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November 2016

PANORAMA

Abenomics: The first arrow has silent impact Japan's exports and the yen, why?

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By Jackit Wong, Coface Asia Pacific Economist



Since the launch of the Abenomics in early 2013, the focus has largely been on its first arrow, i.e., the aggressive monetary stimulus which the Bank of Japan (BOJ) kick-started in April 2013. Markets always call for - and in general welcome - the more expansionary monetary policy, but there have been numerous questions over the impact of the first arrow. In this report, we aim to provide some insights into the following two key questions.

I. Why did the yen depreciation, which occurred during the early success of the first arrow, not boost Japan's merchandise exports?

One easy explanation would be to blame the external forces of subpar world economic growth, which has been weighing on global merchandise trade activities, including Japan's exports. A more structural reason is the "pricing-to-market" behaviour of Japanese exporters, which is keeping export prices at the foreign-currency

equivalent of their domestic prices steady, despite the level of the yen. Thus, stimulation of the demand for Japan's exports would be limited.

This pricing-to-market behaviour of Japanese exporters may not be welcome by the BOJ, but it has probably helped to contribute to the growth of Japanese manufacturers' operating profits since the depreciation of the yen in recent years, as they have been largely export-oriented.

Another important factor determining the impact of the yen's fluctuations on the profitability of Japanese manufacturers could be the share of invoice currency in their exports. Industries with a lower degree of exported product differentiation, resulting in a smaller share of yen invoicing, are more sensitive to fluctuations in the yen. These industry players are therefore more vulnerable during times of yen strengthening, but enjoy boosted profitability during times of yen weakening. Combining these theoretical and empirical assessments, the textile and chemical industries are more vul-

nerable in times of yen strengthening, while the general machinery industry is relatively less so.

II. Why has the more expansionary monetary policy introduced by the BOJ been losing steam on driving down the yen since 2016?

Against the backdrop of market turbulence in 2016, the safe haven status of the Japanese yen kept the yen at a somewhat stronger level, despite the country's even more expansionary monetary policy. More importantly, with all things being equal, the marginal effects of further monetary stimulus would diminish. The latest figures suggest that Japan could, once again, be in a liquidity trap. What is more alarming is that there has been little sign of the risks of deflation waning.

All in all, with limited possibilities for either monetary or fiscal policy, the Japanese government needs to undertake bold deregulation and structural reforms in order to boost productivity and growth in wages. If not, Japan's situation of low-growth and deflation is set to remain.

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ABENOMICS: THE FIRST ARROW HAS SILENT IMPACT ON JAPAN'S EXPORTS AND THE YEN, WHY?

BY OUR ECONOMIST



JACKIT WONG

Economist, Asia Pacific
Based in Hong Kong

« Despite the silent impact of the first arrow on Japan's exports, the operating profits of Japanese manufacturers which have been mainly exported oriented surged, in part due to their pricing-to-market behaviour. »

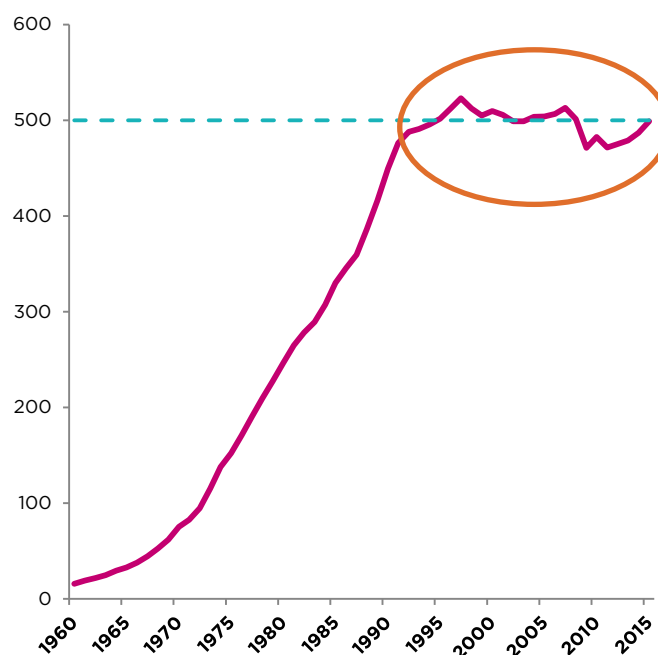
Abenomics, the programme of economic policies with three policy arrows (namely (i) aggressive monetary stimulus, (ii) fiscal "flexibility" and (iii) structural reform), was unveiled and launched in early 2013 by Japan's Prime Minister, Shinzo Abe. The programme aims to remedy the economic stagnation of the last two decades, which have seen almost muted growth in nominal gross domestic product (GDP) (Graph 1). Several analyses of the performance of Abenomics have already been published. Of these, the most recent reports include "How to reload Abenomics?"¹ released by the International Monetary Fund (IMF) -

which raises some concerns - and "Abenomics is progressing!"² published by the Japanese government and which sets a positive tone on the progress so far.

