The Ukraine conflict as a terms-of-trade shock for Japan

October 2022

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Abstract

In this report we treat the impact that the conflict in Ukraine has had on the Japanese economy as a terms-of-trade shock, and highlight the characteristics of this shock and the issues it has caused for the Japanese economy from the perspective of its impact on Japan's balance of payments, on prices in Japan, and on the yen, as well as the mutual interplay and synergies between these factors.

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Overall, our conclusion is that the terms-of-trade shock that is currently confronting the Japanese economy is one that is likely to see interplay and synergies with the weakening of the yen and is therefore likely to lead to the formation of a kind of echo chamber that amplifies the effects of these synergies.

Introduction

When assessing the conflict in Ukraine in terms of the economic shock to Japan, we think it is appropriate to take the view that the starting point for this shock has been a deterioration in Japan's terms of trade. Of course, the Ukraine conflict is not the cause of all of the recent deterioration in Japan's terms of trade. Indeed, prices of crude oil and other primary goods were already rising sharply before the conflict broke out, and even the deterioration in Japan's terms of trade that took place after the conflict began is not due entirely to the conflict. Nevertheless, it is undeniable that sharp rises in prices triggered by concerns about the supply of primary products, for which Russia and Ukraine account for a large share of the global market, and concerns about general supply constraints as a result of the conflict, have led to a substantial rise in imported goods prices in Japan, and we do not think it unreasonable to describe the Ukraine conflict as a "terms-of-trade shock" for Japan.

Meanwhile, if we treat the Ukraine conflict as a "terms-of-trade shock" for Japan, there are a number of issues likely to arise as a consequence of this that we need to consider. The first is the impact on prices. In particular, whether this shock could last for a long time and lead to a change in Japan's deflationary environment is a key question to bear in mind when comparing Japan with other major economically developed countries and regions such as the US, where inflation is already on a clear upward trajectory. Of course, what happens in terms of prices in Japan will have a major bearing on whether the BOJ is able to maintain the monetary easing policy that has been in place for a considerable time. The second issue we need to consider is the impact on Japan's balance of payments. While the Great East Japan Earthquake and the accident at the Fukushima Daiichi nuclear power plant in 2011 led to a trade deficit becoming the norm for Japan, the country has maintained a current account surplus because its primary income surplus has increased.

In our view an important question we need to ask is whether the Ukraine conflict and the deterioration in Japan's terms of trade triggered by this conflict will result in Japan's current account surplus turning into a deficit. The third issue to consider is that the yen has weakened on the forex markets since the outbreak of the conflict in Ukraine. While the weakening of the yen is in itself a factor leading to changes in Japan's terms of trade, the impact on prices as a result of changes in the terms of trade also affects the exchange rate via (expected) changes in monetary policy and changes in the balance of payments (and changes in the supply-demand balance on the forex markets as a result of this). The relationship is thus a two-way one.

In this report we will look into these issues via discussions from the perspectives set out below.

First, we will look at how Japan's terms of trade have changed. We will focus in particular on whether there are any differences between the current phase and similar phases in the past, for example phases when prices of primary products were rising sharply and the yen was weakening. Next, we will consider the impact of the change in Japan's terms of trade on prices and inflation. We will highlight

the characteristics of cost pass-through (passing rises in costs onto prices) in Japan in comparison with major economically developed countries and regions such as the US and Europe, where inflation is high and still accelerating.

We will also look at the relationship between changes in Japan's terms of trade and its balance of payments. After considering whether some kind of change is occurring in the flows of funds into and out of Japan as a result of the conflict in Ukraine and the increase in geopolitical uncertainty, and whether a change in Japan's income balance is under way, or could happen, we will consider the possibility that changes in Japan's terms of trade will ultimately cause its current account balance to turn negative.

Last, we will discuss the implications for the Japanese economy of the weakening of the yen alongside the changes in the country's terms of trade that have been taking place since the conflict broke out in Ukraine.

