

## CAPITAL MARKETS ECONOMICS

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## Special Report: Challenges Confronting The Bank Of Japan's Attempted Reflation

- **Markets are too aggressively assuming that the Bank of Japan's latest attempt at reflating the Japanese economy will succeed.**

The Bank of Japan's aggressive monetary easing faces numerous hurdles on the path to generating a higher promised 2% inflation target. We therefore think that markets may be overly optimistic regarding the ability to generate the higher inflation and higher nominal company earnings that would come anywhere close to justifying:

1. the 56% rise in the Nikkei since it picked up on policy expectations last November (26% in USD),
2. the nearly 30% depreciation in the yen against the USD since September, and
3. a sharp pick-up in market inflation expectations (chart 1).

In a nutshell, we believe that the BoJ's policies may stoke improvements in exports and hence the volume of net trade with positive implications for growth, but would do so at the expense of the outlook for consumer spending. That's because BoJ policy could well feed a relative price shock via higher energy import costs that will crowd out other consumer spending while other forces will also weigh against pass-through benefits of easier monetary policy. In particular, soaring electricity prices due to a policy bias against nuclear power will add to the near-term inflation upside that will ultimately turn disinflationary after non-energy spending is crowded out.

### 1. Japan Has Tried Before — Without Success

The first point is to acknowledge an argument often made by former BoJ Governor Shirakawa. Two percent inflation was achieved in late 1997 and early 1998, as well as 2008, but the experiences were always very fleeting (chart 2).

### 2. Japan Won't Get The Type Of Inflation Shock It Wants

One way in which it is hoped that Japan might be more successful at generating inflation this time around is through the impact of yen depreciation. A depreciated currency can make the prices of imported goods more expensive to domestic consumers — all else equal.

As chart 2 also depicts, large bouts of currency depreciation using the nominal trade-weighted effective exchange rate of the yen versus a basket of the currencies of its trading partners have indeed been associated with accelerated rates of inflation. The fact that these periods have never carried lasting consequences, however, may be due to how yen depreciation works on measures of inflation in first round and second round effects which is the primary point to what we now address.

Chart 1 **Markets Skeptical Toward BoJ's 2% Inflation Target**

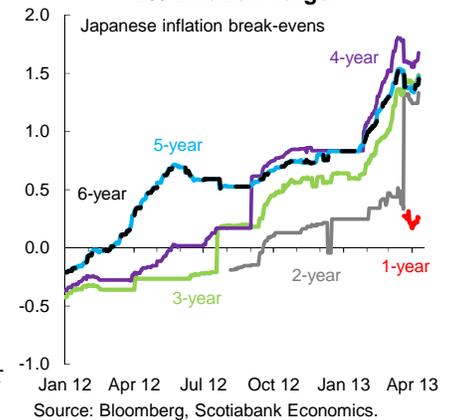
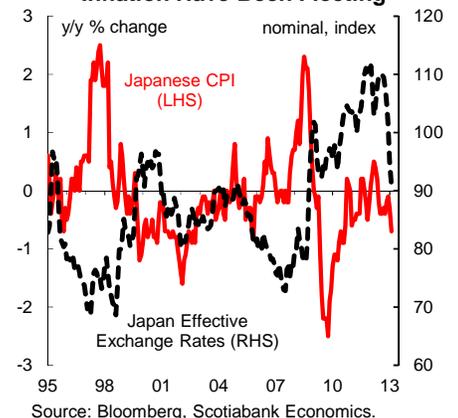


Chart 2 **Yen Depreciation & Higher Inflation Have Been Fleeting**



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Empirical attempts at measuring the pass-through effects of yen movements into import, export, and consumer prices over a period of about two years afterward tend not to support the view that yen depreciation can sustainably stoke domestic inflation.<sup>1</sup> That is not understood at first blush as chart 2 would suggest. As demonstrated in table 3 using the results of the 2012 study we cite below, the pass-through to total import prices across all goods categories is higher than it is for export prices; for each 1% depreciation in the yen, total import prices rise by about the same 1% (i.e., 100% pass-through of the effects of yen depreciation) but the pass-through on export prices is lower at about 0.4% (i.e., 40% pass-through). This might suggest that large imported price inflation can result on net from yen depreciation and is consistent with what was observed in Table 3.