The first and best known arrow of Abenomics, was the aggressive monetary stimulus launched by the Bank of Japan (BOJ) in April 2013. Although markets always call for and, in general, welcome more expansionary monetary policy, there have been numerous queries on the impact of the first arrow. In this report, we aim to provide some insights into the following two key questions:

- I. Why did the yen depreciation, which occurred during the early success of the first arrow, not boost Japan's merchandise exports?
- II. Why has the more expansionary monetary policy introduced by the BOJ been losing steam on driving down the yen since 2016? (Box 1)

Graph 1:
Annual nominal GDP (in JPY trillion)



Source: CEIC, Coface (Last update: Jul 8, 2016)

¹ IMF News Articles, [How to reload Abenomics?](#), August 2, 2016

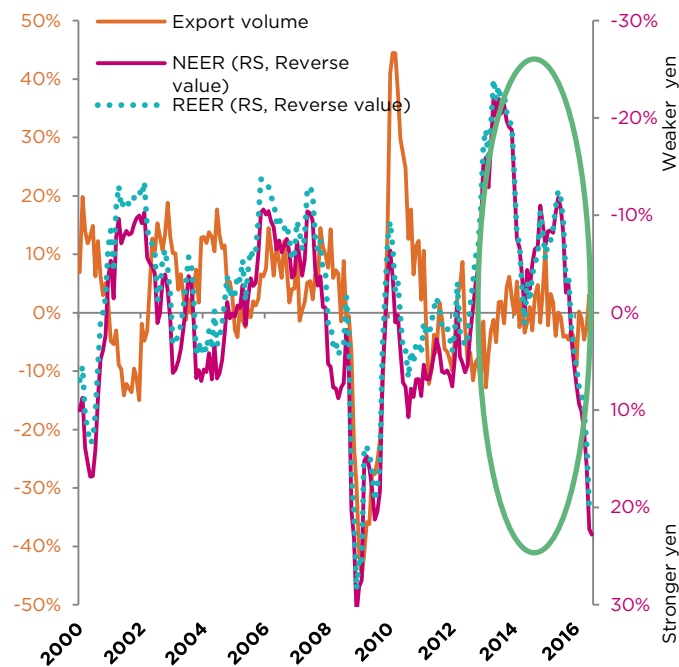
² The Government of Japan, [Abenomics is progressing!](#), September 15, 2016

I. Why did the yen depreciation, which occurred during the early success of the first arrow, not boost Japan's merchandise exports?

Conventional wisdom suggests that the depreciation of the yen, amid aggressive monetary stimulus, should help boost Japan's exports. At first glance, the headline figures on Japan's exports support this wisdom. The value of Japan's exports (in yen) rose 6.7% on a yearly average basis in the period from 2013 to 2015, while the nominal effective exchange rate (NEER) plunged by a total of 28.6% (a fall of 10.4% on a yearly average basis). Details on the value of merchandise exports in Japan are shown in Box 2.

However, this is only part of the whole picture. Japan's export volume (a more accurate indicator on the real growth of merchandise exports), declined by 0.7% on a yearly average basis in the period from 2013 to 2015. This is despite the fact that the real effective exchange rate (REER) plunged by a total of 29.7% (a fall of 10.8% on a yearly average basis) during the same period (Graph 2).

Graph 2: Export volume, nominal effective exchange rate (NEER), real effective exchange rate (REER) (YoY, %)



Two key factors could explain the “abnormality” of the muted real growth of Japan's merchandise exports, including (i) externalities and (ii) export prices (Chart 1).

Chart 1: Economic relationship between exchange rate fluctuations and exports



Source: Coface

(i) Externalities: Sluggish growth in global merchandise trade

The world economy has been growing at subpar level of below 3%, since 2012. Coface forecasts little improvement for 2016 and 2017. The continued stagnation of world economic growth of below 3%³, is likely to continue to weigh on global trade activities.

The latest report, released by the World Trade Organization (WTO)⁴, shared similar views. Global growth of merchandise trade (in volume) was mild, growing by an annual average of 2.6% in the period from 2013 to 2015. The WTO expects global growth of merchandise trade to be further subdued in 2016, at just 1.7%, with between 1.8% and 3.1% forecast for 2017.

Against the backdrop of subpar global economic growth of below 3%, since the first arrow of Abenomics was launched, in 2013, world growth in merchandise trade has been far below both the 10 and 20-year average rates (of 3.4% and of 4.7%, respectively). **Despite the aggressive depreciation in the yen, the negative external factors of subpar growth in world economics and merchandise trade have both weighed on trade activities in Japan.**

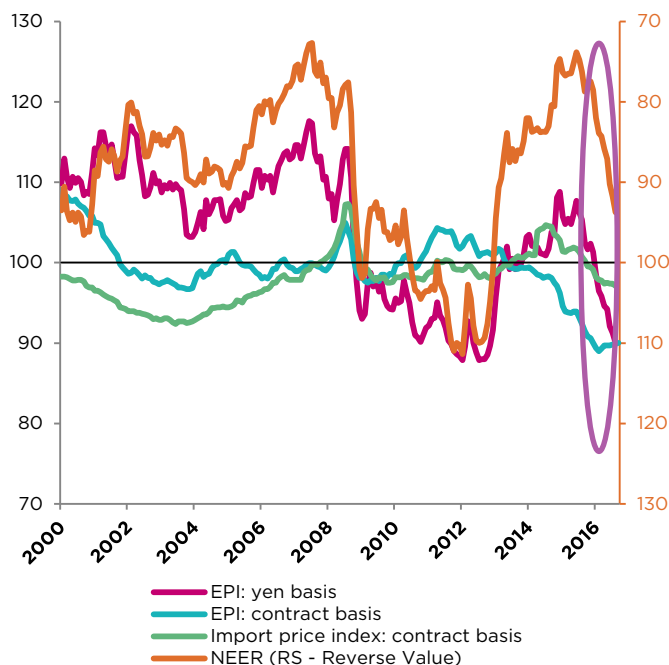
(ii) Sticky export prices (foreign currency contract basis)

If the yen depreciation (or appreciation) leads to a decrease (or increase) in Japan's foreign currency contract-based export prices - i.e., export prices at the foreign-currency equivalent of their domestic price - there will be a greater (smaller) demand for Japanese goods in foreign markets. In other words, Japan's exports, in terms of volume, will increase (decrease). However, **Japan's foreign currency contract-based export prices have always been rather sticky in comparison to the volatile NEER movements** (Graph 3).

