

## Improving Household Expectations and Implications for Renewed Growth of the Japanese Economy

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### **Abstract**

*This paper examines the effects of “Abenomics” on expectations and the implications for economic policies considering the experiences of the longest economic expansion in the 2000s. Since the new government took office at the end of 2012, one characteristic in economic indicators is a clear-cut turnaround in consumer confidence, while business sentiment is slowly improving. According to our estimate, a rapid rise in household expectations would have a significant influence on consumption. However, this change in expectation should be constantly supported for sustainable growth by favorable economic statistics, including an increase in wages and income.*

### **1. Introduction**

The new set of policies, referred as the “three-pronged strategy” or “three arrows,” has been vigorously implemented since the Abe Administration took office at the end of 2012. The strategy consists of bold monetary policy, flexible fiscal policy, and growth-enhancing policies that stimulate private investment. This implementation has been welcomed by the market and is gathering popularity among Japanese people. Such reactions are noted by the frequent quotation in the press of “Abenomics,” which represents the overall policy stance of the administration toward eliminating deflation and revitalizing the economy.

During the last five months the three-pronged strategy has been executing an effective policy one after another to show the determination of the government and the Bank of Japan.

Regarding monetary policy—the first arrow—two events are worth noting: the joint statement for the policy coordination by the government and the Bank of Japan on January 22, and the start of quantitative and qualitative monetary easing by the

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\* Views expressed here are those of authors, and do not represent the Cabinet Office.

Bank of Japan, decided on April 4.

The fiscal policy was initiated earlier than the monetary easing. The emergency economic package was decided on January 11. The supplementary budget for that package passed the Diet on February 26 and has been sought for early implementation since then to result in the start-up of more than 90 percent of the programs at the end of June. The FY2013 budget was approved by the Diet on May 15.

Growth-enhancing policies—the third arrow—are following the other two arrows and gradually taking the shape of vigorous structural reforms, including deregulation and more competition.

Because these policies continue to be successful in changing the expectations of the market and the people, the next question would be whether such changed attitudes will accompany the sustainable recovery of private demand such as consumption and investment. These are the indispensable drivers for the Japanese economy to jump from the mal-equilibrium with deflation into that of virtue with mild inflation.

In this paper, we will empirically investigate the economic effects of the three-pronged strategy, and mainly focus on the household point of view. Relevant issues to be taken up are as follows.

First, what are the characteristics of the recent changes in expectations or sentiments in comparison with those of the first half of the 2000s?

Second, it should be admitted that the data in production and employment are not yet good enough to explain such rapid expectation changes. This implies that clarifying the causes of shifting expectations to date is worth foreseeing the future course of sentiments.

Lastly, while the recent changes in expectations are rudimentary in nature, what order of magnitude could these changes have on the economy?

## **2. How the Market and Overall Confidence Have Reacted to the Policy Changes**

Given that only five months have passed since the birth of the second Abe Administration, the preliminary impact of the policy change on the economy can be observed primarily in the “soft” data including financial market indicators and confidence index, rather than in the “hard” data such as employment and price increase. This section will overview the development of these “soft” data since around the launch of the new administration, and will briefly analyze the possible factors behind the improvement.

### **(i) Developments in the Financial Markets**

First, we will focus on the market reflections of the policy change. As of the end of April 2013, the indicators in the financial markets, including stock price and exchange rate, have shown the most remarkable developments. It totally makes sense that initial responses are observed in financial markets indicators because those data are likely to reflect the market expectations for the future development of the real economy.

Figure 1 shows that share price (*Nikkei* average) has surged by approximately 38% since the day before the inauguration of the new administration (i.e. Dec 25, 2012), and by as much as 60% since the day before the decision of dissolving the Lower House by the former Prime Minister Noda (i.e. mid-November, 2012). Such improvement has far exceeded that in the U.S. market over the same periods (i.e. stock price (*Dow Jones*) has increased by around 12% from last Christmas and by around 17% since mid-November 2012). The exchange rates show similar development, which may at least partly explain the stock market improvement as discussed below. For instance, nominal effective exchange rate has depreciated by approximately 15% since last December and by approximately 20% since last mid-November.