1. Changes in Japan's terms of trade: current situation and distinguishing features

First, we look at how Japan's terms of trade have changed, both before and after the start of the conflict in Ukraine. We drew up a terms-of-trade index using the import and export price data published by the BOJ, and broke down the factors behind changes in this index into: (1) the rate of change in export prices on a contract currency basis, (2) the rate of change in import prices on contract currency basis (with a negative sign attached to the change in import prices, in the opposite direction to the corresponding change in the terms of trade), and (3) the rate of change in our forex factor, which is the total of the difference between the rate of change on a yen basis and the rate of change on a contract currency basis, for both export and import prices (with a negative sign attached to the change in import prices, in the opposite direction to the corresponding change in the terms of trade). The divergence between import and export prices on a yen basis and on a contract currency basis is not exactly the same as the change in exchange rates (on a trade-weighted average basis), but we call this our "forex factor" here for the sake of convenience. (Figure 1).

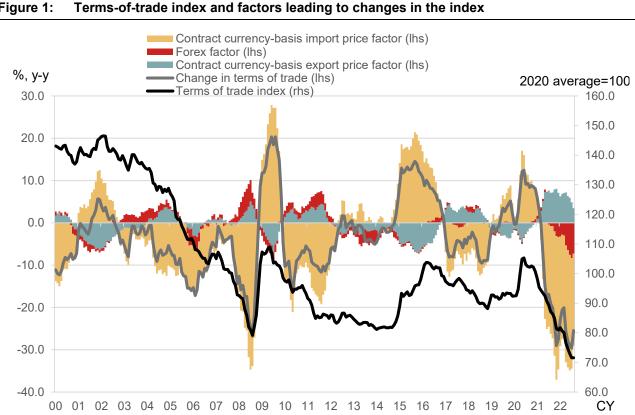


Figure 1:

Source: Nomura, based on BOJ data

Starting from 2020, the terms-of-trade index (rebased so that the 2020 average = 100) peaked at 105.3 in June 2020 and has been deteriorating (falling) more or less continuously since then. For the sake of convenience we look at the period before the outbreak of the conflict in Ukraine (in February 2022) and the period after the outbreak of the conflict separately. Over the period from June 2020 through February 2022 the termsof-trade index fell 23.5%, and from February 2022 through August it fell 11.2%. Thus, as we have already pointed out, the deterioration in Japan's terms of trade is not something that only happened after the start of the conflict in Ukraine.

The largest factor leading to the deterioration in Japan's terms of trade both before and after the start of the conflict, in terms of the size of its contribution, is the rise in import prices on a contract currency basis. On this point, we can confirm that the sharp rise in prices of primary goods on international commodity markets that was triggered by the conflict has had an enormous impact. Indeed, the rise in import prices on a contract currency basis is of a similar level to that seen when prices of crude oil and other commodities rose sharply, immediately before the 2008 global financial crisis.

Meanwhile, the size of the contribution of our "forex factor" to the deterioration in terms of trade is a distinguishing feature of the period after the start of the conflict in Ukraine. Of course, there is no direct or single-track cause-and-effect relationship between the conflict in Ukraine and the weakening of the yen. If anything, we think the relationship between the two is almost a coincidence, as policy rate hikes by the Fed, which started immediately after the outbreak of the conflict, had a huge impact on exchange rates.

If the impact of the change in exchange rates on the difference between the rise in prices on a yen basis and a contract currency basis was about the same for both import and export prices, these two would cancel each other out, and our forex factor would therefore have a more or less neutral impact on Japan's terms of trade. We think this is the reason why our forex factor has rarely made a marked contribution in either direction in phases when there has been a major change in the terms of trade in the past.

However, in the recent phase of deterioration in Japan's terms of trade, our forex factor has made a relatively large contribution to this deterioration, and we think this might be because the weakening of the yen since the start of the Ukraine conflict has had an asymmetrical impact on yen-based export and import prices—in other words, it has boosted import prices more than export prices. We cannot deny that, generally speaking, compared with previous periods of yen weakness, this time around the disadvantages of a weak yen are more likely to be felt by Japanese economic entities such as households and companies. We can, at the very least, say that the significance of discussing the implications and effects of the yen's weakness, as part of the terms-of-trade shock, has increased. We will discuss this point later on in this report.