It is also of interest to note that foreign currency contract-based export prices have been on a downward trend since mid-2015, despite the rebound in the yen. This was probably due to a significant plunge in import prices - especially for petroleum, coal and natural gas, due to low international energy prices (Graph 4). This drove down overall prices for producers and the production costs of Japanese manufacturers. Coface expects a modest recovery in international energy prices, which is likely to drive up Japan's import prices, producer prices, production costs and, thereafter, export prices next year. Foreign currency contract-based export prices are therefore likely to increase slightly, to remain sticky in the long-term.

Graph 3:

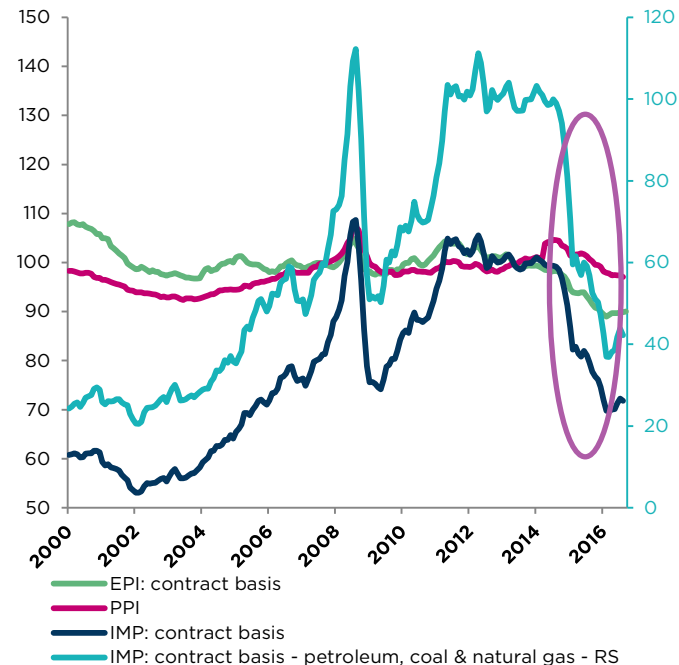
Export price index (EPI): yen basis, EPI: contract basis, Producer price index (PPI) and NEER (2013 = 100)



Source: CEIC, Coface (Last update: Oct 14, 2016)

Graph 4:

EPI: contract basis, PPI and Import price index (IMP): contract basis and IMP: petroleum, coal & natural gas (2013 = 100)



Source: CEIC, Coface (Last update: Oct 14, 2016)

³ For more details, please refer to Coface, *Country Risk Barometer Q3 2016*, October 17, 2016.

⁴ Source: World Trade Organization, *World trade statistical review 2016*, July 21, 2016

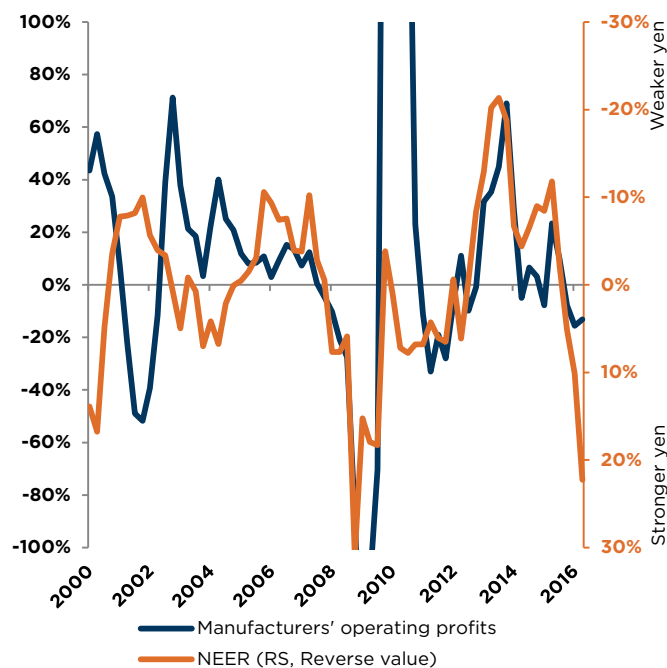
The pricing-to-market behaviour of Japanese exporters is one of the key reasons for the rather sticky foreign currency contract-based export prices. When the yen fluctuates (no matter whether it depreciates or appreciates), Japanese exporters tend to keep foreign currency contract-based export prices at a fairly constant level, in order to retain their foreign market share. This practice is commonly known as pricing-to-market behaviour. This behaviour was observed during a study carried out by the Japan Center for Economic Research (2014)⁵, which analysed that the pass-through rate⁶ of yen fluctuations (indicated by NEER) to Japan's foreign currency contract-based export prices could be as low as 10%. This low pass-through rate, means that fluctuations in the yen – whether they be appreciations or depreciations – have only a modest impact on foreign currency contract-based export prices. This implies that the BOJ's aggressive monetary stimulus will probably

only have a limited impact on boosting Japan's export volume.

The pricing-to-market behaviour of Japanese exporters might not be welcome by the BOJ, but it has probably helped contribute to the growth in operating profits of Japanese manufacturers – which have been mainly export-oriented in recent years.

Due to this pricing-to-market behaviour, the growth in operating profits of Japanese manufacturers emulates fluctuations in the yen. The BOJ's aggressive monetary stimulus should therefore have cheered up Japanese manufacturers. This is consistent with the general market's belief that the weaker the yen, the greater the operating profits of Japanese manufacturers – and vice versa (Graph 5).

