleveraging of the nonfinancial private sector. And while the strong growth of the main U.S. export partners could stimulate the demand side, supply is still very elastic, with a high unemployment rate, low capacity utilization, and at best only a moderate business outlook.

So, too, with traditional *cost-push inflation*. Cost-push inflation is mainly due to a supply shock in the form of increased production costs, which leads companies to raise prices in order to protect their profit margins. The most important early-warning signal for cost-push inflation is rising unit labor costs, which indicate that wage increases exceed any improvements in productivity, inducing companies to pass the cost increase on to their customers. Although it is true that rising prices for both oil and nonfuel imports may increase production costs in the future, unit labor costs in the United States have been decreasing and pose no immediate inflationary threat.

Once inflation takes off, an increase in inflationary expectations can exacerbate what economists call *built-in inflation*. If workers expect prices to be higher in the future, they are likely to ask for higher wages now in order to protect their real wages. The resulting increase in production costs is likely to be passed on to the consumer, leading to another round of price increases. But again, current U.S. economic indicators show falling price indices and low inflation expectations, so the risk of built-in inflation also appears to be low.

“Ketchup Bottle Inflation”

Viewed from a monetarist’s perspective, however, the current situation looks quite different; indeed, it is an absolute tinderbox for inflation. For monetarists, inflation is the product not of imbalances in supply and demand in the real economy but rather of imbalances in the overall supply of money. As Nobel economist Milton Friedman put it, “Inflation is always and everywhere a monetary phenomenon”—that is, the product of an increase in the quantity of money that is greater than the increase in the output of goods and services.

For monetarists, inflation is the product not of imbalances in supply and demand in the real economy but rather of imbalances in the overall supply of money.

The centerpiece of the monetarist model of inflation is the so-called *quantity equation*, which explains price changes by changes in output and in the quantity and velocity of money. Central banks only partially control the quantity of money by managing the monetary base. The total money supply also depends on the *money multiplier*, measured by the ratio of the overall supply of money (that is, including the amount of credit extended by banks) to the central bank’s money base.

The loose monetary policy of the last two years, with its extremely low interest rates and unprecedented quantitative easing schemes, has strongly inflated the monetary base as well as the balance sheets of central banks. However, the overall supply of money circulating in the economy has not increased correspondingly because commercial banks have not passed the liquidity on to the private sector (not least because of the deleveraging of private households that has reduced the demand for credit). In fact, commercial banks have piled up \$1 trillion dollars in

excess reserves at the Federal Reserve, and the money multiplier has actually *dropped* precipitously, from between 1.5 and 2.0 to below 1.0.⁶ In other words, for every new dollar created by the Fed, there is less than one new dollar circulating in the economy as credit.

Because the banks have held on to this money, the result has been only moderate inflationary pressure—for the moment. But if the lending behavior of commercial banks, and with it the money multiplier, were to return to historical norms, the excess reserves held at the Fed would be released unchecked into financial markets, resulting in a sudden increase in the money supply. Think of this as “ketchup bottle inflation.” Like ketchup that remains stuck in the bottle no matter how vigorously one shakes it, and then suddenly spurts out in a great splash, latent inflationary pressure may abruptly turn into uncontrolled high inflation.

This dynamic helps explain why inflation, while not an immediate threat, represents a significant medium- to long-term risk. Of course, it is difficult to estimate precisely the probability of such a scenario. But it’s important to understand just how tempting the inflation scenario can be for both governments and businesses.

In the current economic environment, increased rates of inflation provide a convenient means of reducing the unsustainable debt overhang by lowering the real burden of servicing debt for both households and governments. Rising inflation also works like an economic stimulus package. Because higher prices typically lead to higher wages, inflation increases disposable income and government spending, thereby fostering demand. Higher nominal wages also increase the subjective sense of wealth, and expected price increases in the future encourage people to spend their money now rather than postpone purchases.

Initially, inflation will also have beneficial effects for business. Company revenues will increase not only in nominal terms but also in real terms. The resulting positive effect on employment and wages will further boost demand, leading to more economic growth.

That’s why at least some observers have seen inflation as part of the likely solution to the global economic crisis. For example, the IMF’s chief economist Olivier Blanchard has called for a higher central-bank target inflation rate of 4 percent.⁷ And Société Générale’s global strategist (and noted bear) Albert Edwards has even argued that “maybe 20-percent-plus inflation will indeed prove to be the ‘best’ (or least bad) way out of this mess.”⁸ The problem is that once an economy gets on the inflation treadmill, it is very difficult to get off—without doing further damage to the economy and even sparking another recession.

Why Inflation Is Bad for the Economy

Whatever its initial benefits, the positive impact of inflation on economic growth only persists as long as inflation expectations continue to rise. If the inflation rate remains stable, it has the same effect on demand as no inflation. In his book, Parsson calls this the *law of the exponential inflation*: “Every inflation must compound itself at a geometrically increasing rate in order to continue to have the

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same beneficial effects as in the beginning.”⁹ What’s worse, as soon as governments start to combat inflation, demand stimulus quickly turns into a demand slump. Thus, every inflationary period carries within it the seeds of a subsequent recession. And the resulting disinflation reverses all the benefits that were enjoyed before.