We will now look at trading gains/losses (defined as real GDI, or gross domestic income, minus real

GDP, or gross domestic product) in order to assess the scale of the losses suffered by the real economy as a result of the terms-of-trade shock (*Figure 2*). Trading gains/losses in 2022 Q2 came to -\frac{1}{2}15.5trn on an annualized basis, the largest loss since 1994 Q1, the first quarter for which 2015-basis quarterly GDP time series data is available on a preliminary basis. Trading gains/losses correspond to inflows (from overseas) and outflows (to overseas) of Japanese value added production value as a result of changes in the terms of trade. The terms-of-trade shock can be said to have led to value added equivalent of around 2.8% of Japan's real GDP leaking overseas.

Yen trn. Yen trn. 560 25 20 540 15 520 10 500 5 0 480 460 TradingGains/Losses (RHS) -10 Real GDP (LHS) Real GDI (LHS) CY 440 -15 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22

Figure 2: Trading gains/losses

Source: Nomura, based on Cabinet Office data

2. Impact on inflation of deterioration in terms of trade

Next we consider the knock-on effects on prices in Japan from the terms-of-trade shock that occurred around the time of the Ukraine conflict. We would characterize the sharp rise in primary product prices triggered by the Ukraine conflict and other factors as a universal shock felt globally. However, the impact of that shock on inflation varied between countries/regions, and this varied picture is moreover mirrored in differences in monetary policy. Of course, differences in monetary policy have a feedback effect whereby the terms-of-trade shock varies in scale as a result of fluctuations in forex rates.

At least as of its Monetary Policy Meeting in September 2022, the BOJ was sticking to its guns saying that it would be making no changes to its existing accommodative monetary easing policy (ie quantitative and qualitative easing (QQE) with yield curve control (YCC)) in response to global inflationary pressures brought by the Ukraine conflict and other factors. This stance is based mainly on its assessment that the spillover effects on Japan from global inflationary shocks are likely to be weaker and more short-lived compared with other countries and regions.

If we compare y-y change in August consumer prices in Japan, the US, and the eurozone (on an allitems basis since the definition of "core" varies by country/region) we can see that the figure in Japan comes out at +3.0%, versus +8.3% in the US and +9.1% in the eurozone (*Figure 3*).

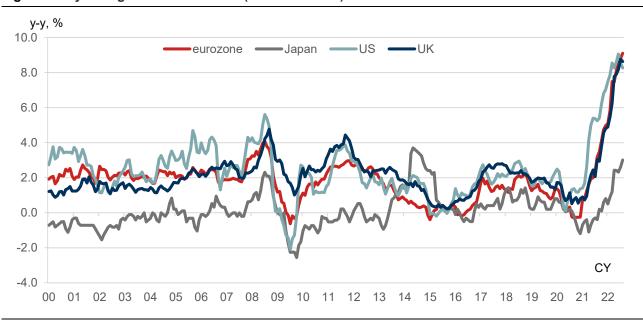


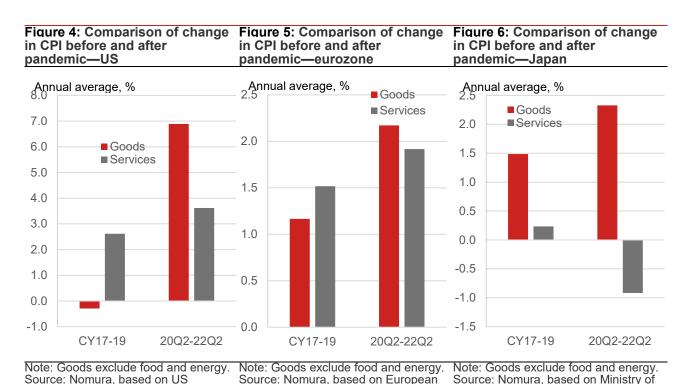
Figure 3: Y-y change in CPI in MEDCs (all-items basis)

Source: Nomura, based on data from Japan's Ministry of Internal Affairs and Communications (MIC), the European Central Bank (ECB), and UK Office for National Statistics (ONS)

In this chapter, we aim to reveal how prices in Japan have reacted to the terms-of-trade shock the Japanese economy finds itself exposed to, through a comparison with MEDCs, particularly the US and the eurozone, in order to establish whether there is scope for the divergence in monetary policy between Japan and overseas economies to be narrowed.