Graph 5: Manufacturers' operating profits and NEER (YoY, %)



Source: CEIC, Coface (Last update: Oct 1, 2016)

Another important factor determining the impact of yen fluctuations on the profitability of Japanese manufacturers, is the share of invoice currency in their exports.

With the pricing-to-market behaviour, the greater the share of yen invoicing in Japan's exports, the lower the impact of yen fluctuations on the profitability of Japanese exporters (and vice versa). The latest figures (as of the first half of 2016)⁷ show that 37.1% of Japan's merchandise exports were invoiced in yen. The remaining 62.9% were invoiced in foreign currencies - of which the US dollar was predictably predominant.

The invoicing behaviour of Japanese exporters is a complex research area. Some studies⁸ have suggested that their decisions on invoice currencies mainly depend on the volatility of exchange rates and

the exported product differentiation. For example, Ito, Koibuchi, Sato and Shimizu (2016) estimated that, in December 2015, 59.4% of Japan's exports in the general machinery industry were invoiced in yen, compared to just 35.9% for industry overall. This is because the general machinery industry offers the highest degree of product differentiation among all other industries.

The degree of exported product differentiation could help in understanding and reasonably identifying which Japanese industries have a larger share of exports with yen invoicing, approximately related to the sensitivity of their respective profitability to fluctuations in the yen. All things being equal, the higher the degree of exported product differentiation, the lower the price elasticity, the bigger the share of the domestic currency invoicing and the lower the sensitivity of

⁵ Source: Saito (2014), Export Performance under Depreciation, Japan Center for Economic Research, June 3, 2014

⁶ The pass-through rate is the ratio of the exchange rate fluctuation that shows up in foreign-currency denominated export prices.

⁷ Source: Customs and Tariff Bureau, Ministry of Finance Japan

⁸ Sources: Oi, Otani, and Shirota (2003), The Choice of Invoice Currency in International Trade: Implications for the Internationalization of the Yen, BOJ Institute of Monetary and Economic Studies Discussion Paper 2003 E-13; Ito, Koibuchi, Sato and Shimizu (2010), Why has the yen failed to become a dominant invoicing currency in Asia? A firm-level analysis of Japanese Exporters' invoicing behavior, NBER Working Paper No. 16231, July 2010; Ito, Koibuchi, Sato and Shimizu (2016), Choice of Invoice Currency in Japanese Trade: Industry and commodity level analysis, RIETI Discussion Paper Series 16-E-031, March 2010

the industry to domestic exchange rate fluctuations. This makes industry less vulnerable (and vice versa).

In Japan, an industry with a lower degree of exported product differentiation – which results in a smaller share of exports invoiced in yen - is more sensitive to fluctuations in the yen. These industry

players are therefore more vulnerable when the yen strengthens – but see their profitability boosted when the yen weakens. Based on the assessment of the degree of product differentiation and share of yen invoice in exports (Table 1), the textile industry is the most vulnerable when the yen strengthens, while the general machinery industry is the least vulnerable.

Table 1: Vulnerability amid yen appreciation by industry, based on degree of product differentiation and share of yen invoicing in exports

Industry	Degree of product differentiation	Share of yen invoicing in exports	Vulnerability amid yen appreciation
	Rank 1: Lowest; Rank 6: Highest		
Textile	1	1	6
Chemicals	3	3	4
Metals	2	2	5
General machinery	6	6	1
Electric & electronics	5	5	2
Transportation	4	4	3

Source: BOJ, Ito, Koibuchi, Sato and Shimizu (2016), Coface assessments

Another angle for assessing the impact of yen depreciation on exports, by industry, is to study the annualised ratio (denoted as R) of an industry's export growth rates compared to the growth rate for total exports, during the period from 2013 to 2015. The higher the ratio for a particular industry, the stronger the impact of yen depreciation has on its export growth relative to growth in total exports (and vice versa). In times of yen weakening, the chemicals industry is found to benefit most among the 6 industries, closely followed by the textile industry. Thus, in a reverse situation, when the yen is strengthening, the chemicals industry is expected to be the most vulnerable, closely followed by the textile industry (Table 2).

The result, based on the ratio 'R', is mainly aligned with the degree of product differentiation and the share of exports invoiced in yen - with the exception of the metals industry. The main reason behind this exceptional result for the metals industry is the muted global demand for metals - which is reducing the impact of yen depreciation on the industry's export growth rate. As a result, we reject the notion that the metals industry is the least vulnerable to yen appreciation, despite its lowest rank among all industries.

In summary, in times of yen strengthening, the textile and chemicals industries would be more vulnerable, while the general machinery industry would be relatively less so.

Table 2: Vulnerability amid yen appreciation, by industry, based on the ratio R

Industry	Ratio R	Vulnerability amid yen appreciation
	Rank 1: Lowest; Rank 6: Highest	
Textile	5	2
Chemicals	6	1
Metals	1	6
General machinery	2	5
Electric & electronics	3	4
Transportation	4	3

