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**THE CAUSES OF THE JAPANESE DEFLATIONARY
CRISIS IN THE LIGHT OF THE AUSTRIAN SCHOOL
OF ECONOMICS**

JEL Classification: *E30, E51*

Keywords: *deflation, crisis, the Austrian school, business cycle*

Summary: *The aim of this study is an attempt to indicate the causes of deflationary crises through the presentation of the phenomenon of deflation and its causes in the light of the Austrian school of economics and to show that the most remarkable case of deflation in recent history, which took place in Japan confirms the Austrian assertions in respect of factors causing severe deflation. For this purpose, basing on relevant literature, the author presents the Austrian view on the concept of deflation and the main aspects of the Austrian Business Cycle Theory. Subsequently, the author analyzes the monetary policy of Japan in the period preceding deflation, pointing out the facts from the contemporary Japanese economy seem to confirm the assertions of the Austrian school of economics.*

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PRZYCZYNY JAPOŃSKIEGO KRYZYSU DEFLACYJNEGO W ŚWIEŹLE AUSTRYJACKIEJ SZKOŁY EKONOMII

Klasyfikacja JEL: E30, E51

Słowa kluczowe: deflacja, kryzys, szkoła austriacka, cykl koniunkturalny

Abstrakt: *Celem niniejszej publikacji jest próba odpowiedzi na pytanie o przyczyny występowania kryzysów deflacyjnych poprzez przedstawienie zjawiska deflacji oraz jej przyczyn w świetle austriackiej szkoły ekonomii oraz wykazanie, iż najdonośniejszy przypadek deflacji, jaki miał miejsce w Japonii, potwierdza twierdzenia ekonomistów tej szkoły, w zakresie czynników wywołujących dotkliwie dla gospodarki okresy spadku poziomu cen. W tym celu, na podstawie literatury przedmiotu, autor przedstawia austriackie spojrzenie na zagadnienie deflacji oraz podstawowe założenia Austriackiej Teorii Cyklu Koniunkturalnego. Następnie autor dokonuje analizy sytuacji gospodarczej i polityki monetarnej Japonii w latach poprzedzających wystąpienie deflacji, wskazując że fakty z gospodarki japońskiej zdają się potwierdzać słuszność twierdzeń ekonomistów szkoły austriackiej.*

INTRODUCTION

Deflation has become a very popular word in the economic press recently. As the latest financial crisis began, the American Federal Reserve started their series of interventions on the market consisting in the reduction of interest rates, open market transactions such as purchasing “toxic” financial assets and so on. All those activities have been meant as a way of providing liquidity to markets and necessary financial bailout for the banking sector. The central bank played its role of the “lender of last resort” on the one hand and has been trying to stimulate consumer spending on the other, following Keynesian indications. The chief of the Federal Reserve justified his aggressive policy of quantitative easing as an effective instrument of protection against deflation and stimulating inflation (Bernanke 2011). The same inflation, which has been fought and considered the main threat turned out to be a cure for something worse – deflation.

The purpose of this study is to present the phenomenon of deflation in the light of the Austrian Business Cycle Theory and to show, that the most remarkable case of deflation in recent history, which took place in Japan seems to confirm the Austrian assertions. The theory in question states that

periods of severe deflation are preceded by earlier intensive credit expansion, and its aggressive monetary policy based on credit expansion and the fractional reserve system, which should be considered the source of economic problems. Deflation itself doesn't have to be disadvantageous.

In order to achieve the above mentioned goal, the author shall present first the "Austrian" view on the concept of deflation and its causes. Subsequently, the monetary policy and economic situation of Japan in the period preceding deflation (1985-1990) will be analyzed in order to show that the real occurrences in Japan confirm the Austrian theory.

DEFLATION, ITS TYPES AND CAUSES

These days, the most common definition of deflation is a decline in the general level of prices, which (according to economists representing the Austrian school) might be misleading as deflation (as well as inflation) is no longer associated with a decrease (or an increase) in the supply of money, but its consequences. Furthermore, the economists in question point out that it is very often forgotten that deflation (as well as inflation) is a completely normal occurrence, which also exists in perfectly sound economies. Actually, there is always either inflation or deflation in an economy. Following Mises: "The notions of inflation and deflation are not praxeological concepts. They were not created by economists, but by the mundane speech of the public and of politicians. ...the term inflation was applied to signify cash-induced changes resulting in a drop in purchasing power, and the term deflation to signify cash-induced changes resulting in a rise in purchasing power." (Mises 1996, p. 422). In other words "deflation signifies: a diminution of the quantity of money (in the broader sense) which is not offset by a corresponding diminution of the demand for money (in the broader sense), so that an increase in the objective exchange-value of money must occur." (Mises 1953, p. 240). However, it is very often forgotten that purchasing power changes all the time and people perceive deflation and inflation only as big cash-induced changes resulting in a rise/fall in purchasing power. From this point of view, these terms are usually associated with something bad that shouldn't happen. Deflation understood this way is the subject of interest for this study.