Despite the seemingly positive economic effects at the start of a period of inflation, total shareholder returns are typically disappointing.

In addition, inflation has a corrosive effect on business performance. It’s not just the added time and effort required to make frequent price changes—what economists, in an analogy to restaurants, call *menu costs*. Over time, persistent high inflation retards productivity growth. Managerial decisions fall prey to the so-called *money illusion*, or the tendency to mistake price increases for real gains. Because managers believe they are doing better than they actually are, they pay less attention to real efficiency improvement. For example, General Motors reported that its sales and profits in 1978 were up 77 percent and 46 percent, respectively, from five years earlier. Adjusted for inflation, however, the sales increase dwindled to 20 percent, and the profit increase disappeared altogether.¹⁰

Another way in which inflation hampers productivity growth is by encouraging underinvestment and distorting the allocation of resources. Depreciation allowances, which are intended to help companies pay for the renewal of plant and equipment, are based on historical costs and quickly become inadequate to finance inflated replacement costs. This phenomenon will exacerbate the recent trend of negative net investment in many developed economies and will further boost inflationary pressures. Even worse, resources are not directed to the most efficient investments because prices and valuations are distorted. Investors end up chasing short-term windfall profits rather than long-term real value creation. During the German inflation of 1920 to 1923, for example, the employment rate for office and administrative workers rose rapidly at the expense of production workers—and financial speculation became one of the most dominant economic activities.¹¹

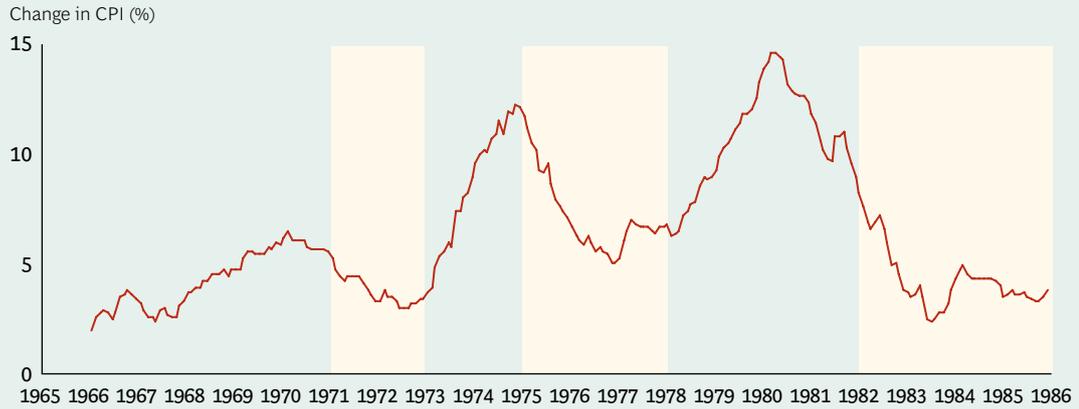
All of these negative effects are reflected in a company’s performance in the capital markets. Despite the seemingly positive economic effects at the start of a period of inflation, total shareholder returns (TSRs), which include both share price appreciation and dividends, are typically disappointing. We studied the TSR performance of the S&P 500 during the U.S. Great Inflation of 1965 to 1985 and found that it was dismal during the three periods characterized by rising inflation rates, especially when measured in real terms. (See Exhibit 1.) TSR was considerably stronger during the periods of disinflation.

There is also a strong correlation between TSR in times of rising inflation rates and TSR over the full cycle. (See Exhibit 2.) In other words, companies that destroyed more value relative to their peers during inflationary periods were much less likely to catch up and compensate their shareholders when inflation rates fell again. (See also the sidebar “The U.S. Great Inflation, 1965–1985.”)

Inflation Losers—and Winners

Inflation generates unusual risks. But like any situation of instability and crisis, it also offers opportunities for differentiation. It may change the rules of the game in

EXHIBIT 1 | S&P 500 Companies Had Sharply Lower Real Returns in Inflationary Periods

