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### Bank of Japan: NLP Report

Speaker: Kazuo Ueda Date: 2024-12-25

Topic: Achievement of the 2 Percent Price Stability Target and Japan's Economy

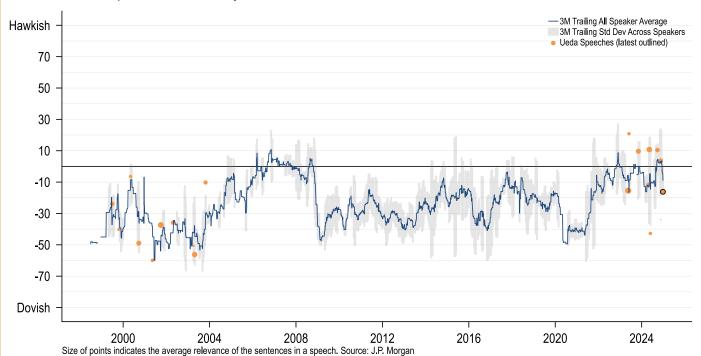
(The NLP report is solely model-based. For any judgmental assessment, please contact the J.P. Morgan economist: Ayako Fujita, ayako.fujita@jpmorgan.com)

#### Recent Speeches from Ueda

Speech	Date	Hawk-Dove Score	Trailing 5 Speech Average	Relevance	Relevance, Scored	Central Bank, 3M Trailing Average
Achievement of the 2 Percent Price Stability Target and						
Japan's Economy	2024-12-25	-16	2	47%	61%	-4
Future of Payments and the Role of Central Banks	2024-12-04	-3	0	1%	5%	2
Opportunities and Challenges for Financial Intermediation Functions Brought about by Technological Advancements	2024-11-21	-34	0	1%	7%	2
Japan's Economy and Monetary Policy	2024-11-18	4	2	43%	56%	2
Japan's Economy and Monetary Policy	2024-09-24	10	2	41%	59%	6
Opening Remarks at the 2024 BOJ-IMES Conference Hosted by the Institute for Monetary and Economic Studies, Bank of Japan	2024-05-27	-43	0	33%	50%	-7

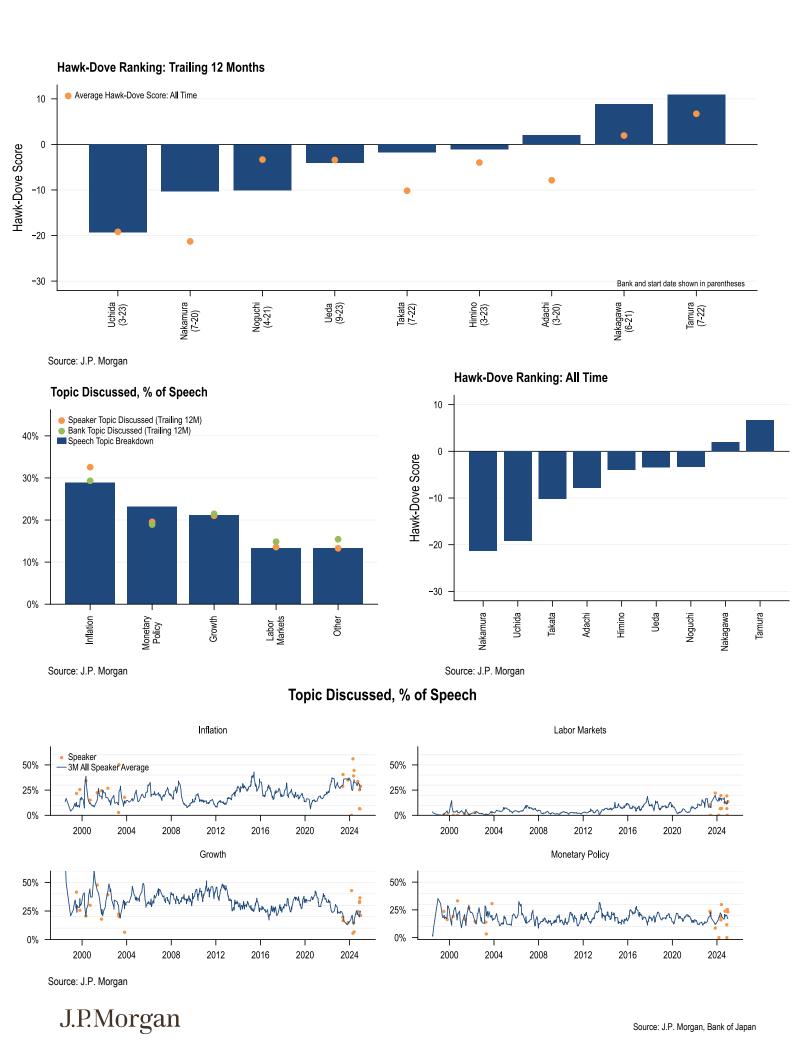
Note: The unit of observation in the NLP model is the sentence. The model provides a relevance value and a hawk-dove value for each sentence. The Hawk-Dove Score is the relevance weighted hawk-dove value across sentences. The Trailing 5 speech average is the relevance weighted average of the hawk-dove scores of the past five speaker speeches. Relevance is the average relevance across all sentences in a speech or document. Relevance, Scored is the average relevance across only those sentences with nonzero relevance. The Central Bank, 3M Trailing Average is the 3-month trailing relevance weighted hawk-dove score average across all speakers and central bank communications. Source: J.P. Morgan