It is generally assumed that deflation might be induced by so-called demand shocks or supply factors. The first group is considered very dangerous, whilst the latter mean "positive supply shocks" which might be induced by such factors as innovations in an economy or technological

development. Deflation might be also a result of an increase in labor efficiency or a decrease in the prices of imported commodities, which enables producers to offer more goods at the same price (Buiter 2003, pp. 4-5).

The reasons for a sudden decline in demand might be, for instance, tight monetary policy or a deterioration in general economic situation. The Austrian school economist, J.H. de Soto links deflationary effects emerging under a fractional reserve system mainly to credit tightening process and mentions the following deflationary factors (de Soto 2009, pp. 254-259):

- a decrease in original deposits – when a certain sum in original deposits (being a base for credit creation) is withdrawn from banks, large amount of created money disappears in a chain reaction, which results in a severe deflation and a reduction in a level of prices,
- a change in preferences of the public towards keeping money outside the banking system – effects similar to those described above,
- an increase in the reserve ratio of banks leading to a contraction in money supply,
- loans repayment higher than new loans granted also lead to a decrease in money supply,
- an increase in the number of defaulters unable to pay back their loans – in such situations banks usually restrict their new loans accelerating the deflationary process.

Thus, deflation might be caused by a fall in the money stock due to a decline in fractional reserve lending, which leads to a collapse of demand. If deflation is caused by a demand shock, it usually intensifies because of a so-called deflationary spiral. A fall in the supply of money (assuming that the level of production in an economy is unchanged at first) causes that there is less money, which consumers might spend purchasing regardless of higher purchasing power, in circulation. The decline in consumer spending drives prices down, and makes entrepreneurs earn less. It compels them to reduce their levels of production and cut their costs, mainly by cutting employment. As unemployment rises, another decrease in demand takes place and the chain reaction repeats. Thus, as expenditures go down, it further raises un-utilized capacity and puts further downward pressure on the price level.

This is why the popular way of thinking maintains that a price stability policy doesn't have to imply that the central bank must fight inflation. On the contrary, it is also the role of the central bank to prevent large falls in the rate of inflation, as most mainstream economists claim that it is much harder for the central bank to cope with deflation than inflation. When inflation goes up, the monetary authorities have no limit as such on how

much they can raise interest rates to “cool off” the economy. However, this is not so easy when it comes to deflation, as the lowest level that the central bank can go to is a zero interest rate (Shostak 2011). Deflation causes that real interest rates rise and even if the intention of the central bank is to set “zero” interest rates, the real ones might remain much higher. High real interest rates are considered another factor inducing people to keep money and postpone their expenditures. However, its influence is rather limited, because people tend to keep their consumption at a steady level. For all those reasons it is believed that deflation reduces consumer spending and limits economic activity.

The popular classification of deflation types is the one that was presented by C. Borio and A.J. Filardo. They distinguished three main types of deflation (Borio, Filardo 2004, pp.7-9).

The Good – the mildest one, which is usually caused by positive supply shocks. Such deflation is a result of technological development, increased efficiency and innovations. Very often these are “transitory and mild declines in the aggregate price level linked to normal cyclical downturns in a low-inflation environment.” (Borio, Filardo 2004, p. 9) This deflation type is usually interim.

The Bad – “would be those where the specific nominal rigidities played an important role in undermining economic activity or else, where other concomitant developments resulted in serious economic weakness.” (Borio, Filardo 2004, p. 9) Thus, this one is a result of a negative demand shock connected with an economic recession. The “bad” deflation is more harmful than the good one and might turn into the “ugly”.

