

SPECIAL REPORT

Run inflation run

This article is a reprint from the Global Inflation-Linked User's Guide, March 15, 2010.

- Contrary to previous periods of high unemployment and fiscal deficits, inflation remains very low, making the adjustment process harder and slower. We argue that the benefits of temporarily higher inflation for the US, UK and Japan are considerable. In this context, it is surprising that markets are not expecting inflation to rise above their targets (at least temporarily) in coming years.
- The principal merits of inflation disappear if inflation is anticipated, so the best policy prescription today is not to increase inflation targets but rather to have above-target inflation. Central bankers know this, which gives them another reason to be 'behind the curve' at the start of their tightening cycle. While policymakers should worry about another asset bubble, regulation rather than tight monetary policy should tackle excessive leverage.
- Inflation has historically been a powerful force to achieve fiscal and real adjustments. We estimate that having 5% inflation rather than 2% can dramatically accelerate the decline in unemployment, as unemployment can fall by 1.5pp in one year solely due to this higher inflation. On the fiscal front, inflation can achieve what no congress can, fast reductions in fiscal deficits. As the majority of government expenditures are not indexed to inflation and taxes rise one-to-one with inflation, we estimate that 3pp higher inflation can reduce fiscal deficits by 1pp of GDP, while eluding the political hurdles that typically prevent expenses from falling. Undeniably, as most emerging markets can testify, inflation is an *undercover* fiscal reform.
- Combating deflation and reducing real debt burdens are not, in our view, important reasons to increase inflation or inflation targets. Quantitative easing (QE) has shown that the zero interest rate bound does not mean central bankers are left without ammunition against deflation, and the redistributive loss from higher inflation could hurt the balance sheets of ailing domestic financial sectors, the main creditors of the G4 economies.
- Central bankers, especially the Fed and the BoE, are likely to tolerate higher inflation in coming years. But contrary to popular belief, we believe this would be a positive development for the global economy.

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Benefits of higher inflation in the context of a developed world with high unemployment and fiscal deficits are considerable

Rudiger Dornbusch once said that Argentina needed an Austrian central banker to impose credibility and reduce inflation. If alive, he would probably be saying today that G4 central bankers would benefit from having an Argentine on their board. This illustrates the main point of this note, that the benefits from higher inflation in the context of a developed world with high unemployment, inflexible institutions – except in the US – and high fiscal deficits are considerable. Central bankers know this and they are likely to tolerate higher inflation in coming years rather than change their inflation targets. Inflation acts as an undercover real and fiscal reform as inflation can accelerate the fall in unemployment and the consolidation of fiscal accounts. Contrary to previous times of high unemployment (eg, 80s or early 90s), today inflation rates are substantially lower making the adjustment process harder and slower. The main contribution of this note is to quantify the gains from moderately higher inflation. We do not attempt, however, to quantify the cost of having temporarily high inflation, but if these costs are not highly variable with unemployment and debt – as they are likely not to be – the time for high inflation is now.

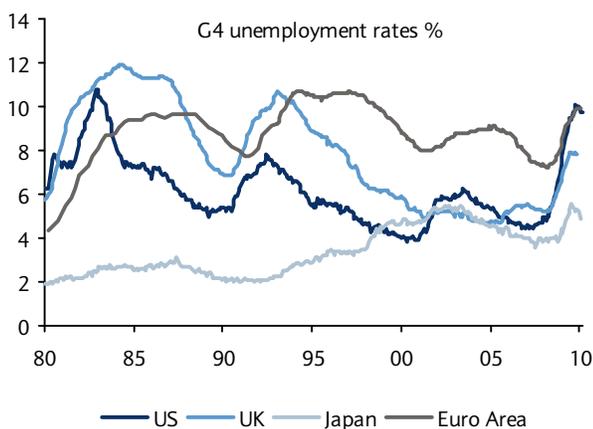
The zero-bound on interest rates is not a strong reason to boost inflation targets in our view