#### Bank of Japan Hawk-Dove History



The NLP-Based Hawk-Dove Report is based on a Natural Language Processing (NLP) model (version 2.0), with proprietary modifications to train on judgmentally-defined phrases. The unit of analysis is the sentence. Every sentence is assigned a relevance weight (0 to 100%) and an indicator of hawkishness to dovishness (100 to -100). The Hawk-Dove Score is the weighted average of the hawk-dove indicator across sentences. See <a href="here">here</a> for the methodology report. Much like human interpretation of natural language speech, there is uncertainty and classification error. When aggregated, the model minimizes these errors on average. **Because this analysis is model-driven, it does not necessarily reflect the judgment of J.P. Morgan economists.** Time series of the Hawk-Dove scores are available in J.P. Morgan DataQuery and Bloomberg (codes <a href="here">here</a>).

Source: J.P. Morgan, Bank of Japan

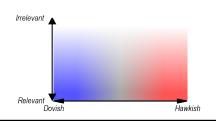


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#### **Full Speech Text**

Kazuo Ueda

Achievement of the 2 Percent Price Stability Target and Japan's Economy 2024-12-25



It is a great honor to have this opportunity to address such a distinguished gathering of business leaders in Japan today.

At last year's Keidanren meeting, I said that the likelihood of achieving the Bank of Japan's price stability target of 2 percent in a sustainable and stable manner seemed to be gradually rising. Since then, thanks largely to the determination of corporate senior executives, significant wage hikes were achieved in the 2024 annual spring labor-management wage negotiations. Reflecting these hikes, real wages have been on an improving trend and private consumption, which had been relatively weak, has also shown signs of improvement. In terms of prices, upward pressure stemming from the rise in costs of imported materials has gradually waned.

Meanwhile, prices of a wide range of goods and services have begun to rise moderately, in reflection of the increase in wages. Against this background, the Bank changed its large-scale monetary easing framework last March, discontinuing the negative interest rate policy and yield curve control. Then, in July, the Bank decided on a plan for the reduction of its purchase amount of Japanese government bonds (JGBs) and raised the target level of the short-term interest rate to around 0.25 percent. I believe that 2024 has been a year of steady progress toward achieving the price stability target in a sustainable and stable manner, with a virtuous cycle between wages and prices gradually intensifying.