Further observing the stock market development, however, it should be noted that the major driving force has been foreign investors. The stock market turnover by investor sector (Figure 2) shows that foreign investors have been continuously buying on balance since the last mid-November (the announcement of the dissolution of the Lower House), while other investors have somewhat lagged behind, with only a sign of domestic private investors' buying exceeding selling at the end of this March and after. As such, financial markets response to the new administration's policy so far has been mostly limited to foreign investors, who seem to have quickly adjusted their expectation based on the belief that "Abenomics" will cause a change in the long-lasting deflationary equilibrium.

What lies behind the market expectation then? To see this, an event study was conducted. Specifically, using the daily financial markets data from September 2012 to early April 2013, the day-to-day *Nikkei* average change rate is regressed on the day-to-day U.S. stock price change rate on the previous day, as a control for world economic conditions, as well as on several dummy variables which take value 1 on the day when the news and events about macroeconomic policy stance emerge, and 0 otherwise. The Japan policy dummies considered here are (a) monetary policy decisions, (b) news on the appointment of new governor of the central bank, (c) fiscal policy decisions, (d) events related to the regime change (e.g. general election), and (e) the other news on how the new administration's policy is accepted in other countries (e.g. G20 summit's communiqué in February 2013). The result (Figure 3)

shows that the news dummies related to political implications, in a sense, of the new government ((b), (d), (e)), which also might affect the foreign exchange market development, have statistically significant positive impact on Japanese stock market, after controlling for the U.S. stock price development. The reason why the policy dummies in a narrowly defined sense ((a) and (c)) are not statistically significant may be that the market had already anticipated the policy changes including foreseeable contents even before the actual decision date<sup>1</sup>. In sum, the analysis indicates that the recent favorable stock market development has plausibly reflected market participants' (specifically, foreign investors') favorable expectation toward "Abenomics."

## **(ii) Changes in the Confidence and Expectation Indicators**

Next, we will review recent developments in the confidence indicators, which reflect the expectations of both households and businesses. In short, consumer confidence has shown a clear-cut turnaround immediately after the birth of the Abe Administration. Improvement of the index has been concentrated on "employment" among four sub-indicators<sup>2</sup>, while "income growth" has slightly picked up. Meanwhile, the improvement in business sentiment has been somewhat modest so far. This is a sharp contrast with the experience in the early 2000s, the initial phase of the longest economic recovery in the post-war era, when business sentiment rapidly improved while the recovery of consumer confidence lagged behind (Figure 4).

The dramatic rise in the consumer confidence index since the turn of this year is somewhat puzzling given that fundamentals such as wage and employment data haven't yet seen any improvement. According to the existing literature, however, possible determinants of consumer sentiment include asset prices (e.g. share price) and the tone and volume of the news that consumers face (Doms and Morin 2004), suggesting that the remarkable and continuous rise in the stock price since the end of last year as well as the huge volume of news media favorable to "Abenomics" might have contributed to the dramatic rise in the sentiment. Therefore, it could be judged that the rise in consumer confidence this time is consistent with the existing literature. A relevant issue is to what extent a pick-up in consumer confidence may lead to the rise in real consumption expenditure, which we will return to later.

On the other hand, the recovery of confidence in the business sector has

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<sup>1</sup> The latest monetary policy decision ("quantitative and qualitative monetary easing") on April 4 would be an exception since the substance of the policy change was accepted by the market as a "surprise."

<sup>2</sup> Consumer Confidence Index is a survey-based indicator released in "Monthly Consumer Confidence Survey covering all of Japan" (Cabinet Office). The Index is a simple arithmetic average of four sub-indicators, namely "Employment," "Overall livelihood," "Income growth" and "Willingness to buy durable goods."

been slower. According to the latest *Tankan* survey, the sentiment of large corporations in export-oriented manufacturing industries (e.g. transport and electric machinery) shows a clear upswing, reflecting continuous yen depreciation during last several months, and that large sized non-manufacturing sectors' sentiment has also improved steadily, presumably reflecting an anticipation of a recovery in domestic demand. That said, the improvement of business sentiment has been rather modest compared to that of consumers and to the former development observed in the early 2000s.