A recent IMF report by Blanchard, Dell’Ariccia and Mauro reignited a debate about whether inflation targets should be higher. Contrary to the view spelled out in that work, we do not think that higher inflation targets are warranted. The new blueprint for QE that the Fed and BoE have effectively established is more than enough ammunition for central bankers to fight deflation when hitting the zero-interest rate bound, in our view. QE can side-step the banking system and provide direct credit support, and effectively reduce the yield curve in ways that lowers the effective credit costs. But there are other reasons that provide a much larger benefit of having higher inflation. A modest increase in inflation can produce large gains in terms of falls in unemployment. For reasons that keep behavioral economists busy, people don’t accept nominal wage cuts but are insensitive to inflation eating into their purchasing power. For this reason, at times where unemployment is high – that is, at times where the real wages are too high –higher inflation helps reduce real wages and, in turn, unemployment. Especially for countries/regions with highly inflexible labor markets, inflation can be your biggest ally.

Governments also benefit from greater flexibility in reducing expenditures relative to revenues

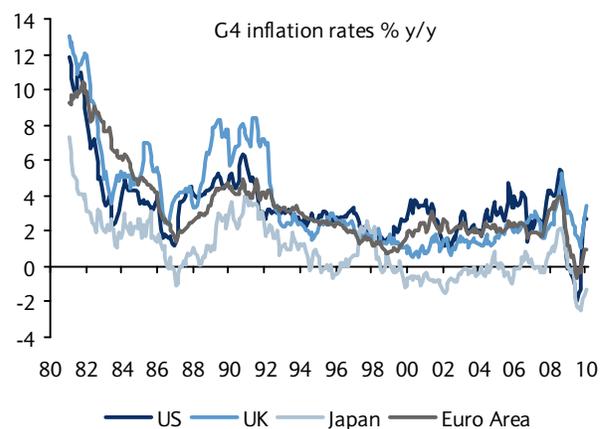
Moreover, inflation acts as an undercover fiscal reform. Since a large portion of government expenditures are not indexed to inflation, inflation allows for a politically costly fiscal consolidation to occur without the need for the political support needed to cut government expenditure. We estimate that the gains from higher inflation could be as high as 1pp of GDP per year of reduction in fiscal deficits purely due to a change in inflation from 2% to 5%.

Figure 1: Unemployment is close to previous highs ...



Source: Haver, Barclays Capital

Figure 2: ... but inflation is not nearly close to its previous highs, making today’s situation more complicated to resolve



Source: Haver, Barclays Capital

Contrary to popular belief, benefits from redistribution of debt are relatively small

Contrary to popular belief, the redistributive power of inflation from debtors to creditors is not a large plus to G4 economies. The domestic financial market is the largest creditor of debt instruments in most of these economies, and so the income loss from inflation to creditors would be an additional hurdle in the rebuilding of their balance sheets. Moreover, Europe and Japan are net foreign creditors, which mean that the income losses are not borne by foreigners. We estimate that the gains from reducing the real burdens of debt are small for all G4 countries economies.

Inflation: An efficient way of reducing unemployment

Higher inflation can facilitate greater real wage adjustment as nominal wages rarely fall

There are two key building blocks of macro that suggest why inflation can be good to reduce unemployment. First is the simple (and undisputed) fact that employers typically do not reduce nominal wages (Figure 3). This makes the inflation rate the upper bound of any fall in real wages. The higher is inflation in a given year, the larger is the potential fall in real wages in that year. Second, unemployment is the result of real wages being too high. The faster that real wages are reduced, the faster unemployment falls. These two facts combined make inflation more desirable in periods like today, where unemployment is high (Figure 1), and inflation rates are very low (Figure 2). Higher inflation essentially allows real wages to fall and thus reduce unemployment faster.

The elasticity of labor supply and demand determines the magnitude of the reduction in unemployment

But how much can inflation really help reduce unemployment? Figure 4 helps understand what variables matter to understand the quantitative impact of higher inflation on lower unemployment. At today's real wages (eg, rw_0) in the figure, the gap between labor demand (how many people firms want to employ) and labor supply (how many people want to work) is positive, which gives rise to the currently high levels of unemployment. Real wages do not fall fast enough to reduce unemployment because nominal wages are 'sticky' downwards, and with low rates of inflation the economy is left hanging in a high unemployment range for a long time. Unanticipated Inflation can reduce real wages, (eg, to rw_1), and concomitantly reduce the levels of unemployment. Formally, the extent of the decline in unemployment from a fall in real wages is given by the elasticity of labor supply minus the elasticity of demand.