Now, what will the year 2025 look like? Our projection is that the virtuous cycle will further intensify and that Japan's economy will move closer to sustainable and stable 2 percent inflation, accompanied by wage increases. Of course, we are fully aware of the high uncertainties surrounding the outlook for economic activity and prices. That said, now is a good time to contemplate what the economy will look like when the 2 percent target is achieved. Today, after looking back at developments over the past decades, I will talk about what the new state of the economy will be for businesses, and how the Bank will conduct monetary policy to make this state happen. Let me look back at Japan's economy under deflation and low inflation. In April last year, the Bank launched a project to conduct a review of monetary policy from a broad perspective. The aim of the review was to analyze, from various angles, why the situation in which prices do not increase easily continued for a long period since the late 1990s, as well as what impact a series of monetary easing measures during this period had on Japan's economy. Our intent was to make use of the findings of this review in the future conduct of monetary policy. After around a year and a half of various initiatives, including relevant studies, surveys, and exchanges of views with experts, the Bank published the findings of the review last week.

Why did the situation in which prices do not increase easily remain in Japan for a prolonged period? The review concluded that the reasons can be broadly categorized into three main factors.

The first is the demand-side factor. After the burst of the bubble in the early 1990s, growth expectations declined, as shown in Chart 1, and asset prices fell sharply. These developments forced firms' behavior to become more cautious. Subsequently, the deterioration of the financial crisis in the late 1990s and slowing domestic market growth due to the declining population made firms even more cautious in their behavior. Under these circumstances, even when the Bank lowered the short-term interest rate down to zero percent, it became difficult to sufficiently stimulate the economy, resulting in a chronic shortage of demand.

The second is the supply-side factor. In addition to an increase in low-priced imports from emerging economies and technological innovations in IT-related industries, the appreciation of the yen against other currencies through the first half of the 2010s also pushed down prices.

The third is the entrenchment in Japanese society of behavior and a mindset based on the assumption that wages and prices will not increase easily, brought about by continued downward pressure on prices from both the demand and supply sides. Customers became more sensitive to price increases and firms became cautious about raising prices. Please take a look at Chart 2. The decrease in price markups indicates that firms faced a decline in pricing power, making it difficult to pass on higher costs to selling prices. In such a difficult macroeconomic environment, firms pursued restructuring of their businesses, including cutting labor costs. In the course of this adjustment, priority was put on maintaining employment even if this required reducing wages. While this stance was effective in avoiding a sharp rise in unemployment, it appears to have reinforced the tendency of firms to suppress wages, as shown again in Chart 2.

The combination of these factors led to a prolonged period of low growth as well as deflation or low inflation, which had a major impact on firms' behavior. In their business strategies, firms began to prioritize ensuring their financial soundness and cutting costs. They shifted production overseas and curbed strategic investment domestically. In this situation, as shown in Chart 3, the corporate sector became a net saver in a constant manner, with firms' investment remaining below their cash flow. As firms enhanced efficiency by cutting costs, Japan's economy over many years managed to achieve a labor productivity growth rate comparable to other advanced economies, albeit not as high as that of the United States. This is the result of the extraordinary efforts firms made during this period.

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Source: J.P. Morgan, Bank of Japan

However, it cannot be denied that the suppression of research and development (R&D;) and strategic investment affected Japan's long-term growth potential.

The impact of prioritizing cost cutting and constraining positive actions can also be observed in the change in Japan's position in the global trade structure -- that is, changes in the composition of Japan's current account balance and a deterioration in the terms of trade, as shown in Chart 4. Looking at the breakdown of the current account balance, the trade balance has been at around zero or marked a deficit in recent years, due partly to the shift of production overseas. The main driver of the current account surplus has shifted to the income balance, which includes investment income from entities such as overseas subsidiaries.