With regard to two sectors and two different times, a somewhat stark contrast between the development of sentiment indicators at present and during the economic recovery phase in the early 2000s could provide a good policy implication for realizing sustained economic growth down the road. Business sentiment, particularly that of export-oriented industry, was kick-started right after the trough (early 2002) and continued to be heightened during the expansionary phase (from 2002 to 2007), predominantly led by the higher growth in overseas economies (growth of Japan's exporting markets being around 10% on average during the early 2000s). On the other hand, improvements in wage and employment conditions were suppressed as the corporate sector promoted labor cost containment with a view to cutting overall production cost, which contributed to the sluggish improvement of consumer sentiment through that period.

The following lesson can be drawn from this experience; because the Japanese economy was not equipped with resilience underpinned by households' solid domestic demand, it plummeted into a severe recession facing the world trade's "melt-down" precipitated by the Lehman shock, despite the fact that Japan was not the epicenter of the crisis and that the financial system in Japan was sound.

### **3. The Effects of Consumer Expectations on Expenditure: Theoretical Background**

The economists have been interested whether consumer expectations (i.e. consumer confidence or inflation expectations) have any predictive power on the future changes of consumption spending. Theories that affirm the predictive power usually view that consumer sentiment forecasts the growth of future income or wealth either through a direct channel or an indirect channel. On the other hand, the permanent-income hypothesis implies that the sentiment itself would have no predictive power, as long as households perceive a change as temporary.

The direct channel involves three stories. First, consumer confidence would directly impact spending if uncertainty about economic prospects remains high. For example, the precautionary-savings hypothesis predicts a rise in the level of

consumption spending with higher confidence, while the speed of the consumption growth is not clear. Second, if we allow forward-looking elements in the above-mentioned permanent-income hypothesis, spending could increase through growing future income, which is foreshadowed by improving consumer sentiment. Third is the wealth effect. Consumers may spend more when they feel more confident as the value of financial and/or real wealth rises.

The indirect channel can work through a decline in real interest rates. There is a growing literature that focuses on the role of expected inflation in stabilization policy in the framework of the Fisher effect, particularly in periods when nominal interest rates have hit their lower bound. The argument for a reflationary policy hinges on this channel, insisting that an increase in expected inflation bring down real interest rates and push up private demand. Nevertheless, there are some reservations to this mechanism. Volcker (2011) views that the engineering of higher inflation expectations as dangerous, because once inflation becomes anticipated and ingrained the stimulating effects on real economy are lost in the U.S. experiences. Others argue that inflation functions as a tax on the holders of cash and high liquid assets as well. It is also argued that households do not pay much attention on real interest rates.

In the next section, we will test statistically the effects of the recent dramatic change in expectations on the economy of Japan focusing on household sentiments, after surveying the existing empirical studies.

## **4. Empirical Analysis**

### **(i) Existing Literature**

(Consumer sentiment and household spending)

It can be said that consumer sentiment is sensitive to macroeconomic changes and that its improvement can induce more spending.

According to Fuhrer (1993), roughly 70% of the variation in consumer sentiment can be explained by macroeconomic variables, including the income, unemployment rate, inflation rate, and real rates of interest, while some idiosyncratic variation remains, particularly around turning points of business cycles in the U.S.

Although it is difficult to uniquely identify the determinants of the sentiment, several papers present empirical evidence of the link of sentiment to current or subsequent consumption expenditures. However, the estimation results show that the extent of the correlation between consumer confidence and changes in household spending spans a substantial range.

It should be noted that there still remains discussion on the nature of linkage between sentiment and spending. Campbell and Mankiw (1989) posit that some

households strictly follow the permanent-income theory, while others set consumption equal to current income; thus the sentiment affects the future consumption only in its role as a predictor of income. Their model provides a basic framework of consumer spending behaviors, which was tested and extended by various empirical studies that followed. Among such studies, Carroll et al. (1994) conclude that sentiment has at least some direct incremental explanatory power to forecast future changes in household spending. In this study, we investigate whether the Campbell-Mankiw model can explain the changes in Japanese household spending.

Furthermore, a study reveals a differential effect on household spending by income class. The use of microdata allows researchers to investigate the cross-sectional properties of the expectations among various types of households. Souleles (2004) analyzes household-level data of the Michigan Survey of Consumer Attitudes and Behavior. The cross-sectional distribution of forecast errors implies that high-income households receive relatively good shocks during expansions, while low-income households continue to receive negative shocks on balance. This implies that an increase in consumption would be more relevant to high-income families when their sentiments recover.