The Ugly – emerges “where deflationary forces conspired with the asymmetries to create a spiral of self-reinforcing disruptions...” (Borio, Filardo, 2004 p. 10). Thus, this type appears when we observe a decrease in a price level at the same nominal earnings, which makes incomes of firms go down. Then unemployment rises and deflationary spiral emerges in the way described earlier. Another cause appears when there are zero interest rates in an economy and a fall in the level of prices doesn't result in further decrease in interest rates. On the contrary, real interest rates remain positive and rise. The last factor is an increase in real indebtedness, which makes people save more to pay back their debts, which decreases demand. Most mainstream economists maintain that it is central banks' role to prevent markets from severe deflation as well as high rates of inflation. Therefore, they postulate using such instruments as interest rates mechanism, reserve ratio, discount rate and open market transactions in order to influence money supply (Begg et al 2007, pp. 136-138). In ac-

cordance with that point of view, deflation might be fought by means of a decrease in nominal interest rates. However, we mentioned above that the efficiency of this instrument is very limited in case of deflation because of a so-called “liquidity trap”. This expression applies to a situation when the application of instruments increasing money supply doesn’t lead to a rise in a general level of prices, making monetary policy inefficient thereby. John Hicks also included this “difficulty” in his IS-LM model being an interpretation of Keynesian theories. The Austrian school of economics provides us with a completely different explanation of deflationary processes and proposes a different solution.

DEFLATION ACCORDING TO THE AUSTRIAN BUSINESS CYCLE THEORY

In order to understand the Austrian point of view one should familiarize oneself with the Austrian Business Cycle Theory. To put it briefly, it maintains that there are some cycles in each economy based on a fractional reserve system (very often called boom and bust cycles), which appear periodically. However, on the contrary to what Keynes asserted, they are not a result of a free market imperfection. Mises showed that market fluctuations stem from an excessive credit expansion, which artificially lowers market interest rate below the level fixed by voluntary savings.

At the outset, there is a “boom” period. It is the time when a state stimulates economic development artificially lowering an interest rate. Everything the central bank has to do is to increase money supply. On a free market however, an interest rate is “equal to the ratio of a definite amount of money available today and the amount available at a later date which is considered as its equivalent. It determines the length of waiting time and of the period of production in every branch of industry.” (Mises 1996, p. 532). Thus, the reason for the interest rate existence is time preference, which means that every human values a current good higher than the same good in the future. Therefore, the interest rate is a measure which tells us how much current satisfaction varies from the same satisfaction in the future (Mises 1996, p. 526). In other words, as the Swedish economist Knut Wicksell asserted, the natural rate of interest is defined as the rate at which the demand for physical loan capital coincides with the supply of savings (Hayek 1931, p. 23). Nevertheless, Wicksell also maintained that when the natural rate is reached, the state of equilibrium is attained, making price level stable. This assertion is considered by the Austrian school incorrect,

which was pointed out by Hayek in his study “Prices and Production” (Hayek 1931, pp. 23-24).

The increase in money supply always affects price structure depending on which groups are the first beneficiaries of that new money inflow and what their relative demand for goods is. Thus, changes in money supply might influence prices of consumption goods and production goods differently (affecting the relation between the prices of current and future goods), changing an interest rate thereby. Entrepreneurs are always misled by any artificial changes in interest rates and think that there are more savings in an economy than there is in fact. Thus, they start more time-consuming investments thinking they are profitable. “According to the Austrian Business Cycle Theory (ABCT), the lowering of interest rates by the central bank leads to a misallocation of resources because businesses undertake various capital projects that prior to the lowering of interest rates weren’t considered viable. This misallocation of resources is commonly described as an economic boom.” (Shostak 2011).

Thus, entrepreneurs start many new investments, however many of them don’t have a chance to succeed, because sooner or later they find out there is not enough physical savings in the economy and they will face the lack of capital. Before it happens however, the unemployment falls, earnings go up and the economy seems to be on a way towards prosperity. The prices of various assets go up and reach levels at which they are undoubtedly overvalued. Shares prices peak, people earn a lot from them and then spend their profits. This is why we call this time a “boom” period. As the real propensity to save hasn’t changed, people tend to spend the same parts of their income as before despite lowered interest rates. Actually, very often they spend more when nominal interest rates are so low that real interest rates are negative, which discourages to save. So, as people spend more and more, physical savings are lower and lower. Consumer prices increase. What is important, the prices of capital goods rise faster than consumer prices as producers received additional money from banks in the shape of new credits. If only producer prices rose, entrepreneurs would understand that they made a mistake as their projects would turn out to be uneconomic, but increasing consumer prices still let them expect future profits.