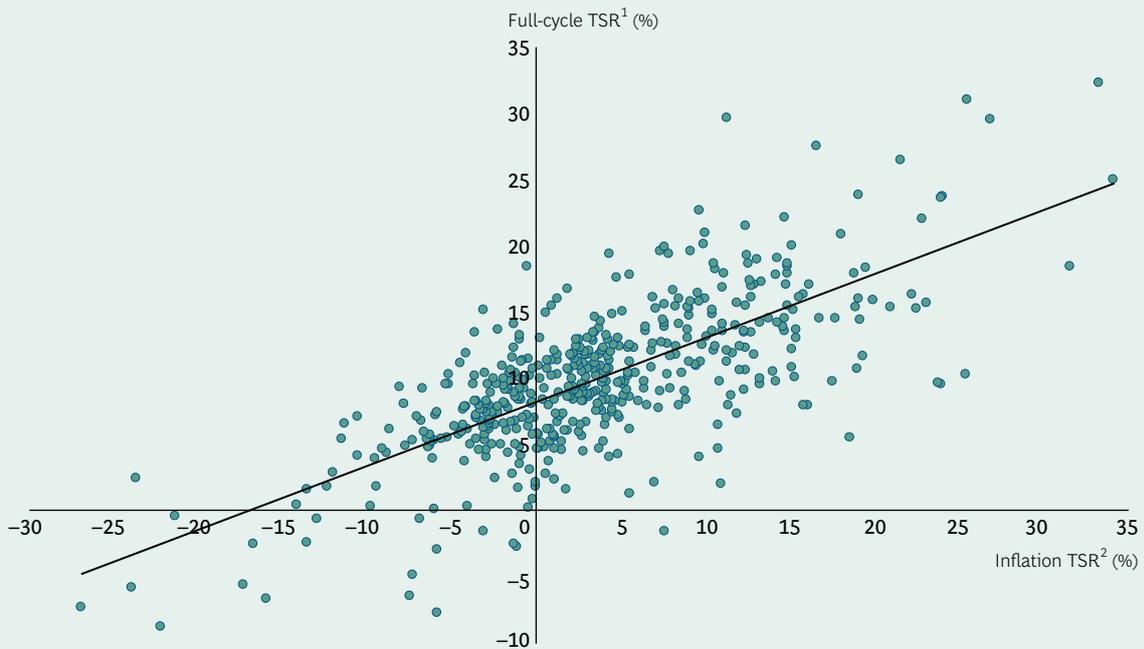


Inflation	Disinflation	Inflation	Disinflation	Inflation	Disinflation
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S&P 500 average annual TSR (%)	+4.7	+16.4	-20.5	+16.3	+11.9	+19.6
S&P 500 average real annual TSR (%)	+0.5	+12.6	-28.0	+9.4	+0.9	+15.1

Sources: Datastream; Compustat; BCG analysis.

EXHIBIT 2 | Value Destroyed During Inflationary Periods Is Rarely Recovered Afterward



Sources: Compustat; Datastream; BCG analysis.

¹Average annual TSR performance of S&P 500 companies during the U.S. Great Inflation, 1965–1985.

²Average annual TSR performance of S&P 500 companies during periods of inflation (1965–1970, 1973–1974, and 1978–1981).

THE U.S. GREAT INFLATION, 1965–1985

The last major inflationary experience in a large developed economy was the U.S. Great Inflation of 1965 to 1985.¹ It was actually a series of three cycles of price inflation and subsequent disinflation, with successively higher peak inflation rates. The first cycle lasted from 1965 to 1972 (with a peak inflation rate of 6.4 percent), the second cycle from 1973 to 1977 (peaking at 12.2 percent), and the third cycle from 1978 to 1985 (peaking at 14.6 percent).

Inflation was the unintended consequence of a series of policy mistakes—what columnist Robert J. Samuelson terms “the federal government’s greatest domestic policy blunder since World War II.” This blunder was the adoption of policies designed to manage the business cycle that were supported by a broad cross-section of leading economists. “These policies promised to control the business cycle,” writes Samuelson, “but ended up by making it worse.”

Policymakers were lured into boosting the rate of inflation because doing so had immediate positive effects on the economy, whereas the negative

effects could only be observed after much delay. But once the economy was on the inflation treadmill, getting off proved increasingly difficult. As one economist put it in 1979, a significant reduction in the prevailing inflation rate (about 8 percent at the time) would “take either an enormous recession or an extraordinarily long one,” with “staggering human costs” that meant “it would probably be precluded politically.”²

The effects of prolonged high inflation on the U.S. economy were severe. It destabilized the economy, leading to four recessions (1969–1970, 1973–1975, 1980, and 1981–1982), each harsher than the one before. Trust in the U.S. dollar as a global currency was gradually lost, and U.S. companies increasingly forfeited their competitiveness.³ American workers and consumers became more and more discouraged. When the Gallup poll asked respondents, “What do you think is the most important problem facing the country today?” the answer “the high cost of living” ranked number one from 1973 to 1981. In 1979, President Carter summarized the national pessimism in his “malaise” speech, talking about a

an industry by establishing new sources of potential competitive advantage—for instance, advanced pricing and sourcing strategies, vertical integration, or superior asset productivity. Which industries and companies are likely to be most negatively affected by inflation? Which will be the losers—and which the winners?