Source: BOJ, Coface assessments

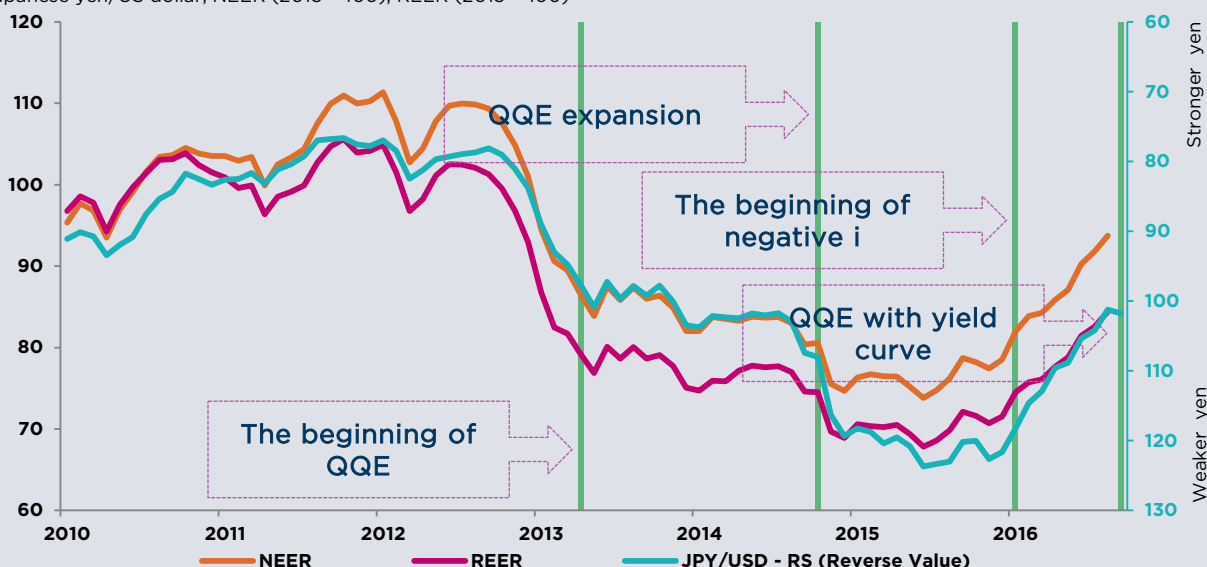
Box 1

II. Why has the more expansionary monetary policy introduced by the Bank of Japan been losing steam on driving down the yen since 2016?

Since the launch of Abenomics in early 2013, the Bank of Japan (BOJ) has been aggressively easing its monetary policy, from the introduction of the “Quantitative and Qualitative Monetary Easing (QQE)” in April 2013 and the modified “QQE with a Negative Interest Rate” in January 2016, to the most recently announced “QQE with Yield Curve Control” in September 2016 (Appendix 1⁹).

In theory, an increase in money supply amid expansionary monetary policy would lead to a currency depreciation which could be measured by a decrease in the nominal effective exchange rate (NEER) and the real effective exchange rate (REER), or against the US dollar. For the Japanese yen, this causality was more obvious when the BOJ announced the introduction of QQE in April 2013, but **it has appeared to be less so since the start of this year** (Graph 6).

Graph 6:
Japanese yen/US dollar, NEER (2013 = 100), REER (2013 = 100)



Source: CEIC, IMF, Coface (Last update: Sep 26, 2016)

There are two main reasons for this puzzling situation:

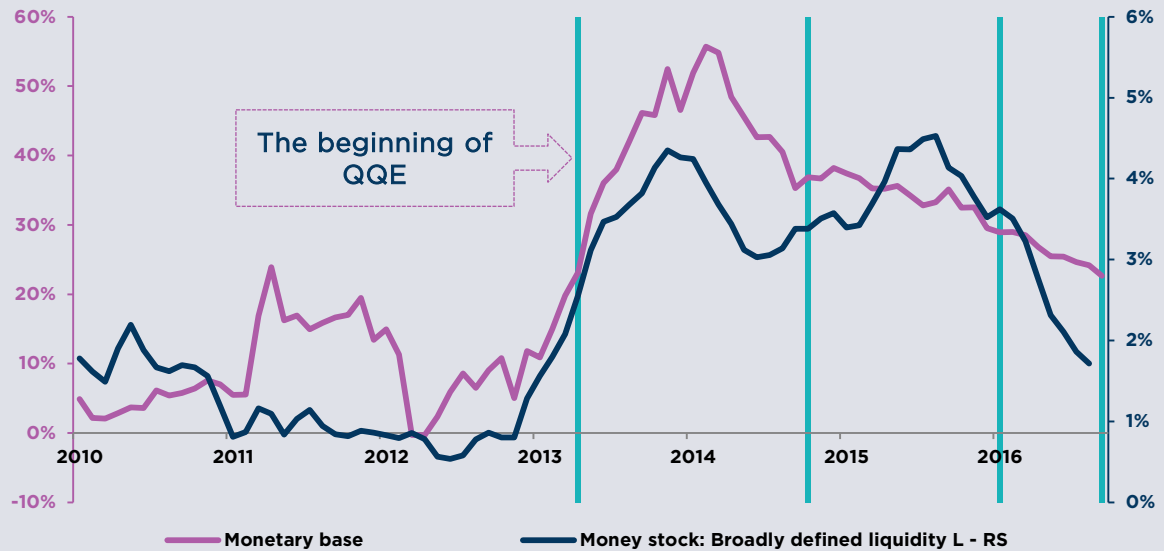
(i) **Diminishing marginal effect of further monetary stimulus**

Before the launch of Abenomics, Japan was in a liquidity trap - a situation which is described in Keynesian Economics as being one in which prevailing interest rates are low and saving rates are high, thus making conventional monetary policy ineffective. The first arrow of Abenomics, the aggressive monetary stimulus with a sharp increase in monetary base, had some success initially, by boosting the growth of money supplies (in the broad sense), indicated by money stock and broadly defined as liquidity L^{10} . Nevertheless, **the growth in money supply slowed significantly this year, to fall to the pre-Abenomics level** (Graph 7). This suggests that Japan might be, once again, in a liquidity trap.