The caveat is that, by import category broken apart in table 3, the pass-through effect is greatest for combined intermediate goods and raw materials, and most of that in turn is driven by pass-through to raw materials. Much of that is driven by energy products like higher gasoline prices. All of the strong pass-through effect into early stage inputs of raw materials and intermediate goods is then apparently absorbed in profit margins. This is evidenced by virtue of the fact that the pass-through effect of yen depreciation into 'final' imported goods prices is very weak. The table breaks out this pass-through effect for consumer durables, consumer nondurables and capital goods and shows that in each of these categories, every 1% depreciation in the currency yields less than one-twentieth of that effect on prices, or zero in the case of big-ticket consumer durables.

One risk implicit to yen depreciation is therefore that Japan may not get the inflation that it wants. Instead of motivating a broad-based improvement from deflation toward 2% generalized inflation, Japan could well incur a relative price shock via higher imported energy prices that crowd out pricing power for the rest of the economy. Given short-term household budget constraints, this turns toward becoming broadly disinflationary on the second round effects as households substitute toward spending more on what they have to (like energy and other raw materials) and relatively less on discretionary items (like cars, appliances, etc). Indeed, past periods of faster inflation have tended to depress real wages as nominal wage growth fails to keep up (chart 4). In turn, that saps pricing power for the rest of the economy. Whereas there has been limited pass-through to final goods prices as it seems that domestic companies have simply absorbed commodity price shocks in the past, the pass-through from the yen to raw-material prices is strongest, and raw material imports are an increasingly important chunk of Japan's total import bill — and its CPI (see table 5). In fact, mineral fuels combined account for almost a 40% weight in Japan's imports. In the wake of the Tohoku tragedy and the shut-down of Japan's nuclear energy apparatus, natural gas imports have surged. A weakening yen and fairly stable natural gas and fuel prices will combine to feed CPI through the commodities channel, sapping real wealth without necessarily stoking more economic activity.

### 3. The Hope Is An Improvement In Net Trade

The benefit from the weaker yen is supposed to come via export competitiveness. The study estimates a fairly strong pass-through from yen moves to export prices. For capital goods, the pass-through rate is 50-60%; for consumer durables, the pass-through is estimated at 40-50%; for consumer nondurables, the pass-through is estimated at about 30%. The caveat here is that Japan's export prices in general have fallen for the past 30 years, so it's hard to know if the responsiveness of export prices to currency changes has just been a result of the

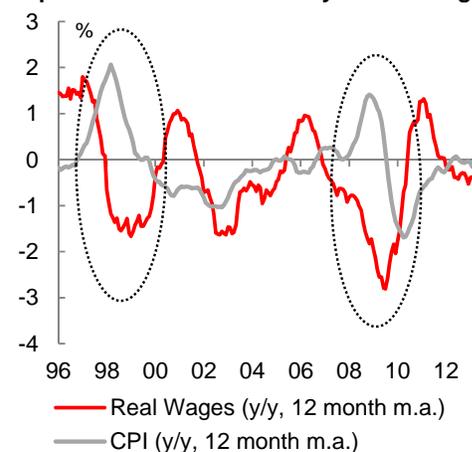
Table 3 Estimated JPY Pass-Through Factors

	Estimated Price Pass-Through
<b>Import Prices</b>	100%
Intermediate Goods & Raw Materials	>100%
Intermediate Goods	20-30%
All final imported goods	<10%
Capital Goods	<5%
Consumer Durables	-0%
Consumer Non-Durables	<5%
Real imports	<10%
<b>Export Prices</b>	40%
Capital Goods	50-60%
Consumer Non-Durables	30%
Consumer Durables	40-50%
Real exports	30-40%