To grasp the nature of the reaction of prices in Japan to the terms-of-trade shock, we make an international comparison of consumer prices after first excluding items likely to bear the brunt of soaring prices of primary products, ie, energy and food, as the price shock here is one felt globally. Specifically the methodology we use is to break down the CPI in Japan, the US, and the eurozone by core goods (excluding energy and food) and services, and compare the average y-y change before and after the pandemic.

A broad overview of the results can be seen below (<u>Figure 4</u>, <u>Figure 5</u> and <u>Figure 6</u>). In the case of goods prices, y-y change is higher everywhere after the pandemic in Japan, the US, and the eurozone, albeit with some differences of degree. In Japan too we can thus say that to some extent the terms-of-trade shock reached goods prices.



However, it is in services prices that the differences start to become more notable. In the US and the eurozone, services prices also rose more quickly after the pandemic. By our estimate this is due to both an acceleration in overall inflation and the spillover effects of increased wage costs as labor supply-demand conditions tightened with the reopening of those economies. In contrast Japan does

Central Bank data

Department of Labor data

Internal Affairs and Communications

data

not see such a notable acceleration in prices of services (the negative growth seen in the data is largely due to reduced mobile phone charges reflected in Apr 2021–Mar 2022 CPI, but even if we strip out this factor, the acceleration in services prices remains muted).

The fact that the terms-of-trade shock or global primary goods inflation shock have only weak spillover effects on services prices in Japan can also be seen clearly through an analysis of inflation in Japan by stage of demand. Using the Final Demand - Intermediate Demand price indexes (FD-ID price indexes) published by the BOJ, we produced a matrix (for the average y-y change in prices during Apr–Jun 2022) showing: (1) prices in the final demand stage and input prices in each of the four stages of intermediate demand, versus (2) the categories of domestic goods, import goods, and services (*Figure 7*). In the case of both import goods and goods overall, we see evidence of a spillover effect from the terms-of-trade shock due to rising prices of raw materials and fuels, for example (albeit weakening towards the downstream stages of demand). However, when it comes to services, we see confirmation once again of only weak spillover effects both from goods price inflation into services prices, and from upstream to downstream stages of demand within the services category.

Figure 7: Y-y change in prices by goods/services category and stage of demand

Y-y change in Apr-Jun 2022 average

		Domestic goods	Import goods	Services
Intermediate demand	Stage 1	10.3	80.9	2.0
	Stage 2	18.8	82.4	2.6
	Stage 3	12.5	38.1	3.0
	Stage 4	9.9	21.1	2.6
Final demand (excluding exports)		4.7	17.3	0.2

Source: Nomura, based on BOJ data

Of course, although the spillover effects from the terms-of-trade shock on final prices have been muted, that could all change from now on. For example, if structural changes in the labor market that are starting to become apparent in the US cause wage growth to accelerate and trigger an upward spiral in inflation and wages, inflation may start to accelerate in the services sector in Japan where the pace of acceleration is slow at present.

For the time being, to gauge the possibility that the terms-of-trade shock will result in a sustained rise in consumer prices at the final stage of demand in Japan, we examine companies' behavior in terms

of passing on higher costs to customers based on survey data. Specifically, in the BOJ's Tankan Survey, we look at changes in companies' pricing forecasts over different time frames, based on the "Outlook for Output Prices" item under "Inflation Outlook of Enterprises" data (*Figure 8*). The survey asks respondents about their outlook for changes in output prices (ie, sales prices) one year ahead, three years ahead, and five years ahead versus the current level, making it possible to compute the (projected) outlook for the average change in sales prices 1–3 years ahead and 3–5 years ahead, by comparing the responses for one year, three years, and five years ahead. If we calculate the average projected change in sales prices 1–3 years ahead and 3–5 years ahead on an all-enterprise basis, the annual average change through the latest September 2022 survey comes out at around 0%. This is in stark contrast to the annual average projected change in outlook, which has been rising over time, and with an average projected inflation outlook one year ahead in excess of 3%.