⁹ The major policy changes announced by the BOJ in the period from 2013, to the latest monetary policy meeting on Sep 20 - 21, 2016 are summarised in Appendix 1.

¹⁰ According to the definition of the BOJ, $L = M3 + \text{pecuniary trusts} + \text{investment trusts} + \text{bank debentures} + \text{straight bonds issued by banks} + \text{commercial paper issued by financial institutions} + \text{government securities} + \text{foreign bonds}$. Industry and commodity level analysis, RIETI Discussion Paper Series 16-E-031, March 2010.

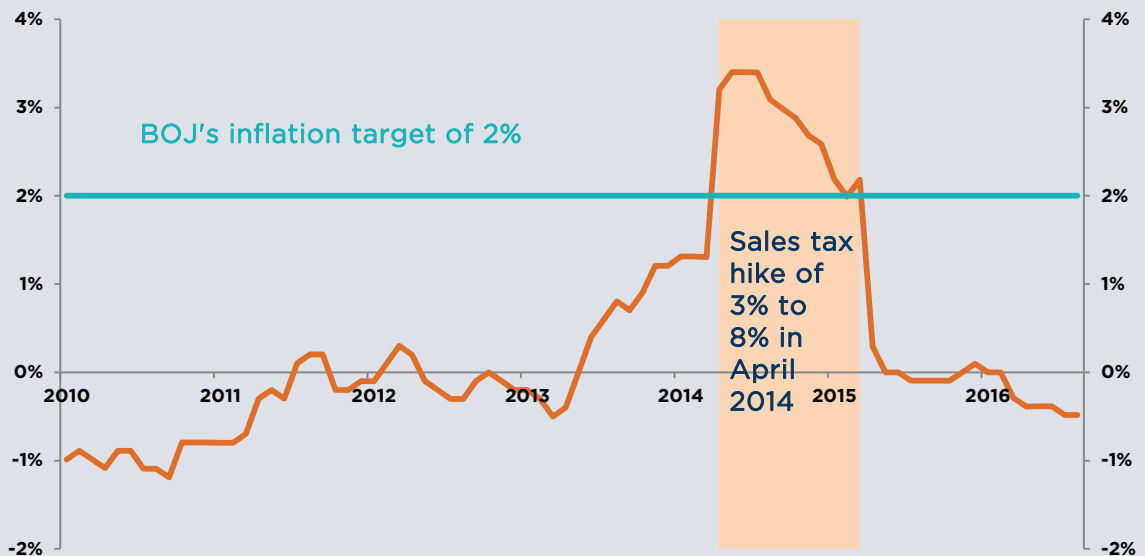
Graph 7:
Monetary base vs. money stock: Broadly defined liquidity L (YoY, %, average)



Source: BOJ, Coface (Last update: Oct 4, 2016)

In addition, Japan's core consumer price inflation – for which the BOJ is trying to stably overshoot its target of 2% – shared similar patterns. The period when core consumer price inflation was accelerating above the BOJ's target was indeed due to the second arrow of Abenomics, with the hike in sales taxes of 3% to 8%. Shortly after the policy was implemented, core consumer price inflation lingered around the zero-horizontal line, before going consistently into negative territory in 2016 (Graph 8). The latest figures show that core inflation stood at -0.5% in August 2016 (vs. -0.5% in July), making it the sixth straight month in negative territory. **The core inflation level has thus returned to its level prior to the BOJ's launch of unprecedented monetary stimulus. This would indicate that Japan's risk of deflation remains after all.**

Graph 8:
Core consumer price index (YoY, %) vs. BOJ's inflation target



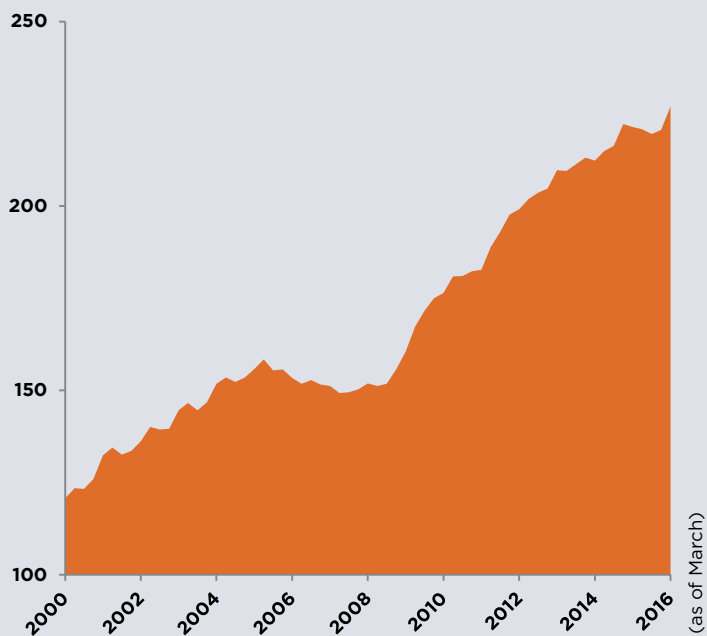
Source: CEIC, BOJ, Coface (Last update: Oct 3, 2016)

(ii) The safe haven status of the Japanese yen

In times of market turbulence (such as renewed concerns over the Greek crisis in July 2015, a significant sell-off of equities – such as seen in mainland Chinese markets in January 2016 – and the unexpected result of the Brexit referendum in June), the Japanese yen tends to appreciate against the US dollar. According to the IMF working paper written by Botman, Filho and Lam (2013)¹¹, the Japanese yen risk-off appreciation is unrelated to expectations on the progress of monetary policy.