To answer these questions, it is important to keep in mind that in order to cope with inflation, a company must increase prices *faster* than the rate of inflation—or see its enterprise value plummet. As Bruce Henderson, founder of The Boston Consulting Group, noted in 1974, “It is not enough for prices to go up parallel to inflation. They must go up enough to provide financing for the increased valuation of assets too, as well as cover increased costs.”¹² Why? Because cash flows—not

“fundamental threat to American democracy... It is a crisis of confidence.”⁴

There were several attempts to fight inflation. The Nixon administration established wage and price controls, and the Federal Reserve tightened money and credit. These attempts actually worked quite well but were abandoned too quickly because the political will to weather the harsh side effects was lacking.

In the end, two men stopped the U.S. Great Inflation: Paul Volcker and Ronald Reagan. Appointed chairman of the Federal Reserve Board in 1979, Volcker took a sledgehammer to inflationary expectations and drastically raised interest rates and tightened credit. Elected president the following year, Reagan safeguarded the credibility of the effort by making it clear that this time the government would persevere. The fight against inflation triggered the biggest economic slump since the 1930s. Industrial production dropped 12 percent from mid-1981 until late 1982, and declined in some sectors by as much as 34 percent (autos) and 56 percent (steel). By 1982, the number of

business failures had tripled from its level in 1979. The unemployment rate exploded, reaching 10.8 percent in late 1982.

But the decline of inflation was also quick and dramatic. In 1980, wholesale prices rose 11.8 percent. By 1982, the annual increase was only 3.7 percent. In 1983, it was a mere 0.6 percent. The fight against inflation was finally won. It started the unprecedented period of Great Moderation: more than two decades of economic expansion at low and stable inflation rates.

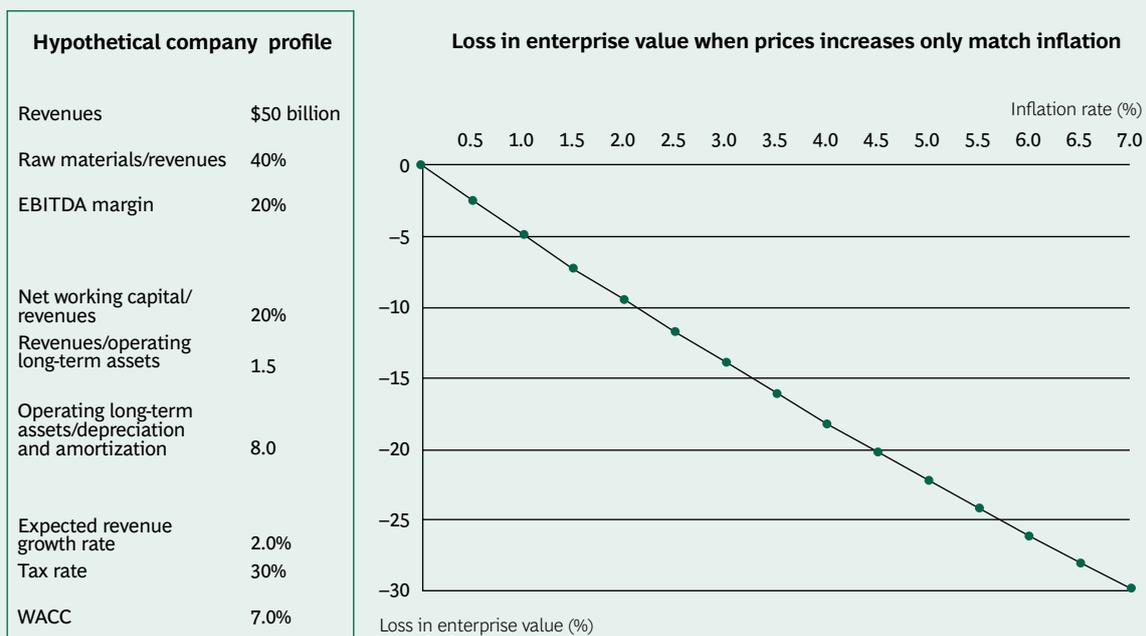
NOTES

1. This account draws from Robert J. Samuelson, *The Great Inflation and Its Aftermath* (Random House, 2008).
2. Edward M. Gramlich, “Monetary and Fiscal Policies,” in Clarence C. Walton (ed.), *Inflation and National Survival* (The Academy of Political Science, 1979), p. 144.
3. For a contemporary account by U.S. company leaders, see Robert H. Hayes and William J. Abernathy, “Managing Our Way to Economic Decline,” *Harvard Business Review*, Vol. 58, No. 4 (July–August 1980), pp. 67–77.
4. *Public Papers of the Presidents of the United States: Jimmy Carter, 1979, Book 2* (U.S. Government Printing Office, 1980), pp. 1225–1241.

earnings—drive the value of a company. A company must increase its earnings faster than the rate of inflation in order to meet the correspondingly higher cash requirements for net working capital and investments.¹³

A simple financial model shows what happens to enterprise value when a company manages to increase prices only in line with costs during an inflationary period. (See Exhibit 3.) Given certain financial assumptions about a hypothetical company, 2 percentage points of additional inflation will reduce enterprise value by a full 10 percent. Higher inflation rates produce increasingly more severe declines in enterprise value. For example, 6 percentage points of additional inflation will destroy a full quarter of total enterprise value.