Source: Japan MoF, Scotiabank Economics

Chart 4

### Japanese Inflation Eats Away at Real Wages



Source: BoJ, MoHLOW, Scotiabank Economics

Table 5

### Japan: Import Shares, February 2013

	Value (USD, BN)	Share (%)
<i>Foodstuffs</i>	5.13	7.74
<i>Raw Materials</i>	4.34	6.55
<i>Mineral Fuels</i>	25.76	38.86
Petroleum	13.31	20.08
Petroleum Products	2.98	4.5
LNG	6.56	9.9
LPG	1.10	1.66
Coal	1.77	2.67
<i>Chemicals</i>	5.40	8.15
Medical Products	1.86	2.81
<i>Manufactured Goods</i>	4.38	6.61
<i>Machinery</i>	4.44	6.7
<i>Electrical Machinery</i>	7.52	11.35
Semiconductors Etc.	1.64	2.48
<i>Transport Equipment</i>	1.80	2.71
Motor Vehicles & Parts	1.12	1.7
<i>Others</i>	7.50	11.32

Source: JETRO, Japan MoF, Scotiabank Economics

1. Etsuro Hioji, "The Evolution of the Exchange Rate Pass-Through in Japan: A Re-evaluation Based on Time-Varying Parameter VARs," *Japan Public Policy Review*, Volume 8, No.1, June 2012.

general downward trend in export prices — or if they have been responding to the currency. The bottom line is that Japan will require very strong export price pass-through to compensate for what is sure to be a significant shock to domestic prices of imported commodities. The evidence works against this argument through the much larger historical pass-through on headline import prices (mostly through raw materials) than export prices.

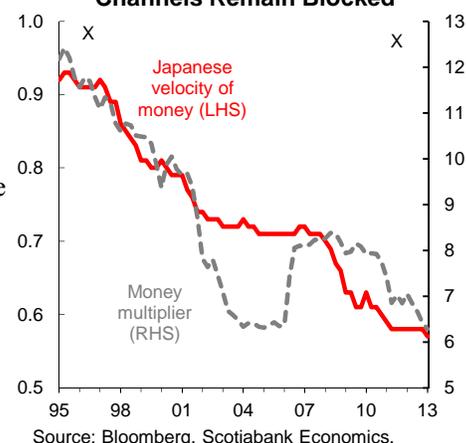
The hope, therefore, is that export growth will make up for higher import costs. As table 3 also demonstrated, the real, or inflation-adjusted volume of imports is less impacted by yen depreciation than the real volume of exports. That is, Japan's real trade balance should get a lift from yen depreciation and this could well assist in lifting GDP growth that is rooted in volume concepts. That would be a positive, but one that would be offset by the imposition of a relative price shock that would harm the consumer's impact upon GDP growth.

The additional caveat that we would add to the study is that most of the in-sample yen depreciations are fairly modest and today's sharp depreciation in an atmosphere of a fairly slow-growing global economy has few precedents and is essentially 'out of sample.'

#### 4. Money Creation Channels Are Still Blocked

The ability of an easier monetary policy to generate inflationary pressures is also dependent upon well-functioning credit creation channels. Otherwise, all the money in the world can be printed but it will be hoarded within the financial system and/or put right back to the liability side of the central bank's balance sheet as is generally the case in the US where excess reserves held by banks at the Federal Reserve have blossomed. What this hope runs up against is the fact that monetary policy transmission channels remain blocked in Japan. As chart 6 demonstrates, money multipliers and velocity have been in structural decline since the 1990s and are not signaling any recent improvement. As long as monetary stimulus fails to migrate through credit creation channels, sustainable inflation pressures are unlikely to be generated whether we are referencing Japan or other countries.

Chart 6 Monetary Policy Transmission Channels Remain Blocked



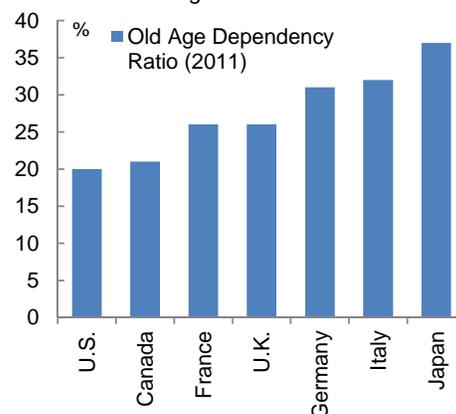
#### 5. Older Consumers Will Limit Inflation Pass-Through

One other factor determining the ability of the country's consumers to absorb price increases is governed by where they are in the life cycle. Younger households with faster growth in productivity and wages and who are entering peak years of consumption would be better able to tolerate some forms of higher inflation. Japan's challenge is the opposite (chart 7).