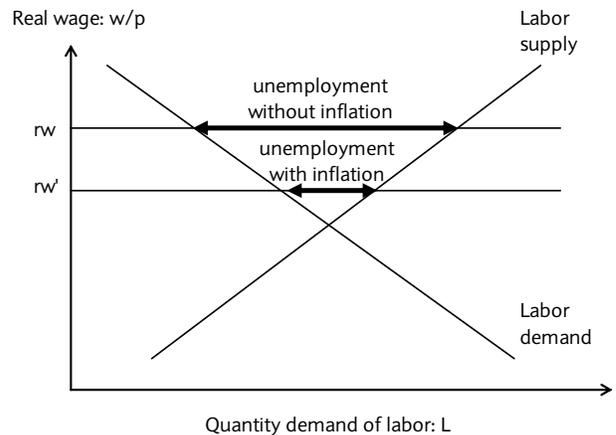
Conservative estimates of both these elasticities suggest that for every 1 percent fall in real wages achieved via a higher inflation rate, unemployment can fall by around 0.5pp. This

Figure 3: Nominal wage growth doesn't turn negative...



Source: BLS, Barclays Capital

Figure 4: ... even though a fall in real wages can reduce unemployment



Source: Barclays Capital

We estimate a modest 3% above target inflation can reduce the unemployment rate by up to 1.5pp a year

implies that having 5% inflation in a given year can reduce unemployment by 1.5pp more than in a world with 2% inflation. In two years, unemployment can fall by 3pp only as a result of having temporarily higher inflation for two years. It is likely that after some time the benefits of having higher inflation would dissipate, as unions internalize that they need to bargain for larger increases in nominal wages and the benefit of falling real wages gets eroded. But without certainty about whether inflation will be higher in the future, and given the current high unemployment rates, it is unlikely that wage negotiations will incorporate higher inflation so rapidly. Inflation expectations have remained steady through this period and policymakers know the power of inflation surprises at this juncture. If unemployment doesn't fall in coming years, the outlook for higher inflation expectations would probably increase as the temptations will be substantial.

Inflation: A fiscal reform undercover

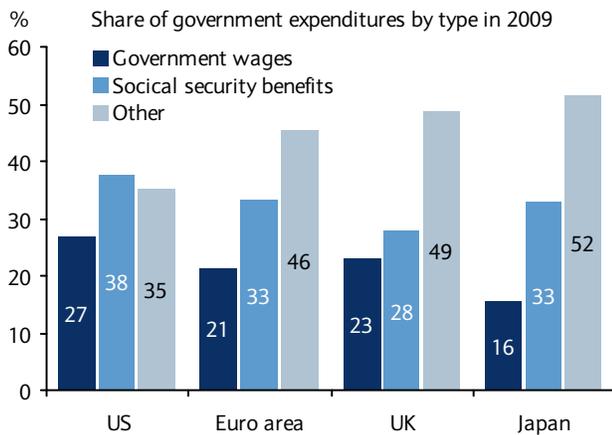
Inflation acts as undercover fiscal reform by reducing real government expenditures

When investors discuss the positive aspects of inflation the focus typically is on the benefits of inflating away high levels of debt. We will discuss this potential benefit in the next section (again, with an eye on *quantifying* its impact), but first we highlight the benefits of inflation to improve fiscal deficits. Higher inflation helps reduce fiscal deficits as governments can collect higher nominal revenues. Just like wages, fiscal expenditures are hard to cut, as political reasons make reducing nominal expenditures a hard sell. But as many emerging markets can testify, inflation can help make the most unfeasible fiscal deficit reductions a reality. Nominal wages for public servants can remain flat for a year or two while inflation runs higher. This can achieve what no congress can, fast reductions in fiscal deficits as revenues grow with inflation. If inflation rates are low, politicians face the barrier of having to agree on wage cuts for public servants or pensions reductions to the elderly. Inflation helps elude political barriers to achieve fiscal consolidation.