#### (Inflation Expectations)

Inflation expectation offers a persuasive reasoning to stimulate demand, at least theoretically. However, on an empirical basis, few papers examine its role. A recent study by Bachman et al. (2012) find that the impact of inflation expectations on the readiness to spend on durables is either negative or statistically insignificant, and always small in absolute value compared to the impact of household expectations of future business conditions. They find that buying attitudes are significantly influenced by the expected nominal interest rate, which indicates some confusion among households between nominal and real interest rates (the money illusion).

#### (Responses to Stock Market Wealth Shocks)

There are several studies on the responses to a rise in stock. As a general view, the surging stock market has contributed to increasing consumer spending, while some economists have a cautious view regarding the extent of such responses. Poterba (2000) considers that the highly-skewed distribution of stock ownership implies that direct stock wealth effects are likely to be small for most households. At the same time, he argues that the changes in stock prices can influence these households' spending by affecting confidence or the uncertainty about future economic conditions (confidence channel).

## (ii) Analysis on Current Japanese Environments and Its implications

As discussed in section 2, the ESRI survey results have shown an uptick in consumer confidence since January 2013, although it has not yet been accompanied by noticeable improvement in the unemployment rate or household income. On the contrary, the recent upgrades in stock prices are likely to have positively influenced the sentiment, as well as lower real interest rates.

We investigate the near-term predictive ability of consumer sentiment, using the extended Campbell-Mankiw framework that reflects the current Japanese environments. As discussed, their framework has an implication that sentiment should appear in the consumption equation only in its role as a predictor of income. We thus employ the sentiment of future income growth as an instrument of income growth. Actually, the change in the sentiment of future income growth tends to precede the change in wage data by three-to-four months.

This hypothesis is represented in the following equation:

$$\Delta \ln C_t = \alpha + \beta \Delta \ln YD_t + \gamma \Delta \ln NW_{t-1} + \varepsilon_t$$

$$\alpha = -0.000 (0.003), \beta = 0.523 (0.281), \gamma = 0.241 (0.063)$$

Notes: Figures in parentheses are standard errors. The sample period for estimation is 2001:1-2012:1.

where  $C_t$  is household consumption expenditure (a total of all goods and services),  $YD_t$  represents disposable income (sentiment is indirectly included as an instrument for  $YD^3$ ), and  $NW_{t-1}$  is the one-period lagged value of household net financial assets<sup>4</sup>.

Based on these results, we have made two exercises to calibrate the magnitude of the possible effects of improving consumer sentiment on consumption in 2013. (a) If the sentiment stays at the same level through this year as that of the first quarter of 2013, it predicts 2.6% consumption growth on an annual basis for 2013. (b) If sentiment continues to improve by the end of this year at the same pace as observed in the first quarter of 2013, it predicts 2.9% consumption growth on an

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<sup>3</sup> Instruments contain a constant,  $\Delta S_{t-1}$  (lagged sentiment), and  $\Delta YD_{t-i}$  ( $i=1, \dots, 5$ ). Alternative formulation by Carroll et al. (1994) or Ludvigson (2004) is that lagged confidence enters the prediction equation for spending directly. Unlike their results of the US consumers, we do not find that consumer confidence has any additional predictive power in a direct way for consumption growth.

<sup>4</sup> Data sources are as follows.  $C_t$ : Real consumption of households, excluding imputed rent, from SNA (CAO),  $YD_t$ : National disposable income, excluding imputed service of owner-occupied dwellings, from SNA (CAO),  $NW_{t-1}$ : (Financial assets)-(Financial liabilities) held by households, from Flow of Funds (BOJ),  $S_t$ : Sentiment of future income growth, from Consumer Confidence Survey (CAO).

annual basis for 2013. These exercises indicate that the household sentiment improvement might have a significant potential on spending increase by around 3%, with other things being equal.