Even with the termsof-trade shock caused by the Ukraine conflict, we believe Japanese companies have not notably changed their behavior in terms of passing on higher costs to customers over the longer term, and from that basis we still think it unlikely that the terms-of-trade shock will lead to a sustained rise in CPI inflation in Japan. Taking these views into account our forecast for y-y change in Japan's core CPI is as set out below in *Figure 9*. Our projections (as of 16 September 2022) over 2022–2024 are +2.0%, +1.7%, and +0.0%, respectively.

All-enterprise basis annual average, % 3.5 3.0 1 year ahead average of 1-3 years 2.5 average of 3-5 years 2.0 1.5 1.0 0.5 0.0 -0.5 CY 22 15 16 17 18 20

Figure 8: Outlook for Output Prices in the BOJ Tankan

Source: Nomura, based on BOJ data

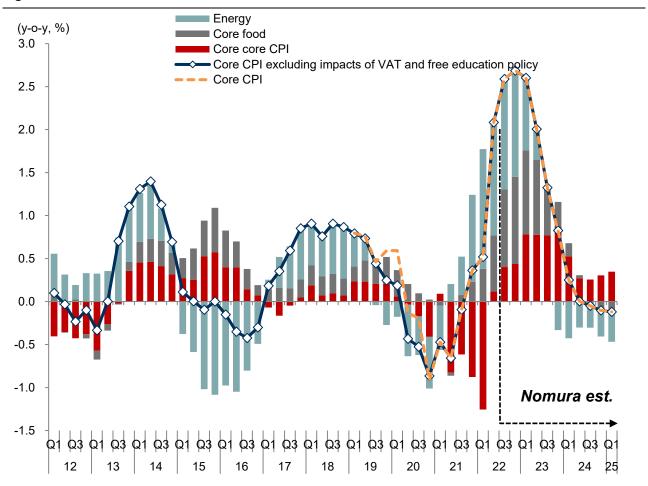


Figure 9: Nomura's Core CPI inflation forecasts

Note: The core CPI is the consumer price index less fresh food. Core core CPI = Core CPI - energy - core food (excluding fresh food and alcohol).

Source: Nomura, based on Ministry of Internal Affairs and Communications data

3. Terms-of-trade shock and external balances

The terms-of-trade shock brought about by the conflict in Ukraine has changed Japan's external balances, particularly its trade balance, mainly via an increase in the value of imported goods. The seasonally adjusted trade balance for goods has shown a deficit since August 2021, with the deficit reaching \(\frac{\pmathbf{4}}{1.8}\)trn in July 2022 (more than \(\frac{\pmathbf{2}}{2}\)1trn on an annualized basis). There was also a seasonally adjusted current account deficit of \(\frac{\pmathbf{Y}}{0.6}\)trn in July 2022, the first monthly deficit since March 2014. We break down the changes in the trade balance into volume effects and price effects for both exports and imports in order to look at the impact of the terms-of-trade shock on the trade balance for goods (*Figure 10*).

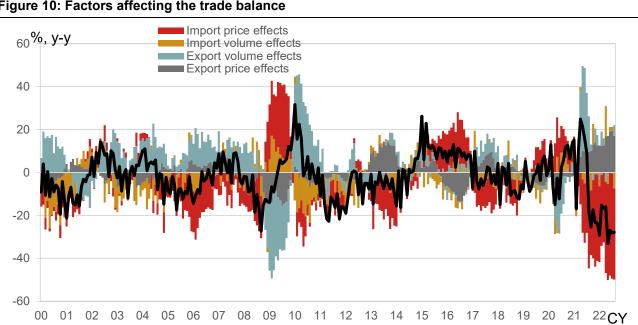


Figure 10: Factors affecting the trade balance

Note: Trade balance fluctuation is difference between import and export growth.