Given that only 1/3 of all expenditures are automatically indexed to inflation, 5% rather than 2% inflation could reduce deficits by an extra 1.0pp of GDP

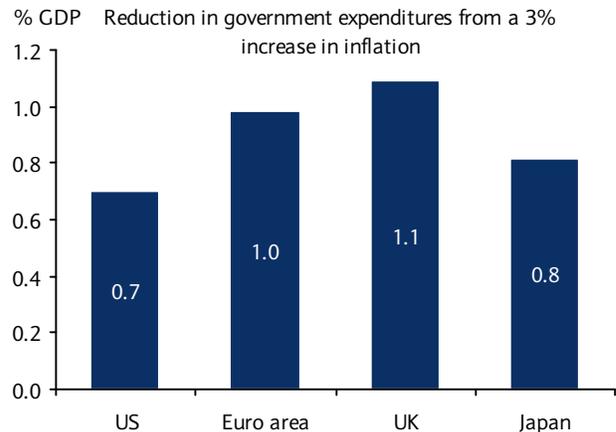
However, some government expenditures are indexed to inflation. This means that while tax revenues grow at the rate of inflation, so do all the expenditures that are indexed to inflation. While it is hard to generalize, most social security spending in G4 economies are adjusted according to a cost of living price index. Figure 5 shows the share of spending for different expenditure categories. Social security benefits are typically around one-third of all government expenditures, encompassing on average around 14% of GDP. To understand the impact that inflation has on fiscal savings we provide a simple illustration. Assume that,

Figure 5: Social security benefits are mostly indexed to inflation



Note: Source: OECD, Barclays Capital

Figure 6: Reduction in fiscal deficits due to inflation when nominal wages hit the zero bound



Source: Barclays Capital

just as in the previous section, inflation runs at 5% rather than 2% for one year. Assume also that social security benefits and taxes increase at 5% and that all non-indexed expenditures grow at only 2% (like the typical inflation target). How large would the fiscal savings be in this case? Figure 6 provides the answer for each country. Fiscal deficits would fall by between 0.7pp of GDP (US) and 1.1pp of GDP (UK) solely from higher inflation – that is, ignoring any explicit effort to reduce real wages or increase tax rates. Considering the magnitude of today’s deficit in all G4 economies, inflation could provide a much needed acceleration in fiscal consolidation without confronting political barriers.

The benefits, however, would probably not persist past a few years as inflation becomes internalized

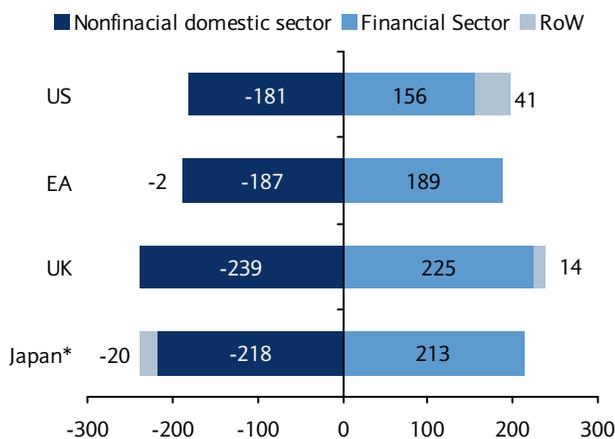
Once again, this is not a permanent benefit from inflation. When budgetary discussions start to internalize the higher inflation this would prevent government expenditures from falling in real terms, and the benefits from inflation as an implicit fiscal reform disappear. However, for some time, maybe a couple of years, above-target inflation could imply lower real burdens for governments.

Nuances about inflating away debt

Real debt deflation is not as beneficial as it may first appear

Irving Fisher has popularized the fears about debt deflation – the notion that payments to service outstanding debts may be fixed, implying that deflation would make the real burden of the debt servicing larger and drag aggregate demand downwards, as high real debt servicing is a reduction in disposable incomes. As such, inflation could have the opposite effect. If the debt servicing burdens are fixed in nominal terms, higher inflation reduces the real burden of interest payments. However, the benefits of inflation to reduce debt burdens and improve aggregate demand are more nuanced than what appears at first sight. There are two main reasons why the impact of inflation to reduce debt burdens may not be as beneficial as most investors expect. First, for each debtor there is a creditor, and although inflation effectively is an income transfer to debtors, this transfer happens at the expense of creditors. If all debt is held domestically in a country, this means that the impact of inflation on aggregate demand is determined by the difference between the propensities to consume of debtors versus creditors times the effective income transfer. We will examine this impact quantitatively below, but it is much smaller than most believe. Figure 7 hints to why this is small. The domestic financial sector is the main creditor of credit assets, which puts