All in all, with limited scope for monetary and fiscal policy (with the public debt to GDP ratio (graph 9) reaching 249.3% this year¹²), the Japanese government needs to undertake bold deregulation and structural reforms if it is to boost productivity and growth in wages. If not, Japan's situation of low-growth and deflation is likely to remain.

Graph 9:
Japan's government debt to GDP ratio (%)



Source: BIS, Coface (Last update: Sep 18, 2016)

¹¹ Dennis Botman, Irineu de Carvalho Filho, and W. Raphael Lam (2013), The Curious Case of the Yen as a Safe Haven Currency: A Forensic Analysis, IMF Working Paper WP/13/228.

¹² This estimate is from the Global Financial Stability Report (April 2016) released by International Monetary Fund on April 13, 2016.

Box 2

Summary of Japan's merchandise exports

Japan is one of the world's leading exporters of merchandise (Table 3). It focuses on the export of high added value merchandise (Table 4), exporting to both advanced and developed economies (Table 5).

Table 3: Top 10 world exporters of merchandise trade, 2015

Rank	Exporter	Value (USD billion)	Share of total world merchandise exports (%)
1	China	2,275	13.8%
2	US	1,505	9.1%
3	Germany	1,329	8.1%
4	Japan	625	3.8%
5	Netherlands	567	3.4%
6	Korea	527	3.2%
7	Hong Kong*	511 (498)	3.1% (3.0%)
8	France	506	3.1%
9	UK	460	2.8%
10	Italy	459	2.8%

Source: WTO Secretariat, Coface *(): Re-exports value

Table 4: Breakdown of Japan's merchandise exports (in yen) by main commodity group, 2015

Rank	Commodity group	Value (JPY billion)	Share of total Japan's merchandise exports (%)
1	Transport equipment	18,141	24.0%
2	General machinery	14,242	19.1%
3	Electrical machinery	13,289	17.6%
4	Manufactured goods	9,220	12.2%
5	Chemicals	7,759	10.3%

Source: CEIC, Coface (Last update: Oct 24, 2016)

Table 5: Breakdown of Japan's merchandise exports (in yen) by main destination, 2015

Rank	Destination	Value (JPY billion)	Share of total Japan's merchandise exports (%)
1	US	15,225	20.1%
2	China	13,223	17.5%
3	ASEAN (10)^	11,495	15.2%
4	European Union (28)^	7,985	10.6%
5	Korea	5,327	7.0%
6	Taiwan	4,473	5.9%
7	Hong Kong	4,236	5.6%

Source: CEIC, Coface (Last update: Oct 24, 2016) ^: More than one economies

APPENDIX 1:

Summary: The Bank of Japan's major policy changes (2013 - September 2016)

Date	Decision	Summary												
Jan 21-22, 2013	Introduction of the "Price Stability Target" and the "Open-Ended Asset Purchasing Method"	<ul style="list-style-type: none"> - Set the price stability target at 2% in terms of the year-on-year rate of change in the consumer price index (CPI) - No change to its asset purchase program ended in 2013, with a net increase of JPY 36 trillion - To make monthly asset purchases of about JPY13 trillion since 2014, but the incremental effect of the "open-ended" program would be an increase of JPY 10 trillion by the end of 2014 												
Apr 3-4, 2013	Introduction of the QQE	<ul style="list-style-type: none"> - Introduced QQE (in JPY trillion) <table border="1"> <thead> <tr> <th>Total</th> <th>JGBs</th> <th>ETFs</th> <th>JREITs</th> <th>CPs</th> <th>CBs</th> </tr> </thead> <tbody> <tr> <td>60 - 70</td> <td>50</td> <td>1</td> <td>0.03</td> <td>2.2</td> <td>3.2</td> </tr> </tbody> </table> <ul style="list-style-type: none"> JGBs: Japanese government bonds, with average maturity of 7 years ETFs: Exchange-traded funds JREITs: Japan real estate investment trusts CPs: Commercial papers (Outstanding) CBs: Corporate bonds (Outstanding) - Terminated its asset purchase program 	Total	JGBs	ETFs	JREITs	CPs	CBs	60 - 70	50	1	0.03	2.2	3.2
Total	JGBs	ETFs	JREITs	CPs	CBs									
60 - 70	50	1	0.03	2.2	3.2									
Feb 17-18, 2014	Extension and Enhancement of the Stimulating Bank Lending Facility and the Growth-Supporting Funding Facility	<ul style="list-style-type: none"> - No change to QQE - Expanded existing loan program and other measures via an increase in maximum amount and deadline extension of one year 												
Oct 30-31, 2014	Expansion of the QQE	<ul style="list-style-type: none"> - Expanded QQE (in JPY trillion) <table border="1"> <thead> <tr> <th>Total</th> <th>JGBs</th> <th>ETFs</th> <th>JREITs</th> <th>CPs</th> <th>CBs</th> </tr> </thead> <tbody> <tr> <td>80</td> <td>80</td> <td>3</td> <td>0.09</td> <td>2.2</td> <td>3.2</td> </tr> </tbody> </table> <ul style="list-style-type: none"> JGBs: Average maturity of 7 - 10 years ETFs: ETFs tracking the JPX-Nikkei Index 400 are eligible for purchase 	Total	JGBs	ETFs	JREITs	CPs	CBs	80	80	3	0.09	2.2	3.2
Total	JGBs	ETFs	JREITs	CPs	CBs									
80	80	3	0.09	2.2	3.2									
Nov 18-19, 2014	Amendment to "Principal Terms and Conditions for Purchases of ETFs and J-REITs"	<ul style="list-style-type: none"> - ETFs: Maximum amount of each ETF to be purchased, for ETFs that track any of the three indices (TOPIX, Nikkei 225 and JPX-Nikkei Index 400) set so that the BOJ's purchase would roughly be proportionate to the total market value of that ETF issued 												
Jan 20-21, 2015	Extension of the Stimulating Bank Lending Facility and the Growth-Supporting Funding Facility	<ul style="list-style-type: none"> - Expanded existing loan program and other measures via an increase in maximum amount and deadline extension of one year 												
Dec 17 - 18, 2015	Introduction of Supplementary Measures for QQE	<ul style="list-style-type: none"> - Minor changes to QQE (in JPY trillion) <table border="1"> <thead> <tr> <th>Total</th> <th>JGBs</th> <th>ETFs</th> <th>JREITs</th> <th>CPs</th> <th>CBs</th> </tr> </thead> <tbody> <tr> <td>80</td> <td>80</td> <td>3.3</td> <td>0.09</td> <td>2.2</td> <td>3.2</td> </tr> </tbody> </table> <ul style="list-style-type: none"> JGBs: Average maturity of 7 - 12 years ETFs: A new program of JPY 300 billion to purchase ETFs composed of stocks issued by firms that are proactively making investment in physical and human capital JREITs: Maximum amount of each JREIT issue: 10% (instead of 5%) of the total amount issued - Enhanced existing loan program and other measures via simplified procedures and deadline extension of one year 	Total	JGBs	ETFs	JREITs	CPs	CBs	80	80	3.3	0.09	2.2	3.2
Total	JGBs	ETFs	JREITs	CPs	CBs									
80	80	3.3	0.09	2.2	3.2									