#### 6. How Electricity Policy Evolves Will Also Be Key

Because of the desire to shut down Japan's nuclear generating capabilities in the wake of the Fukushima/ Tōhoku disaster in March 2011, electricity prices have been rising to over 2-3 times higher than in markets like the US and South Korea and with further increases ahead. Chart 8 captures electricity prices as reflected in the country's CPI index and as such understates the greater increase in raw electricity prices before adjustments such as accounting for subsidies and intensity of use. Regardless, electricity prices within CPI have risen by 10% since 2010 with more hikes on the way this year. As the country faces whether to suffer further electricity price shocks in a weak economy or bring back lower marginal cost electricity production via the nuclear option, the role of electricity prices in driving inflation higher or lower hangs in the balance. As Japan takes steps to deregulate the distribution side of electric power markets, this could combine with ultimately bringing back nuclear power plants and thus putting downward pressure upon electricity prices and inflation in a manner that offsets the BoJ's attempts to reflate the economy. If this does not happen and electricity prices continue to rise or remain high, then they risk reinforcing our earlier arguments regarding the disinflationary consequences to other consumer prices by crowding out spending power through higher electricity prices and higher prices for imported raw materials, namely, oil and natural gas.

Chart 7 Japan Dependency Ratio: Highest in G-7

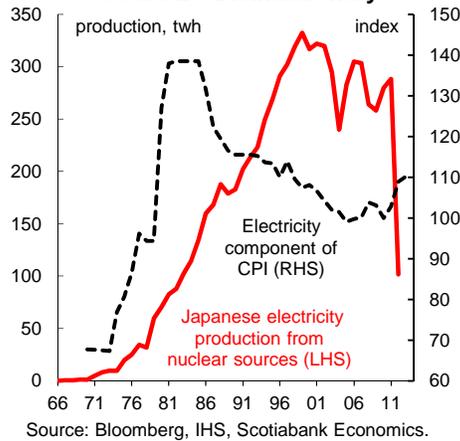


Source: World Bank, Scotiabank

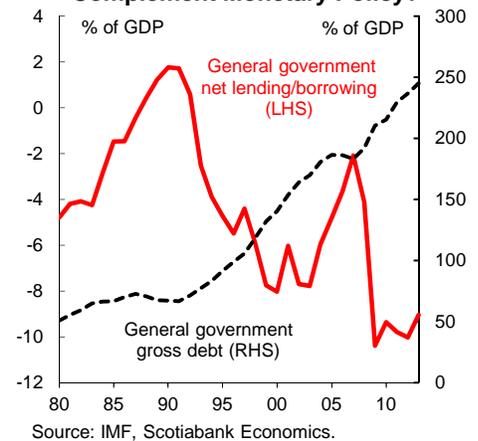
**7. Fiscal Policy Limits To Complementing Monetary Policy**

Our final point is that the Bank of Japan has leaned back upon the government of Prime Minister Shinzo Abe by stipulating that success in efforts to reflate the economy cannot rely exclusively upon monetary policy. Fiscal policy must also be employed, and it has been in the latest budget. While Japan's stretched fiscal position (chart 9) has to date not invoked much by way of market turmoil, it is a significant constraint on the ability of the government to further reinforce monetary policy stimulus without aggravating bond markets in such fashion as to carry offsetting results on the economy against stimulus efforts. To Japan's defence, however, it also has a strong financial asset position to net out against some of its indebtedness, and over 90% of its debt is domestically held by a relatively captive investor base. At about 250% of GDP, however, one would not wish to go too far in dismissing Japan's deep-seated long-run fiscal challenges.

**Chart 8 Bringing Nuclear Reactors Back Could Be Disinflationary**



**Chart 9 No Room For Fiscal To Complement Monetary Policy?**



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