We derive the implication that the recent data of Japanese households' behavior is consistent with the Campbell-Mankiw framework to a certain extent. The consumer sentiment for the future income delivers proportionate predictability of total expenditure growth, through the growth of labor income. This implies that the current uptick in consumer confidence can lead to future changes in household spending, only if such expectation is actualized and further strengthened through realization of a wage and income increase. Besides, the estimation results clearly indicate that the spending positively responds to the growing household wealth, while some of the previous literature argues that such effect can be modest because of the highly skewed distribution of stock ownership.

## **5. Conclusions**

"Abenomics" with its positive message has been spreading over not only the market but also people, leading to a clear change in expectations. Compared with the experiences in the 2000s, this change is preceding an improvement of economic indicators such as exports, production, and employment. Furthermore, it is an interesting feature that the recovering household sentiment is backed by all component factors of the questionnaire including a hope for an increase in wages.

This means that it is desirable for household to soon recognize a wage increase to keep a trend of improving sentiment. In general, when an expectation is strengthened through realization of that expectation, then it is most likely that an expectation would have a sustainable pushing effect on the real economy. This is the kind of the dynamics that Akerlof and Shiller (2009) called the "confidence multiplier effect."

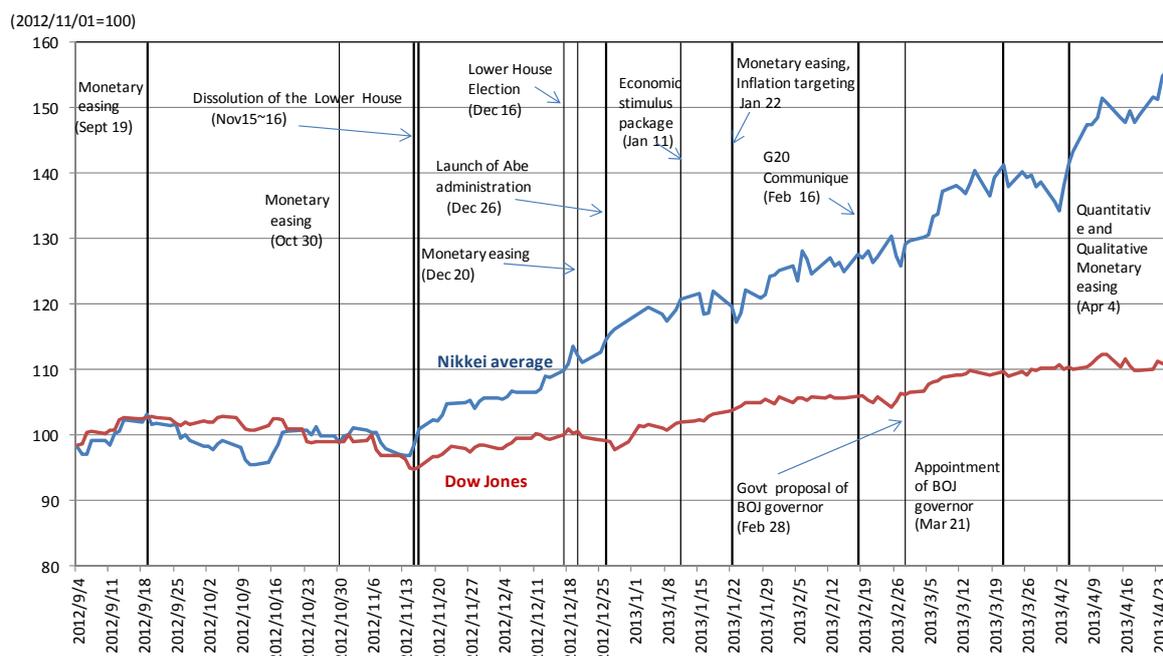
An empirical estimate shows that the recent improvement in household sentiment would increase household consumption by around 3 per cent in 2013 with other things being equal. It should be noted that the expectation needs to be constantly supported by favorable economic statistics like an increase in wages and income. Without such substantial evidence, a positive effect on the economy would be transitory and stop working shortly. In other words, the virtuous circle of economic growth from business to the household sector will be necessary for economic revitalization with mild inflation.

Finally, the important thing is that the estimates and exercises in this paper are obtained from data from a period of just a few months. Therefore, the estimated parameters could be varying when a longer data set would be available.

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Figure 1. Stock Market Development in Japan Vis-à-Vis the U.S.