Source: Nomura, based on MOF and BOJ data

As we saw in *Chapter 1*, the effects of accelerating inflation on overseas markets and the rise in export prices because of the weakening yen were insufficient to offset the rise in import prices, and we can see that price effects on a net basis were the main factor behind deterioration in the trade balance. Meanwhile, we cannot see a boost from growth in export volumes resulting from faster global economic growth and yen depreciation of the sort that has been evident in the past when the contribution to deterioration in the trade balance from higher import prices increased. Sharp rises in resource prices tend to lead to deterioration in the terms of trade for the Japanese economy, and if those rises are the result of growth in demand because of an acceleration in global economic growth,

the Japanese economy would be expected to see growth in export volumes at the same time. However, we cannot see such a pattern at present. One factor is likely to be sluggish exports of transport equipment, mainly automobiles, which are a key export product for Japan, owing to semiconductor supply constraints. The deterioration in the terms of trade in major countries and regions throughout the world stemming from the conflict in Ukraine may also leading to sluggish export volumes as it results in slower economic growth in those places. This also indicates that higher import prices tend to lead directly to deterioration in the trade balance.

While the balance of trade in goods has turned to a deficit and that deficit looks to be entrenched, the current account balance is not only staying in surplus in terms of the underlying trend, the gap between it and the balance of trade in goods is widening (Figure 11). There was a cumulative surplus of ¥7.7trn over the same period. The reason for the widening gap between the two is the size of the primary income surplus. The surplus over this period was \(\frac{4}{23}\).4tm, an annual increase of just over ¥3trn versus the figure of ¥19.9trn for the 12-month period through July 2021. We think the increase in the primary income balance (net receipts) reflects a contribution from an increase in the yen-denominated stated amount of revenues accompanying yen weakening, as well as an increase in interest and dividends received as a result of higher interest rates overseas.

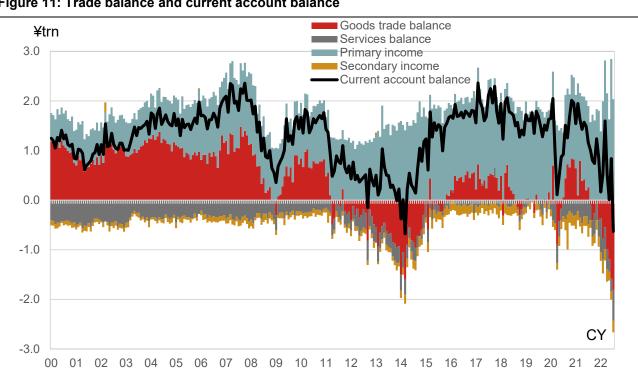


Figure 11: Trade balance and current account balance

Source: Nomura, based on MOF data

Of course, in the longer term we can expect the trade balance deficit becoming entrenched and an underlying contraction in the size of the current account surplus to result in a slowdown in the pace of growth of net foreign assets, and for that to gradually start to have an impact on the income balance (net receipts). However, in the near term we see little possibility of it being on a scale that surpasses factors that are currently increasing the income balance (net receipts).

4. Terms-of-trade shock and FX

Finally, our discussion shifts to the relationship between forex rates and the terms-oftrade shock the Japanese economy is facing.

As we saw in <u>Chapter 3</u>, what sets the present terms-of-trade shock apart is that it has brought little of the boost to export volumes from faster global economic growth and yen depreciation that has been evident during previous periods of deterioration in terms of trade, and is thus unlikely to offset the deterioration in the trade balance resulting from higher import prices. In the context of the lackluster boost to the external trade balance from the weak yen, there is another mechanism we should probably mention. We refer to the way in which inbound tourists have effectively disappeared from Japan amid the lingering impact of the pandemic. From the perspective of overseas visitors to Japan, the minimal effect on consumer prices from the deterioration in Japan's terms of trade, coupled with yen depreciation should make Japan an attractive place to visit for sightseeing and shopping. In that sense, the entry restrictions on tourists as part of the Japanese government's border controls to help prevent the spread of COVID have indeed resulted in major opportunity losses.