EXHIBIT 3 | When Increases in Pricing Only Match Inflation, Enterprise Value Declines



Source: BCG analysis.

Note: The model assumes that the permanent inflation rate affects raw-material costs, other expenses, and investment costs; prices increase at the rate of inflation; and there are no reductions in costs or net working capital.

Therefore, the companies most vulnerable to inflation will be those that are unable to increase prices faster than the rate of inflation. This will be the case for companies whose pricing power is weak owing to generally high price sensitivity in the market (for instance, because substitutes are easily available), a weak position in an industry with strong competition, or a high proportion of long-term sales contracts that cannot easily be renegotiated. It will also be true for companies with little control over critical production inputs owing to a high share of variable costs, short-term supply contracts for key raw materials, or higher labor costs than rivals (for instance, because of a unionized workforce)—or to the fact that its competitors are less exposed to price hikes for raw materials because of backward integration. Whatever the precise cause, such companies will find it difficult to pass higher costs on to their customers.

Typically, such companies will already have lower margins and returns on capital than their competitors—or, if not, they will discover that they are unable to preserve their margins and returns in the inflationary environment. They may try to raise their prices—indeed, they may have to raise them in order to survive financially—only to see their market share eroded by higher-margin competitors that are in a better position to delay their price increases for a period of time.

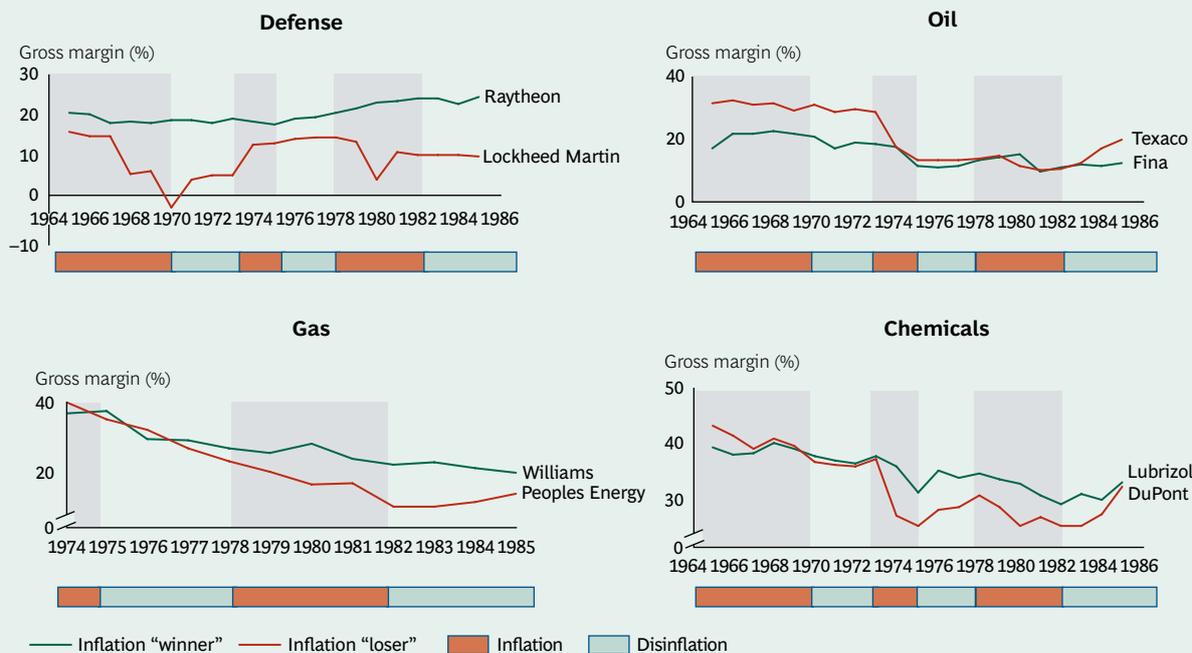
A company's ability to protect its gross margins from erosion by inflation was a key differentiator between inflation winners and losers during the U.S. Great Inflation. When we compared the development of gross margins for pairs of inflation winners

and losers (defined by their TSR performance) from various industries, we found that the winners were able to maintain their gross margins in a way that the losers could not. (See Exhibit 4.)

Another category of companies especially vulnerable to inflation are those with the highest capital requirements, whether because they operate with high asset intensity and high levels of net working capital or because they have old assets with short remaining lifetimes and therefore face a major reinvestment program. Such companies will have to anticipate sharply inflated cash requirements for their future investments. They may have to forgo critical or attractive investment opportunities if they cannot finance these investments either through price increases above the level of inflation, through significant cost reduction, or through higher debt from unused borrowing capacity.