In order to continue investments, start new ones or increase the scope of activity, companies need new credits. Credit expansion increases but boom might last only as long as banks perform credit expansion at an increasing pace. As Mises wrote: “Whatever conditions may be, it is certain that no manipulations of the banks can provide the economic system with capital goods. What is needed for a sound expansion of production is additional

capital goods, not money or fiduciary media. The credit expansion boom is built on the sands of banknotes and deposits. It must collapse.“ (Mises 1996, p. 561). Thus, a further rise in production “is possible only if the amount of capital goods is increased by additional saving, i.e., by surpluses produced and not consumed. The characteristic mark of the credit-expansion boom is that such additional capital goods have not been made available.“ (Mises 1996, p. 557).

The artificial boom doesn't last forever. Malinvestment (caused by credit expansion) leads to shortages of consumption goods whilst production goods haven't been transformed into new consumption goods yet. This process causes a gradual decrease in the quantity of consumption goods available for consumers, which leads to a rise in consumer goods prices and a fall in producer goods prices (so-called countermovement). It means that the rate of interest on loans rises again and approaches the natural rate. This countermovement is strengthened by the fact that the increase of the stock of money reduces the objective exchange-value of money. As long as this depreciation of money is taking place, the rate of interest on loans must rise above the level that would be demanded and paid if the objective exchange-value of money remained unaltered (Mises 1953, p. 362-363).

At this stage banks might try to counteract the countermovement through further loan interest rates cuts and increasing the amount of money in circulation. Nevertheless, all such attempts are vain because the more the stock of money rises, the stronger fall in money purchasing power is, and the stronger the rate of interest rises (counter-effect) (Mises 1953, p. 363). One day, the rate of inflation caused by such actions of banks is so high that the central bank has to “cool off” the economy and raise interest rates. This is usually a moment, when the “bust” period begins. Another option the central bank has is continuation of credit expansion, which would lead to hyperinflation and the collapse of the whole financial system.

Thus, as soon as the inflow of fiduciary media comes to an end the “bust” period commences. This phase is the time when one observes all the necessary adjustments of production structure to the time preference of consumers. Malinvestments are eliminated from the market because their sources of financing “dry up” and the entrepreneurs must restrict their activities. Prices drop rapidly as the companies which faced financial problems try desperately to get cash by selling their inventories. Many manufacturing plants are closed, workers are dismissed and lots of ongoing projects are abandoned. Many companies need money to survive and money becomes hard-to-get because of the lack of confidence on the market.

Therefore, the entrepreneurial component in the gross market rate of interest increases to an excessive level. According to Mises, this phase is painful, but inevitable and eventually advantageous for the economy and the government should not interfere at all. However, it's a very hard task for the governments to stand aside as in this period unemployment rises, many businesses go bankrupt, speculative bubbles burst and one might observe general economic collapse. Therefore, public pressure is strong.

As de Soto wrote: "One of the central problems posed by the process of credit expansion and ex nihilo deposit creation, and thus by the bank deposit contract involving a fractional reserve, is that just as this process inevitably unleashes forces that reverse the effects of credit expansion on the real economy, it also loses forces which lead to a parallel process of credit tightening or contraction." (de Soto 2009, p. 254).

As mentioned before, the recession phase usually begins with tightening of monetary policy by the central bank. It results in the fact that money isn't that cheap any longer and credits become harder to get. Moreover, it's characteristic for the stage of recession that some banks go bankrupt and others, frightened by the situation, increase their reserve ratio in order to avoid liquidity problems. People become distrustful and reduce their deposits in banks, which are a base for credit money creation. All these occurrences restrict the amount of credit circulation and decrease the supply of money accelerating deflationary process thereby. A tendency develops toward a fall in the prices of factors of production and later toward a fall in the prices of consumer goods as well. "As soon as the depression appears, there is a general lament over deflation and people clamor for a continuation of the expansionist policy. Now, it is true that even with no restrictions in the supply of money proper and fiduciary media¹ available, the depression brings about a cash-induced tendency toward an increase in the purchasing power of the monetary unit." (Mises 1996, p. 568). The situation might improve only when prices and earnings adjust to the new money relation. Then, the loan market adapts itself to the new conditions too and the gross market rate of interest isn't distorted by a shortage of money any longer.