Although some deny a cause-effect relationship, many take the firm view that changes in external balances, such as trade and current account balances, will affect exchange rates in practice to some extent by influencing market participants' expectations. That being the case, if Japan lacks the mechanism for the current terms-of-trade shock to spontaneously improve the external balance, or if that mechanism is weaker than it has been in the past, the terms-of-trade shock may itself be more likely than before to not only trigger yen depreciation but also ensure that the weak yen is here to stay. Given that yen depreciation is making Japan's terms of trade even worse, and that this effect is even greater than in the past as we saw in *Chapter 1*, we think that yen depreciation and the deterioration in terms of trade may be caught in a kind of echo chamber whereby the effect of each exacerbates the effect of the other.

Of course, going forward, the easing of border restrictions, particularly for foreign visitors to Japan, may result in a gradual recovery in the inflow of inbound tourists, and restore the automatic adjustment mechanism that exists between exchange rates and external balances.

From the perspective of this synergistic divergence between the terms-of-trade shock and forex movements, we should also bear in mind the effects of changes in monetary policy overseas and in Japan, and expectations regarding the direction of such changes. Particularly amid the muted effects of the deterioration in terms of trade on consumer prices in Japan, a large gulf exists between inflation rates overseas and in Japan, and reflecting that gulf in inflation rates, there is also a sharp divide between monetary policy stances overseas and in Japan. We think the yen's depreciation particularly since the beginning of 2022 has occurred as a result of these gaps between inflation and monetary policies overseas and in Japan.

As we saw earlier, a characteristic of the current terms-of-trade shock is that there is no mechanism that readily comes into play to spontaneously stem yen depreciation, for example via improved external balances or adjustments in monetary policy. If the deterioration in terms of trade and depreciation of the yen keep feeding off each other, the concern is that the absolute gap in prices between overseas and Japan will grow larger, resulting in a decline in yen purchasing power, and starting to impact Japanese households' and Japanese corporations' selection of assets. Already the weakening yen and the widening gap between inflation rates overseas and in Japan have led to a sharp decline in yen real effective exchange rate (REER) levels (*Figure 12*). The Yen REER index released by the BOJ (100 = 2010 average) stood at 58.84 as of July 2022, its lowest level since 1973 when USD/JPY moved to a floating rate.

Figure 12: USD/JPY and the REER index USD/JPY 2010 average = 100 70 160 140 120 120 100 170 80 220 60 40 USDJPY (LHA) 270 JPY nominal effective exchange rate (RHA) 20 JPY real effective exchange rate (RHA) CY 320 79 85 87 89 93 95 97 99 01 03 05 07 09 11 13 15 17 19 21

Source: Nomura, based on BOJ data

We think a decline in the yen's real purchasing power could result in notable changes in asset selection and asset preference on the part of the main actors in Japan's economy, such as households and companies. In particular it could kill off Japan's deeply engrained "home-town bias" (the preference for assets denominated in the yen), which in turn could bring about an outflow of capital as part of a more general capital flight, and trigger concerns over a further rapid decline in the yen's value. Such developments could become a major problem if we assume general government debt equivalent to more than double nominal GDP. Indeed, around half of government debt is held by the BOJ in the form of long-term JGBs resulting from JGB purchases to support monetary easing policy. Some optimists think that as long as the BOJ has these JGB holdings, there will be no issues with the

sustainability of government debt on a semi-permanent basis.

However, we should not overlook the fact that the liabilities backing the BOJ's asset holdings are BOJ notes in circulation and financial institutions' current account deposits at the BOJ, and are thus directly or indirectly supported by yendenominated cash and deposits which are the main drivers of the Japanese economy. Once households and companies start trying to rid themselves of yendenominated cash and deposits as part of capital flight in a bid to stave off the decline in the yen's real purchasing power, the BOJ's current vast JGB holdings may start to become a problem. To avoid this outcome, in order to maintain liabilities in keeping with the BOJ's JGB holdings there will have to be sufficiently high policy rates and interest on BOJ current accounts to prevent an outflow of deposits from financial institutions.