Figure 7: Debtors and creditors in the credit market



Note: Shows only net credit asset positions. The non-financial domestic sector comprises households, businesses and general government. *Japan general government net debt from OECD. Source: OECD, Flow of Funds, Barclays Capital

Figure 8: Net credit assets by sector

	Net credit liabilities of the nonfinancial sector		
	Households	Businesses	General Govt
	Composition of debt % GDP		
US	65.0	75.9	55.4
Euro	46.8	67.2	73.2
UK	100.0	84.2	55.0
Japan	43.5	78.7	96.0*
	Average maturity of debt (in years)		
US	28.1	10.2	4.3
Euro	...	4.9	6.8
UK	...	5.3	13.5
Japan	...	4.2	6.3

Note: Average maturity of household debt is for mortgages. *Japan general government net debt as reported by the OECD, all other net credit liabilities calculated from Flow of Funds data. Source: Flow of Funds, Barclays Capital

holders of existing debt at a loss. Only a small fraction of outstanding debt is held abroad, so even in the case of the US and UK, net foreign debtors do not bear a large part of the costs of inflation.

Longer maturities of debt makes it harder to inflate away

Second, not all debt is subject to fixed interest payments. After a bout of inflation, it is likely that short-term debt would be rolled over at higher nominal interest rates, undoing any of the benefits of higher inflation, as nominal interest rates are likely to incorporate the higher inflation expectations. Figure 8 shows the average maturity and overall debt composition of each component of domestic debt in G4 economies. Household debts in the US – mostly mortgages – stand out as having long maturities (and mostly tied to fixed interest rates). This highlights the benefits for this sector to increase inflation. The general government debt in the UK is also of particularly long maturity, making the UK Treasury a primary beneficiary of potentially higher inflation rates. However, in most countries the main creditors of debt instruments are the financial sector and this implies that while inflation is probably a benefit for most, it is a drag on financial institutions. In the context of the need for the financial sector to start lending and improve their balance sheets, the real losses from inflation would not help this process.

Potential benefits to aggregate demand of debt inflation is marginal

How to quantify this potential benefit of inflation? Figure 9 shows a simple back-of-the-envelope calculation. Assume that the propensities to consume of debtors are 1 – ie, out of an increase of 1 dollar of income, they consume 1 dollar – while that of creditors is 0.5. (The gap is large to highlight that the small results are particularly stark). Also assume that all housing and equity assets increase in value one-for-one with inflation (ie, they are real assets), while credit market assets are half fixed in nominal terms, and only half effectively indexed to inflation. While of course this assumption is important to quantify the precise benefits of reducing the real burden of debt, it is enough to illustrate how small these benefits are relative to those previously quantified. The figure shows that the increase in consumption due to a 3pp higher inflation rate is around 0.06 percent of GDP, a negligible amount. This is essentially the reason why inflating debts is not a big boost to demand.

Figure 9: Back of the envelope calculation – benefit of inflating away debt

% of GDP	Japan	UK	EA	US
(1) Net debt assets of domestic economy (excludes the foreign sector)				
Nonfinancial sector	-218.3	-239.1	-187.2	-180.7
Financial sector	213.3	225.5	189.1	156.2
(2) Value of debt after 5% inflation (assuming 1/2 of assets grow 1-1 with inflation)				
Nonfinancial sector	-215.1	-235.7	-184.5	-178.2
Financial sector	210.3	222.2	186.4	154.0
(3) Reduction in value of real debt				
Nonfinancial sector	3.1	3.4	2.7	2.6
Financial sector	-3.0	-3.2	-2.7	-2.2
(4) Reduction in debt service (reduction in real debt*average interest rate)				
Nonfinancial sector	0.04	0.18	0.11	0.12
Financial sector	-0.04	-0.17	-0.11	-0.10
(5) Estimated impact on consumption from reduction in debt servicing cost*				
Nonfinancial sector	0.04	0.18	0.11	0.12
Financial sector	-0.02	-0.09	-0.06	-0.05
Net consumption gain	0.02	0.10	0.05	0.07