Thus, deflation and credit contraction, no less than inflation and credit expansion, are elements disarranging the smooth course of economic activities. However, Austrian economists underlined that it is a serious mistake

¹ Mises defines fiduciary media in the following way: "If the money reserve kept by the debtor against the money-substitutes issued is less than the total amount of such substitutes, we call that amount of substitutes which exceeds the reserve *fiduciary media*" (Mises 1996, p. 433).

to treat deflation and contraction as counterparts of inflation and expansion. They suggest intensive credit action is very popular these days because it creates the illusory appearance of prosperity, whilst deflation and contraction produce conditions, which people consider bad and disadvantageous.

Mises asserted that in fact, deflation and contraction are less likely to spread havoc than inflation and expansion. Deflation is less harmful mainly on account of its effects. Expansion wastes rare factors of production by malinvestment. When it ends, a very painful process of recovery is necessary. On the other hand, deflation and contraction produces neither malinvestment nor overconsumption. The temporary restriction in business activities that it causes may be offset by the drop in consumption on the part of dismissed employees and the owners of the material factors of production, the sales of which drop (Mises 1996, p. 567). As the remarkable Austrian economist wrote: “No protracted scars are left. When the contraction comes to an end, the process of readjustment does not need to make good for losses caused by capital consumption.” (Mises 1996, p. 567).

Furthermore, J.H. de Soto draws our attention to the fact that in an economy, which isn't based on the fractional reserve system, the contraction or deflation we described wouldn't occur. In such an economy, when a customer of one bank returns a loan, the amount of money is offset by another loan granted by another bank. Besides, even the same bank always makes efforts to replace the repaid loan with a new one (de Soto 2009, p. 260).

Thus, “the crucial problem posed by credit tightening and deflation consists of the fact that the very process of credit expansion based on a fractional reserve inevitably triggers the granting of loans unsupported by voluntary saving, resulting in a process of intertemporal discoordination, which in turn stems from the distorted information the banking system imparts to businessmen who receive loans generated *ex nihilo* by the system.” (de Soto 2009, p. 260). Therefore, businessmen start their investments as if real savings had increased. The result is artificial economic expansion, which inevitably leads to an adjustment in the form of a crisis and economic recession (de Soto 2009, p. 260).

THE ECONOMIC SITUATION AND MONETARY POLICY OF JAPAN IN THE YEARS 1985-1990

On the eve of the Japanese deflationary crisis, which began in 1990², the country was the second largest economy of the world after the United States of America. Its economic system at the time (likewise today) wasn't a typical marketable one, but the one that could be described as a "managed market economy of Keynesian type". It means that the government played an important role in the economy and the system was based on strong reciprocal relations of state administration, ruling party (LDP) and great business keiretsu (Samaryna 2010, p. 48). The characteristic feature of the Japanese economy was a kind of economic dualism consisting in coexistence of huge corporations and small and medium businesses. The latter were usually subcontractors for the first group and receivers of their production as well. In fact, there were large interrelated groups named, as mentioned above, keiretsu and the Japanese economy was to a great extent monopolized (Samaryna 2010, p. 52).

Another important feature of Japanese economy was a strong social responsibility of business and the "main bank system". Each keiretsu had its own main bank, which was the main subject of a group and supervised others. It was also the main source of financing for the whole group. Social responsibility made such actions as restructuring, dismissing employees or allowing businesses' insolvency much more difficult. Unlike banks in other countries, Japanese banks actively supported their corporations and rarely refused to grant them a credit, even if their financial situation was questionable. As a matter of fact, Japanese banks allocated most of their funds in credit action for businesses. Such system often led circulation to a deterioration of financial standing of both, the bank and the businesses. The certainty of financing from the main bank decreased firms' care for profitability and finance. On the other hand, banks did not secure credits properly and practiced moral hazard (Zaleska 2001).

The Japanese central bank had a limited ability to shape its monetary policy as the majority of decisions were taken by the government, and the bank only had to implement them. Therefore, very often the bank's policy served such purposes as supporting export expansion or industry (Zaleska 2001). Nevertheless, the bank's main, statutory objective was keeping stability of prices and supporting government's economic policy. Moreover,

² The Japanese problems with deflation are still ongoing. The CPI y/y change at the end of 2009 was -1.678 %, and at the end of 2010 was 0% (<http://www.imf.org>, accessed 12.04.2011).

up to 1995, its operational objective was the regulation of the official discount rate (the interest rate that an eligible commercial bank is charged to borrow funds directly from the central bank (Begg, Fischer, Dornbusch 2007, p. 137)). The other instruments of monetary policy used by the Bank of Japan were similar to those in other countries: reserve ratio, open market transactions etc. (Samaryna 2010, pp. 62-63).