The terms of trade shown at the right of Chart 4 have been deteriorating. Terms of trade are defined as the ratio of export prices to import prices. Deterioration in these terms means that income flows out of the country through the trading of higher-priced imports and lower-priced exports. It should be noted that terms of trade are largely unaffected by foreign exchange rate movements, since they affect both exports and imports. What plays a key role is foreign currency-denominated prices. In fact, Japan's deteriorating terms of trade since the 1990s are mainly attributable to import price rises stemming from higher commodity prices in U.S. dollar terms. Given that Japan is a net commodity importer, the impact of higher import prices was unavoidable. Nonetheless, it also needs to be noted that the rise in commodity prices was brought about by the expansion of emerging economies. If Japanese firms had been able to fully capitalize on the benefits of this expansion by, for example, developing attractive products, they could have raised export prices and increased export volumes, offsetting to some extent the negative impact of higher import prices. What actually happened during this period, however, was a decline in Japan's share of exports in world trade and a lowering of export prices by means of cost cutting. The outflow of income due to the deteriorating terms of trade is one of the reasons why households were unable to enjoy economic growth in their livelihoods. Please take a look at Chart 5. Growth in real wages for households has continued to trail behind labor productivity growth. This owes to the outflow of income due to the deteriorating terms of trade, coupled with a decline in the labor share. Put differently, even though firms managed to increase labor productivity by cutting costs, households were unable to enjoy the benefit of this increase due to rises in energy and other prices. Growth in private consumption remained moderate due to sluggish growth in real wages and income, and weak domestic demand put further constraints on firms' investment behavior.

Fast-forward to the present. Japan's economic activity and prices have changed considerably.

The large-scale monetary easing implemented by the Bank since 2013 succeeded in stimulating the economy by significantly lowering not only short-term but also long-term interest rates. This, combined with the government's fiscal policy and changes in the external environment, such as improvement in overseas economies, contributed to alleviating the chronic shortage of demand. As a result, in the mid-2010s, Japan's economy moved out of a state of deflation. For some time after that, however, the inflation rate remained below 2 percent. This is attributable to two factors: (1) as the economy improved and labor demand increased, more women and seniors entered the labor market, reducing the upward pressure on wages, and (2) change in the entrenched behavior and mindset based on the assumption that wages and prices will not increase easily took time.

However, such an increase in labor participation by women and seniors is unlikely to continue. Please take a look at Chart 6. As the room for additional labor supply has been shrinking due to demographic changes, labor shortages now structurally tend to intensify. Although such shortages were already gradually intensifying before the COVID-19 pandemic, they have recently become more pronounced due to factors such as Japan's Baby Boomer generation -- i.e., those born in the late 1940s -- exiting the labor market. Against this underlying trend of tightening labor market conditions, the significant rise in import prices after the start of the pandemic triggered a major change in the behavior and mindset based on the assumption that wages and prices will not increase easily. A survey the Bank conducted around the start of the year as part of its review of monetary policy from a broad perspective revealed changes in firms' wage- and price-setting behavior. Please take a look at Chart 7. Regarding their recent situation, more than 80 percent of firms reported that the difficulties in passing on higher costs to selling prices have eased, and around 90 percent reported that they have shifted their stance toward raising wages. Prices of a wide range of goods and services have begun to rise moderately recently, in reflection of the increase in wages. Against this background, the Bank judges that the sustainable and stable achievement of the 2 percent price stability target is now within sight.

So, with the achievement of the 2 percent target, what kind of changes can be expected in Japan's economy?

In an economy where the 2 percent target has been achieved, it becomes easier to stabilize the economy through monetary policy, and this in turn supports the economic activity of firms and households. Monetary policy affects economic activity mainly through changes in real interest rates, that is, nominal interest rates minus the expected rates of inflation. When inflation expectations are 2 percent, it becomes possible to lower real short-term interest rates even into negative territory by reducing nominal short-term interest rates, facilitating the stimulation of demand.