The vulnerability of companies with high capital-expenditure requirements in times of inflation can also be observed during the U.S. Great Inflation. (See Exhibit 5.) We sorted companies from the S&P 500 into ten groups on the basis of the size of their capital-expenditure requirements, measured by the average ratio of capital expenditures to depreciation and amortization at the beginning of the three inflationary cycles in 1965, 1973, and 1978. Next, we calculated the average annual TSR of each group for the years of rising inflation: 1965 through 1970, 1973 through 1974, and 1978 through 1981. We found a significant negative correlation between the relative level of capital expenditures and TSR during the inflationary periods. The decile of companies with the lowest capex requirements achieved an average annual TSR of

EXHIBIT 4 | Companies That Can Protect Their Gross Margins Are Inflation Winners

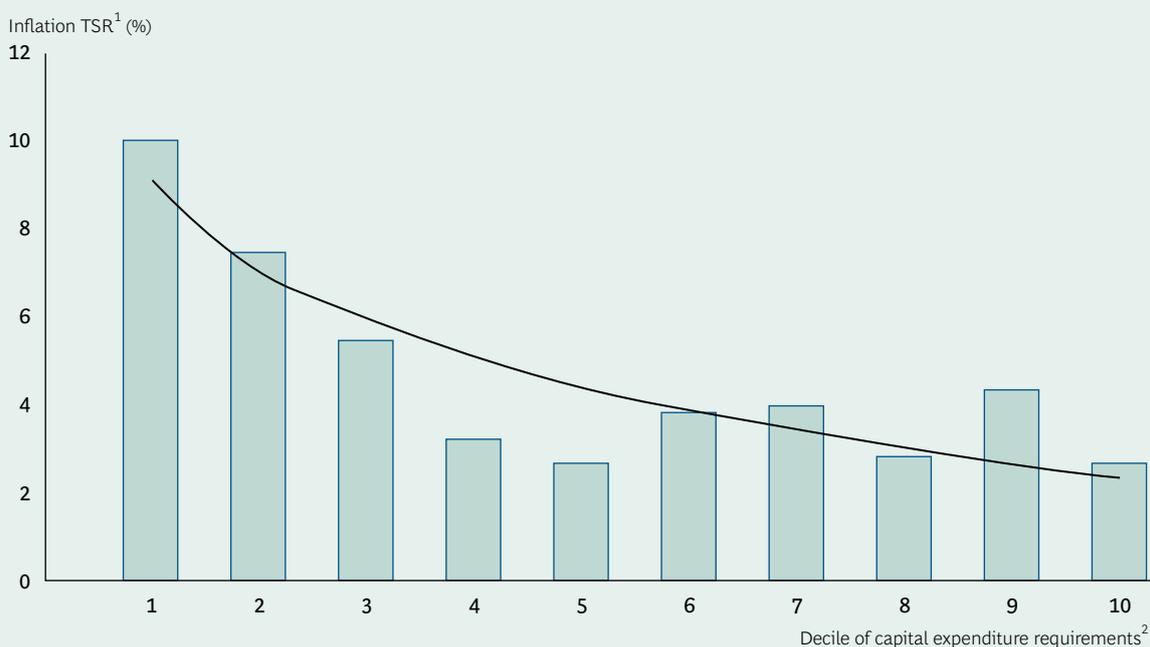


Sources: Compustat; Datastream; BCG analysis.

Note: Inflation "winners" and "losers" are determined on the basis of a company's TSR performance relative to its peer group.

¹Data for the gas industry start in 1974.

EXHIBIT 5 | Companies with High Capex Requirements Suffer More from Inflation



Sources: Compustat; Datastream; BCG analysis.

¹Average annual TSR performance of S&P 500 companies during periods of inflation (1965–1970, 1973–1974, and 1978–1981).

²Capital expenditure requirements of S&P 500 companies shown by deciles formed on the basis of the average ratio of capital expenditures to depreciation and amortization at the beginning of the inflation periods (1965, 1973, and 1978).

10 percent, while the decile with the highest capex needs delivered an average TSR of less than 3 percent.

Finally, among companies with high capital-expenditure requirements, those with the highest degree of leverage will be especially vulnerable to inflation. During the U.S. Great Inflation, for example, the TSR performance over periods of inflation for companies with the highest capex requirements was negatively correlated with their leverage ratio at the start of the inflationary periods. One would think that inflation would benefit companies with a lot of debt by making it easier to pay down that debt with inflated cash. It may be, however, that highly leveraged companies suffer the most because they don't have the capacity to borrow additional credit to finance investments at the levels necessary to meet the higher cost of capital expenditures in an inflationary environment.

Preparing for Inflation

What can companies do to protect themselves against the adverse effects of inflation and be among the inflation winners in their industry? The above analysis suggests a four-step program.

Assess the risks. Companies should start now to develop a detailed understanding of their potential exposure under alternative inflation scenarios. It's critical to recognize the key sources of exposure for each line of business in the portfolio and

the specific areas of weakness. This will allow senior management to identify the most effective measures for inflation protection and to develop a winning inflation strategy.