In the period preceding the crisis, the Japanese central bank joined some other world's leading central banks and decided to lower interest rates. The discount rate was decreased from 5.5 % in 1982 to 5% in 1983, and then to 3.5% in 1986 and finally to 2.5% one year later (Kindleberger 1999, p. 199). Therefore, credits granted by the central bank for banks were very popular in the analyzed period. The banks took advantage of cheap credits offered by the BOJ as there was a huge demand for loanable funds declared by businesses.

From among other instruments applied by the BOJ, the reserve ratio was a tool of minor importance and was kept at the steady level of less than 1% during the whole subject period. Open market transactions were the instrument of greater significance. In the years 1985-1989 they were used by the Bank of Japan for purchasing securities (the value of these transactions rose by 20% in that period) in order to provide banks with additional money and stimulate credit expansion (Samaryna 2010, pp. 62-63).

Table 1. Money supply in Japan in 1985-1989 (hundred millions of yen)

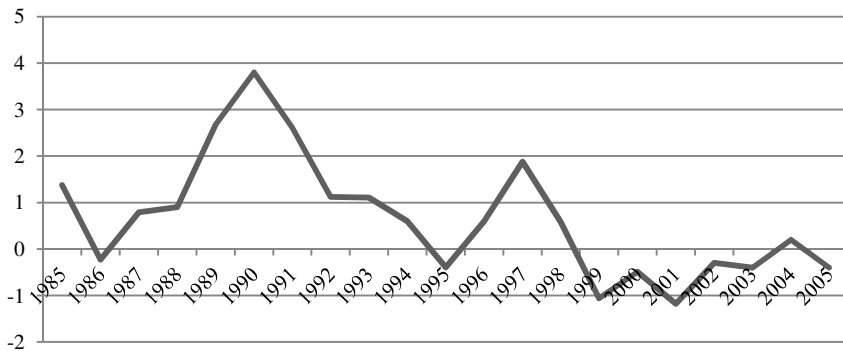
Year	Cash currency in circulation	Deposit money	M1	M2 + CDs	M2 change (%) y/y
1985	191 312	622 655	813 967	2 951 827	-
1986	207 555	662 654	870 208	3 207 324	8,66
1987	237 682	723 757	961 439	3 540 364	10,38
1988	262 218	780 253	1 042 471	3 936 668	11,19
1989	288 443	797 035	1 085 478	4 326 710	9,91

Source: own study on the basis of <http://www.stat.go.jp/english/data/chouki/22.htm>.

The loose monetary policy resulted in a considerable increase in the money supply measured by means of the M2 aggregate (including deposit certificates). The exact figures concerning money supply in the period preceding the Japanese crisis are presented in table 1.

As presented above, the M2 increased considerably from year to year, and what is more, the dynamics of those increases rose too. Only in 1989, when the first steps towards monetary policy tightening were taken, the pace of the M2 growth fell. As the table shows, in the analyzed period, one could observe continuous increase in monetary base and the M1 aggregate as well. The monetary policy in this shape induced in the years 1985-1990 growing rates of inflation. Graph 1 presents consumer prices changes in Japan at the end of each year in the period 1985-2005.

Graph 1. Inflation, end of year consumer prices in Japan in 1985-2005 (year-to-year percent changes)



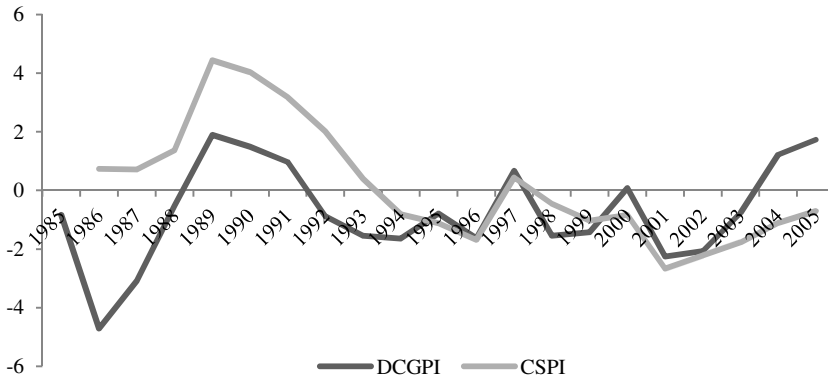
Source: Own study on the basis of data from International Monetary Fund, World Economic Outlook Database, April 2011, <http://www.imf.org/external/pubs/ft/weo/2011/01/weodata>.