Date	Decision	Summary												
Jan 28-29, 2016	Introduction of QQE with a Negative Interest Rate	<ul style="list-style-type: none"> No change to QQE Introduced a three-tier negative interest rate system <table border="1"> <thead> <tr> <th>Basic balance</th> <th>Macro add-on balance</th> <th>Policy rate balance</th> </tr> </thead> <tbody> <tr> <td>0.1%</td> <td>0%</td> <td>-0.1%</td> </tr> </tbody> </table>	Basic balance	Macro add-on balance	Policy rate balance	0.1%	0%	-0.1%						
Basic balance	Macro add-on balance	Policy rate balance												
0.1%	0%	-0.1%												
April 27-28, 2016	Establishment of "Principal Terms and Conditions for the Funds-Supplying Operation to Support Financial Institutions in Disaster Areas of the 2016 Kumamoto Earthquake"	<ul style="list-style-type: none"> No change to QQE No change to policy interest rates Established a new lending facility of JPY 300 billion with 0% interest rate 												
Jul 28-29, 2016	Enhancement of Monetary Easing	<ul style="list-style-type: none"> Minor changes to QQE (in JPY trillion) <table border="1"> <thead> <tr> <th>Total</th> <th>JGBs</th> <th>ETFs</th> <th>JREITs</th> <th>CPs</th> <th>CBs</th> </tr> </thead> <tbody> <tr> <td>80</td> <td>80</td> <td>6</td> <td>0.09</td> <td>2.2</td> <td>3.2</td> </tr> </tbody> </table> <ul style="list-style-type: none"> No change to policy interest rates Doubled its USD lending facility to USD 24 billion with a period of 4 years Twice as much of the FI's lending would be counted as macro add-on balance with 0% interest rate 	Total	JGBs	ETFs	JREITs	CPs	CBs	80	80	6	0.09	2.2	3.2
Total	JGBs	ETFs	JREITs	CPs	CBs									
80	80	6	0.09	2.2	3.2									
Sep 20-21, 2016	New Framework for Strengthening Monetary Easing: QQE with Yield Curve Control	<p>The new framework consists of the following two key components:</p> <ol style="list-style-type: none"> Yield curve control: BOJ will control both short-term and long-term interest rates. <ul style="list-style-type: none"> The short-term policy interest rate, i.e., interest rate on excess reserves that financial institutions park with BOJ, is unchanged at -0.1%. The long-term interest rate, i.e., yield of the 10-year Japanese government bonds (JGBs), will remain more or less at around 0%. Inflation-overshooting commitment: BOJ is committed to expanding the monetary base until the year-on-year rate of increase in the observed consumer price index (i.e., core CPI) stably exceeds its target of 2%. <ul style="list-style-type: none"> The ratio of the monetary base to nominal GDP is expected to exceed 100% in slightly over 1 year, up from the current level of 80%. Minor changes to QQE (in JPY trillion) <table border="1"> <thead> <tr> <th>Total</th> <th>JGBs</th> <th>ETFs</th> <th>JREITs</th> <th>CPs</th> <th>CBs</th> </tr> </thead> <tbody> <tr> <td>80</td> <td>80</td> <td>6</td> <td>0.09</td> <td>2.2</td> <td>3.2</td> </tr> </tbody> </table> <p>JGBs: Abolished guidance to average maturity of 7 - 12 years ETFs: Allocated JPY 2.7 trillion a year to TOPIX ETFs, and the remaining JPY 3 trillion would be spread out among the ETFs tracking TOPIX, Nikkei 225 and JPX-Nikkei Index 400</p> <ul style="list-style-type: none"> No change to policy interest rates 	Total	JGBs	ETFs	JREITs	CPs	CBs	80	80	6	0.09	2.2	3.2
Total	JGBs	ETFs	JREITs	CPs	CBs									
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Source: BOJ, Coface (Last update: Sep 21, 2016)

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