(Source) Bloomberg

Figure 2. Stock Market Turnover by Investor Sectors

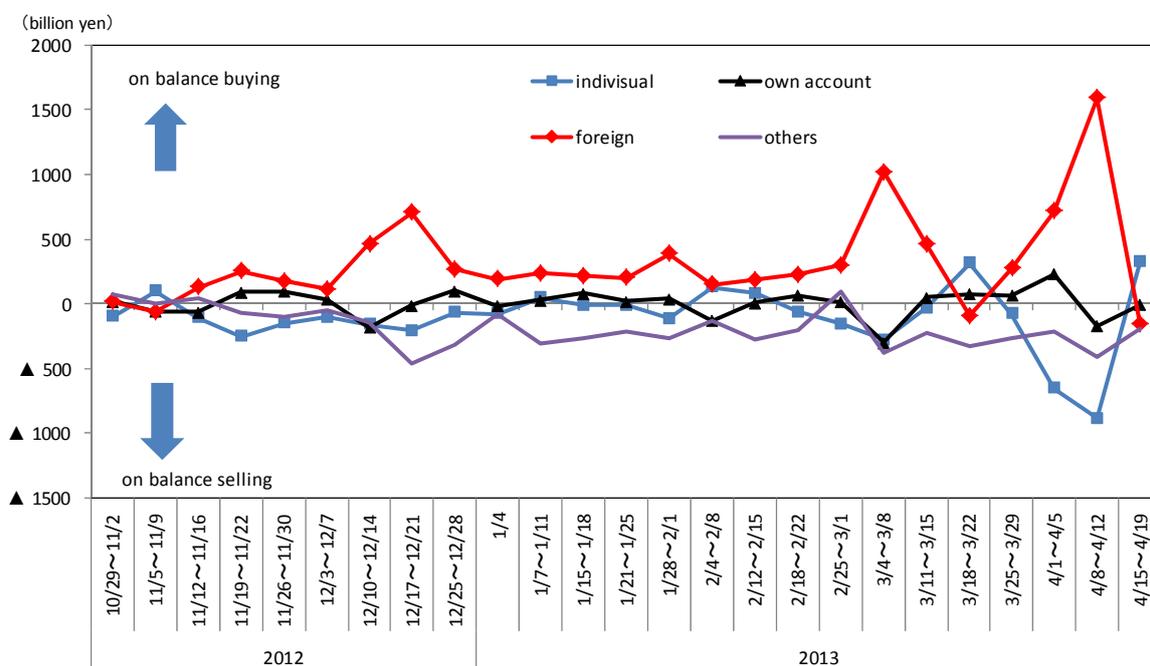
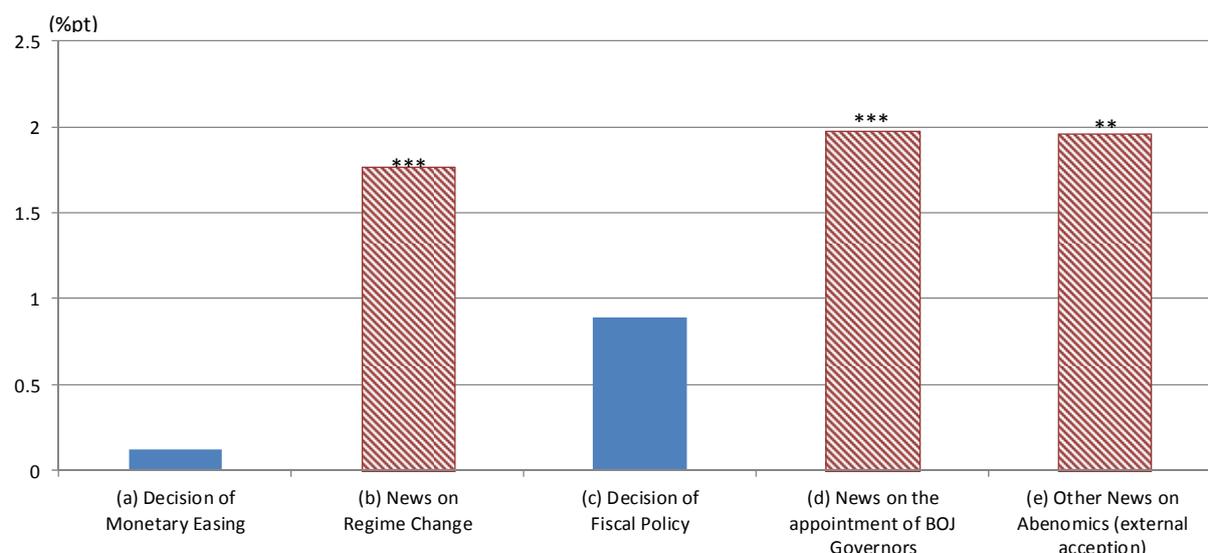