Know your real costs and prices. We have already mentioned money illusion—the propensity to mistake price increases for real gains that tricks managers into paying less attention to real growth and productivity improvement. Inflation winners avoid this trap by tracking inflation-adjusted financial indicators that reflect the real performance of their businesses.¹⁴ What’s more, they provide real-time internal cost and price data and a high level of transparency on competitive pricing to allow decision makers to react quickly to changing market conditions.

Protect gross margins. Inflation winners also work hard to defend their gross margins. Doing so can spell the difference between creating and squandering value during inflationary periods. The key to successful margin protection in times of inflation lies in superior pricing strategies and processes. This requires close coordination between the sales and procurement departments in order to identify margin pressure from rising raw-material prices early enough to react. It also requires creative contract design to pass inflation risks on to customers (for example, through index pricing or economic price-adjustment clauses). And it requires internal processes that allow for fast and frequent price adjustments and zero leakage in price realization (as can occur through discounting). Inflation winners will also apply pricing strategies that decrease the price sensitivity of their customers—for instance, by unbundling product and service offerings or by locking in customers at low prices and subsequently up-selling.

Safeguard investment programs. A final differentiating trait of inflation winners is that they are better able to protect their investment programs. This is of particular relevance for companies with high capex requirements. Inflated costs for replacement or growth investments will put a considerable strain on the liquidity and valuation of such companies. In order to avoid a precarious underinvestment risk and corresponding loss of competitiveness, inflation winners will choose a conservative financial policy with low leverage and sufficient unused borrowing capacity. At the same time, they will reduce their capital requirements as much as possible and increase their asset productivity by such means as outsourcing, sale-and-lease-back contracts, strict net-working-capital optimization, or careful prioritization of planned investment projects.

THESE STEPS ARE easy to describe—but difficult to do. In a second working paper, we will lay out a comprehensive program for making a company “inflation ready” for the time when the inflationary pressures now on the horizon finally arrive.

Inflation winners work hard to defend their gross margins. Doing so can spell the difference between creating and squandering value during inflationary periods.

NOTES

1. “About That Deflation Risk,” *New York Times*, February 4, 2009.
2. See Kenneth Rogoff, “An Age of Diminished Expectations?” *Project Syndicate*, August 3, 2010; and

James Bullard, "Seven Faces of 'The Peril,'" *Federal Reserve Bank of St. Louis Review*, September/October 2010.

3. See "The Death of Paper Money," *Daily Telegraph*, July 25, 2010.

4. For a discussion of alternative options for reducing the current unsustainable debt overhang, see, for instance, a recent article by William White, chair of the OECD's Economic and Development Review Committee: "We Need a Plan B to Curb the Debt Headwinds," *Financial Times*, March 3, 2010. See also *Collateral Damage: In the Eye of the Storm; Ignore Short-Term Indicators, Focus on the Long Haul*, BCG White Paper, May 2010.

5. All data are from Bloomberg as of October 11, 2010.

6. J. D. Foster, "Is the Inflation Threat Real? Is It Imminent?" Heritage Foundation Backgrounder No. 2371, February 22, 2010.

7. "IMF Tells Bankers to Rethink Inflation," *Wall Street Journal*, February 12, 2010.

8. "We Are Now Walking on the Deflationary Quicksand," Société Générale, *Global Strategy Weekly*, June 24, 2010.

9. Jens O. Parsson, *Dying of Money: Lessons of the Great German and American Inflation* (Wellspring, 1974), p. 67.

10. Robert J. Samuelson, *The Great Inflation and Its Aftermath* (Random House, 2008), p. 29. For an analysis of the effects of inflation accounting on reported returns, see Russell Mathews, "Inflation and Company Finance," *Accounting Review*, Vol. 35, No. 1 (January 1960), pp. 8–18.

11. See Parsson, *Dying of Money*, p. 19.

12. "Prices Must Exceed Inflation," BCG Perspectives, January 1974.

13. For a formal analysis of the impact of inflation on enterprise value, see Geoffrey T. Mills, "The Impact of Inflation on Capital Budgeting and Working Capital," *Journal of Financial and Strategic Decisions*, Vol. 9, No. 1 (Spring 1996), pp. 79–87.

14. For an overview of different approaches to inflation accounting, see David F. Hawkins, "Inflation Accounting and Analysis," Harvard Business School Note 100-063, December 1999.

Appendix

Coping with Deflation: Lessons from Japan

Many who expect a deflation scenario point to the experience of Japan's so-called Lost Decade as an example of what could happen in other developed economies today.¹ After all, the Lost Decade began in 1990 with the bursting of asset bubbles in stocks and real estate, just as in the Great Recession. Banks, corporations, and households began to deleverage. Both private consumption and private investment were cut back. The end result: a significant demand-supply gap, two decades of sluggish growth, and long-term *creeping deflation*—all despite repeated rounds of government stimulus and a prolonged easing of monetary policy.