The Flow of Funds Accounts (FFA) Statistics published by the BOJ to date do not provide evidence of such changes in asset preferences or capital outflows (*Figure 13*). For example, on the basis of the data up to and including the most recently published data, for 2022 Q2, we calculate that the net increase in household financial assets is \(\frac{\pmathbf{3}}{3}}\).3trn on an annualized basis (we use four-quarter trailing cumulative data in order to exclude the effects of seasonality), of which a net increase in cash and deposits accounts for \(\frac{\pmathbf{2}}{2}}\).6trn. Meanwhile, the net increase in investment trust beneficiary certificates is \(\frac{\pmathbf{4}}{6}}\).0trn, and the value of these assets has been maintaining a gradual upward trend over the past two years or so, but we think it is too early to come to the conclusion that this means a flight of capital from the yen is getting fully under way.

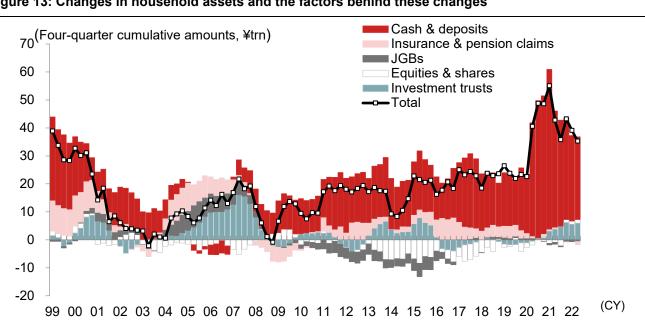


Figure 13: Changes in household assets and the factors behind these changes

Source: Nomura, based on BOJ data

We forecast that the number of visitors to Japan from overseas will recover to pre-COVID levels from around mid-2023 onwards as the Japanese government eases its border controls aimed at limiting the spread of the virus in Japan and China relaxes its so-called zero COVID strategy. We expect this to go some way toward putting the brakes on the deterioration in Japan's balance of payments brought about by the terms-of-trade shock. In addition, in our US recession scenario (in which real GDP growth is negative on a q-q basis for five consecutive quarters starting in 2022 Q4), USD/JPY could turn downwards (ie, the yen could start to strengthen versus the US dollar) even if the Fed continues to hike interest rates, because market interest rates start to fall and spreads between Japanese and overseas interest rates start to narrow. In this scenario, we think concerns that the weakening of the yen caused by the terms-of-trade shock could continue ad infinitum might avoid becoming a reality, at least for the time being.

Conclusion

In this report our aim has been to treat the impact that the conflict in Ukraine has had on the Japanese economy as a terms-of-trade shock, and to highlight the characteristics of this shock and the issues it has caused for the Japanese economy from the perspective of its impact on Japan's balance of payments, on prices in Japan, and on the yen, as well as the mutual interplay and synergies between these factors. We can summarize our conclusion as follows.

The change in Japan's terms of trade that has taken place while the conflict has been under way in Ukraine has been affected more by the weakening of the yen than has been the case when Japan's terms of trade have deteriorated in the past. We also suspect that the recent deterioration in the terms of trade has had a greater negative impact on Japan's balance of payments than has been the case before, because the weak yen has had only a relatively limited impact in terms of boosting export volumes this time around (partly because this phase has coincided with the COVID-19 pandemic and the boost to inbound demand from a weak yen has therefore been much smaller than previously). Because the deterioration in Japan's terms of trade has given less of a boost to domestic prices than has been the case overseas, even if a similar terms-of-trade shock were to occur on a global basis we think it would likely lead to differences in terms of monetary policy. In our view, this too has meant that the weakening of its currency has led to a greater terms-of-trade shock for the Japanese economy than has been the case elsewhere.

Overall, our conclusion is that the terms-of-trade shock that is currently confronting the Japanese economy is one that is likely to see interplay and synergies with the weakening of the yen and is therefore likely to form a kind of echo chamber that amplifies the effects of these synergies