Under deflation and low inflation, Japan's economy faced the zero lower bound, a situation in which the Bank was unable to sufficiently lower real interest rates by guiding the short-term policy interest rate. Against this background, the Bank deployed a wide variety of unconventional monetary policy measures. These included conducting large-scale JGB purchases to push down long-term interest rates and keeping the short-term policy interest rate slightly negative. By doing so, the Bank further lowered real interest rates, including

long-term rates, and thereby stimulated the economy. According to various quantitative analyses conducted in the review of monetary policy from a broad perspective, the unconventional monetary policy measures pushed up economic activity and prices to some extent. It should be noted, however, that the transmission channels and effects of the measures are uncertain, and that maintaining such measures for a long period of time could bring about side effects on, for example, financial markets. While the overall effect of large-scale monetary easing on Japan's economy so far appears to have been positive, the possibility cannot be ruled out that the negative effects may become larger in the future if new side effects materialize.

This means that unconventional monetary policy measures cannot fully substitute for guiding short-term interest rates, and that it is desirable to conduct monetary policy so that the zero lower bound would not be reached. If inflation remains stable at around 2 percent, simply reducing nominal short-term interest rates would allow for a lowering of real short-term interest rates into clearly negative territory, making possible a nimble response when downward pressure is exerted on economic activity and prices. As it becomes easier for the Bank to stabilize the economy, it will make it easier for firms to take on greater risks and adopt bolder business strategies.

So far, I have argued that achieving the 2 percent target will afford greater room for monetary policy to stabilize the economy. In and of itself, this will be of great benefit to the economy. In addition, I expect that achieving the target will also have positive effects on firms' management and innovation.

It goes without saying that the environment firms face will differ greatly between a state where wages and prices do not move and one in which both wages and prices rise moderately. Please take a look at Chart 8. Over the 20 years from 2000 to 2019, the year before the pandemic, Japan's nominal GDP level rose by a mere 4 percent in total. In contrast, the level over the past three years has grown at an average annual rate of about 3 percent. If this growth rate continues for 20 years, the nominal GDP level will rise by 80 percent.

The corporate survey I mentioned earlier suggests that such changes in the economic environment could affect firms' behavior. Please take a look at Chart 9. Feedback from firms in the survey shows that the overwhelming majority of firms preferred a state in which both wages and prices rise moderately in terms of their business activities than a state in which both wages and prices hardly change. This result strongly suggests that an environment where wages and prices rise would lead to more positive corporate behavior. In explaining why a moderate rise in wages and prices is preferable, many respondents noted that this would make it easier to pass on higher costs to selling prices. In addition, many said that such a moderate rise would make it less necessary to cut costs, making strategic investment easier. If it becomes easier for firms to take more positive actions on the back of a moderate rise in wages and prices, this will be significantly beneficial in terms of Japan's long-term economic growth.

Let me also mention that, in a situation where prices rise moderately, the real value of cash and deposits tends to decrease, depending on the level of nominal interest rates. Under deflation, the real value of cash and deposits tended to increase. This is one of the reasons why firms during the period of deflation in Japan, especially small and medium-sized firms, adopted a financial strategy of accumulating cash and deposits to prepare for future uncertainties by putting off business investments. However, the costs of such a strategy should likely be higher now. Negative real interest rates and the decreasing real value of cash and deposits are expected to have an impact on households as well. These factors may affect household spending behavior and, coupled with recent institutional initiatives such as the introduction of the new Nippon Individual Savings Account (NISA) program, may also change household asset allocation, which has traditionally focused on cash and deposits.

In this way, with moderate inflation taking root, both firms and households will face the need to change their behavior. Under the new environment, it is firms that will take a leading role in increasing the growth potential of the economy over the medium to long term. If firms become more proactive in R&D; and other strategic investments, there will be more room for innovation. Let me add that innovation is not limited to manufacturing. Given that structural labor shortages are projected to intensify, firms, regardless of industry, appear to have plenty of room for pursuing labor saving by making use of tools such as artificial intelligence. In addition, there may still be considerable room for providing more services at appropriate prices to, for example, target inbound tourists, after reassessing the value of domestic tourism and other resources.