The similarities between postbubble Japan and other advanced economies today are indeed striking. But one should be cautious about broadly applying the Japanese scenario and expecting imminent deflation—for at least four reasons.

The Delayed Impact of Japanese Deflation. Japan's deflation started well after the bubble burst. Japan's real GDP growth began to drop in 1990 and has stayed low for 20 years, declining from a healthy 4.5 percent annual rate in the 1980s to an anemic 1.5 percent in the 1990s and 0.7 percent in the first decade of this century. However, the country's inflation rate, as measured by the consumer price index, did not begin to show a continuous decline until 1999. This suggests that sluggish growth after the bursting of an asset bubble does not automatically lead to deflation. And even when price declines do occur, as in the case of Japan, the rate of deflation is relatively low, in theory giving policymakers ample time to take appropriate measures to stop it.

The Aging of the Japanese Population. There are a number of factors specific to the Japanese situation that have contributed to the economy's long slump and persistent deflation. One notable but rarely discussed factor is demographic: the country's rapidly aging population. The absolute size of the Japanese labor force began to decline in 1999, the same year that witnessed the beginning of the deflationary trend. And the country's overall population began to decline in 2007. This trend has had a major negative impact on consumer spending and corporate investments. However, similar demographic pressures are nowhere near as strong in other countries as they are in Japan—either because of growing populations or the ability to mitigate the impact of aging populations through immigration.

The Impact of Japan's High Savings Rates. Exacerbating the deflationary pressures in Japan is the fact that the country's aging population has a large proportion of its financial wealth in short-term nominal assets, thus creating an intrinsic bias in favor of deflation. But precisely the opposite is the case in the United States and other Western economies. Japan's households have net financial assets equal to 40 percent of GDP, whereas U.S. households have net financial liabilities of roughly the same proportion of GDP. This fact alone should make deflation far less socially and politically acceptable, increasing the pressure on the government to fight it.

Japan's Economic Policy Errors. Japan also made several policy errors that slowed its economic recovery and subsequently brought about deflation. For

instance, a genuine cleanup of troubled bank balance sheets didn't occur until 2002. And the government's failure to change Japanese labor laws to encourage labor market flexibility slowed the transfer of workers to newer industries with stronger growth prospects. What's more, a new policy encouraging temporary employment accelerated the hiring of nonpermanent workers in lieu of new permanent jobs: nonpermanent workers accounted for about 20 percent of the workforce in 1990 compared with 30 percent today, which is yet another factor that has eroded the spending capacity of Japanese households. In general, Western governments have moved much faster to counter the negative effects of the recent financial crisis.

Of course, we could be wrong. As in Japan, excessive easing of monetary policy, coupled with greater government spending on public works or on assistance to less-competitive companies and industries, could slow the process of reducing the demand-supply gap and lead to deflation. The risk might be higher in the euro zone given its trade imbalances, which require a reduction of unit labor costs in countries such as Spain, Portugal, and Greece in order to regain competitiveness.

If so, what should companies do? Deflation will be relatively easy to manage if they follow four best practices that have emerged in Japan over the past 20 years. Paradoxically, these are some of the same things that companies should be doing to prepare for inflation.

- *Build a sustainable cost advantage.* When prices go down, a company must ensure that its costs go down more rapidly (relative to competitors, that is). Companies need to reassess their cost base from scratch. It's not enough just to do across-the-board cuts; what is needed is a thorough reengineering of the cost structure throughout the entire value chain. Some Japanese companies have been able to slash costs—and, therefore, prices—by as much as 50 percent.
- *Rigorously manage pricing.* Besides simply lowering costs and prices, companies also need to understand the ways in which deflation changes consumer psychology—and be far more sophisticated in setting prices. For example, a company can reduce perceived prices by simultaneously decreasing price and value through smaller package sizes, by unbundling products and services in order to offer the lowest-possible base price, by attracting customers with a low-priced initial offering and following up with additional services and features, by setting prices to mitigate customer risk or uncertainty, or by coupling price increases with an increase in the number or level of discounts.
- *Reengineer the pricing function.* At most companies, there is considerable pricing volatility and leakage via discounting. In general, pricing decisions are too decentralized—and salespeople have too much autonomy to cut special deals. Instead, companies need to manage pricing more centrally in an integrated, end-to-end fashion rather than in the current siloed manner. Consider appointing a chief pricing officer.
- *Make decisive moves that change the game.* In addition to better management of both costs and prices, companies should also be considering bold strategic

moves to fight deflationary headwinds. Just as the best time to invest in the stock market can be during a downturn, a deflationary environment may also be the best time to make aggressive corporate investments. Think about acquiring a struggling competitor in order to consolidate the industry and thereby protect prices and margins in the core business. Alternatively, invest in marketing innovation to maintain current price points.

NOTE

1. See, for example, Paul Krugman, "Paralysis at the Fed," *New York Times*, August 12, 2010; and George Soros, "America Needs Stimulus Not Virtue," *Financial Times*, October 4, 2010.

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