Figure 3. Result of an Event Study (impact on stock price change rate)



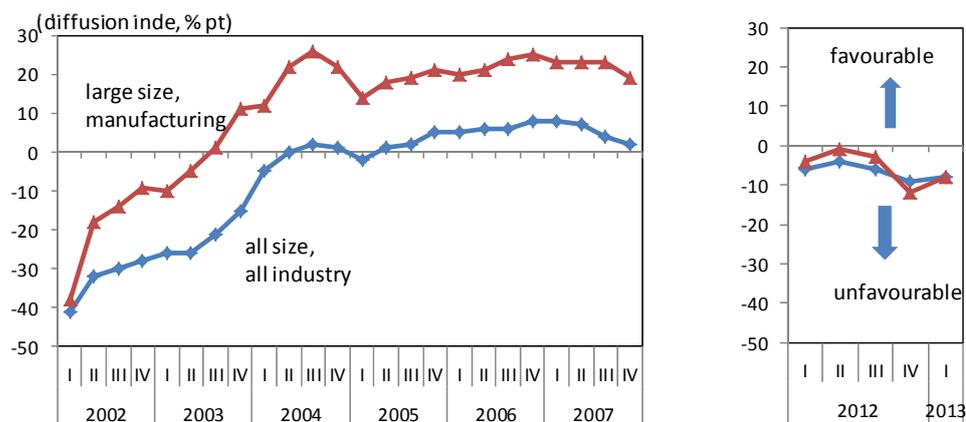
(Note) The following equation is estimate by OLS;

$$Nikkei_t = \beta_0 + \beta_1 Dow_t + \beta_2 Dummy_{(a)} + \beta_3 Dummy_{(b)} + \beta_4 Dummy_{(c)} + \beta_5 Dummy_{(d)} + \beta_6 Dummy_{(e)} + \varepsilon_t$$

(\*\*) indicates 5% significance, and (\*\*\*) 1% significance. The coefficients on dummies (a) and (c) are not statistically significant.

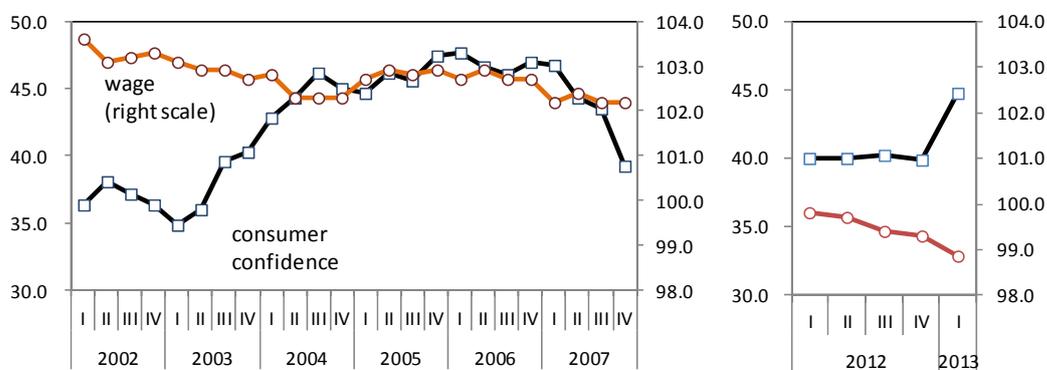
Figure 4. Development of Business and Consumer Sentiment

**Business (Tankan survey)**



**Household**

(2010=100)



(Source) Bank of Japan "Tankan Survey," Cabinet Office "Monthly Consumer Confidence Survey covering all of Japan."