The Bank will firmly support the positive actions of firms from the monetary policy side through achieving the price stability target of 2 percent in a sustainable and stable manner.

Lastly, I would like to make two points regarding the Bank's future conduct of monetary policy.

The first is that, in the current phase of transition toward achieving the 2 percent target in a sustainable and stable manner, the Bank will maintain accommodative financial conditions by keeping the policy interest rate lower than the neutral interest rate -- a level that is neutral to economic activity and prices -- and will thereby firmly support the economy. We have to make sure that Japan's economy will not return to a deflationary or low-inflation environment.

The Bank changed its large-scale monetary easing framework last March, and subsequently decided to raise the policy interest rate in July. As a result, the nominal short-term interest rate has risen from being slightly negative to around 0.25 percent. However, real interest rates, which are the primary channels of monetary easing, have been negative, as shown in Chart 10. In particular, in recent quarters, the real short-term interest rate has been significantly lower than in most of the period of large-scale monetary easing since 2013. This means that the degree of monetary accommodation has actually increased. This situation is attributable to a rise in inflation

expectations, indicating that some of the benefit I mentioned earlier of achieving the 2 percent target -- i.e., expanding the room for monetary policy to stimulate the economy -- has already become evident.

The second is that, if economic activity and prices continue to improve, the Bank will accordingly need to raise the policy interest rate and adjust the degree of monetary accommodation. The degree may become excessive if the Bank maintains the current low level of the policy interest rate even as economic activity and prices improve. Under such policy conduct, there will inevitably be a heightening of the risk that the inflation rate will accelerate beyond the 2 percent target, forcing the Bank to raise the policy interest rate rapidly at a later time. The acceleration in inflation and the rapid rise in interest rates are harmful in terms of supporting firms' positive actions and thereby achieving long-lasting growth of Japan's economy.

The timing and pace of adjusting the degree of monetary accommodation will depend on developments in economic activity and prices as well as financial conditions going forward. The Bank needs to pay due attention to various risk factors at home and abroad, and to examine how these factors will affect the outlook and risks for Japan's economic activity and prices and the likelihood of realizing the outlook.

There are high uncertainties surrounding future developments in the U.S. and other overseas economies, particularly with regard to the economic policies of the incoming U.S. administration. The U.S. economic policies could largely affect not only its economic activity and prices but also the global economy as well as global financial and capital markets. From this perspective, it is also necessary to closely monitor how the policies will affect Japan's economic activity and prices. With regard to Japan's economy, a key issue in the short run is how the annual spring labor-management wage negotiations will develop. Regarding these negotiations, Chairman Tokura of Keidanren noted at a recent press conference that strong momentum for wage hikes began in 2023, and this momentum accelerated significantly in 2024. He continued that, in 2025, he hopes to see this development take hold and achieve structural wage hikes. I fully share his aspiration. What is important is that wage hikes that are consistent with 2 percent inflation take hold in society as a matter of course. Corporate profits have been at high levels, particularly for large firms. To sustain the virtuous cycle, it is essential that these profits be fairly distributed to small and medium-sized firms and eventually to households. The Bank will examine how wage hikes by small and medium-sized firms will evolve, using the network of its Head Office and branches.

While keeping an eye on these factors, the Bank is currently updating the outlook for Japan's economic activity and prices for 2025 onward by scrutinizing the latest data available and other information. This outlook will be presented in the Outlook for Economic Activity and Prices to be released in late January next year. I hope you will have a chance to read it.

As I said at the outset, 2024 has been a year of steady progress toward achieving the price stability target in a sustainable and stable manner. I would like to close my speech today by expressing my strong hope that the virtuous cycle will continue in 2025, thereby leading to sustainable and stable achievement of the 2 percent target. Thank you very much for your attention.

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