Note: In (4) the interest rate is used is the average on government bonds, corporate debt and mortgages weighted by share of all nonfinancial debt. In (5) we use simple model where marginal propensity for net debtors (non-financial sector) to consume is 1.0 and for net creditors (financial sector) is 0.5. Source: Barclays Capital

Combating deflation

The IMF suggests higher inflation would allow more room for monetary policy

Based on a simple Taylor rules nominal interest rates should be between -3 to -5 percent in several of the G4 countries. But the zero nominal interest rate bound prevented them from being so low. Blanchard et al (IMF, 2009) highlighted that one of the one main implications of this was the need for more reliance on fiscal policy and for larger deficits than would have been the case absent the binding zero interest rate constraint. As a result, the IMF suggests: “It appears today that the world will likely avoid major deflation and thus avoid the deadly interaction of larger and larger deflation, higher and higher real interest rates, and a larger and larger output gap. But it is clear that the zero nominal interest rate bound has proven costly. Higher average inflation and thus higher nominal interest rates to start with, would have made it possible to cut interest rates more, thereby probably reducing the drop in output and the deterioration of fiscal positions.”

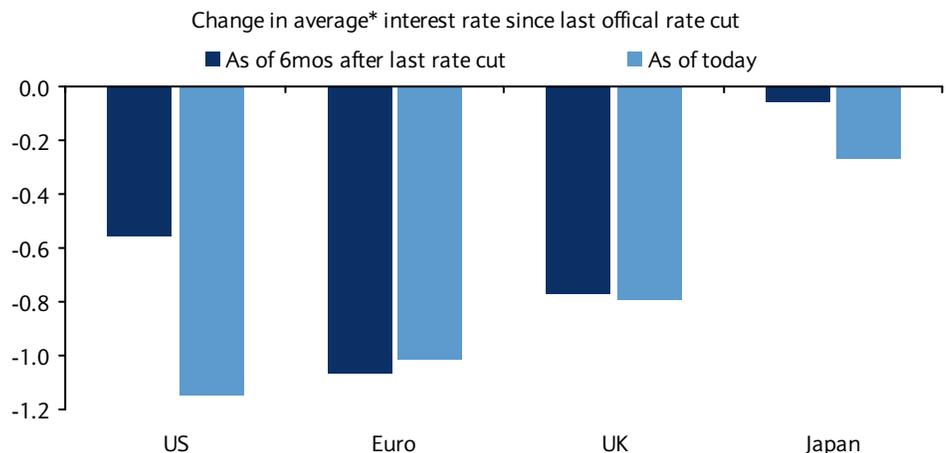
We have seen last year that a zero bound is not a limit for central bankers

We believe this conclusion assumes that short-term nominal interest rates are the only instrument available for central bankers. As has been particularly clear in 2008-09, central bankers have been able to influence other interest rates beyond the overnight policy rate. Through purchases of assets of different maturity they have been able to affect the entire yield curve without changing the overnight rates. Figure 10 shows how much the relevant interest rates for the private sector have fallen since short-term rates have hit their lows. While it is true that long-term rates have moved for reasons other than policy, it is undeniable that QE has had an impact on the relevant funding rates for the private sector. QE is enough ammunition for central bankers to fight deflation when hitting the zero-interest rate bound. For this reason, we do not believe that it is warranted to modify the inflation target to combat deflation. It is hard to quantify how much the option value is of having more room to manoeuvre in terms of short-term rates to prevent deflation, but we believe that given the role played by QE, this value has fallen considerably and may now be negligible.

QE can accomplish same objectives as a reduction in overnight rates

However, some of the benefits from above-target inflation that we highlighted in previous sections could also be achieved with an immediate change in inflation targets. If central bankers announced an immediate increase in targets and inflation moved beyond previous targets, existing labor contracts and expenditure plans are likely not to incorporate the higher inflation for some time, typically until the contracts are renegotiated. This could imply some short-term benefits from the nominal stickiness of many of the existing real and fiscal conditions, as argued in our previous discussion.

Figure 10: Change in average interest rates since last central bank rate cut



Source: Haver, Barclays Capital

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