Graph 2 presents two other price indices published by the Bank of Japan: Domestic Corporate Goods Price Index and Corporate Services Price Index in the same period of time.

The DCGPI measures the price developments of domestically produced and used goods traded among companies. The weights of the CGPI are based on the value of producers' shipments for domestic demand, which are calculated by subtracting the value of exports (from the 2000 Japan Exports & Imports published by the Ministry of Finance) from the value of total producers' shipments (from the 2000 Census of Manufactures published by the Ministry of Economy, Trade and Industry)³.

³ <http://www.boj.or.jp/en/statistics/outline/exp/pi/excgpi.htm> (accessed 23.04.2011).

Graph 2. Domestic Corporate Goods Price Index and Corporate Services Price Index in Japan in the years 1985-2005 (year-to-year percent changes)



Source: Own study on the basis of Bank of Japan Statistics, <http://www.stat-search.boj.or.jp>.

The Corporate Services Price Index (CSPI) is an index compiled monthly to measure the changes in price of a range of service products provided by businesses to other businesses and to local and central government in Japan. The CSPI began to be developed in 1985⁴.

As presented above, loose monetary policy (the series of discount rate cuts, increased money supply, purchasing securities from the market by the central bank) led to higher rates of inflation measured by means of consumer prices index. The indicator peaked in 1990 reaching 3.8%. The DCGPI and CSPI peaked even earlier (in 1989) and started falling too.

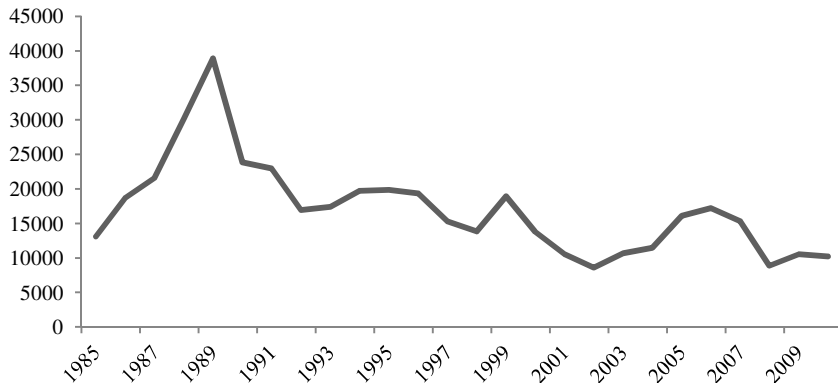
It is important to mention here that in the years 1985-1989, strong appreciation of yen took place. It was a result of an international agreement of 1985 between the G5 countries known as Plaza Accord, the objective of which was the reduction of the US dollar's exchange rate against other currencies (Samaryna 2010, pp. 71-73). This is probably the reason why DCGPI values before 1988 are negative. (The appreciation made imported commodities relatively cheaper and caused downwards pressure on domestic corporate products' prices as well). One should also take into account that artificially strengthened yen influenced all price indices. The appreciation was stopped only by another international agreement of 1987, known

⁴ <http://www.boj.or.jp/en/statistics/outline/exp/pi/excspi04.htm> (accessed 23.04.2011).

as Louvre Accord and the discount rate reduction (Samaryna 2010, pp. 71-73).

The stock index Nikkei, whose value in May 1949 was equal to 100 points, in 1984 reached the level of 10 000 points. By 1986 it increased by another 20% and subsequently peaked at the end of 1989 at 39 000 points.⁵ The index of real estate prices beginning with the level of 100 points in 1955, in the middle of seventies rose to 4100, in 1980 reached 5800 points and kept rising, finally reaching a peak at 20 600 points in 1989 (Kindleberger 1999, p. 198).

Graph 3. The values of the Nikkei 225 index at the end of each year between 1985-2010



Source: Own study on the basis of data from <http://stooq.pl>.

Thus, in the years 1985-1990, and particularly from 1987 one could observe a huge speculative increase in the prices of securities as well as real estate in Japan. Despite the fact that the prices in question weren't a result of any fundamental factors, monetary policy of the Bank of Japan was loose and expansive till May 1989 (Jackowicz 2011, pp. 5-6).

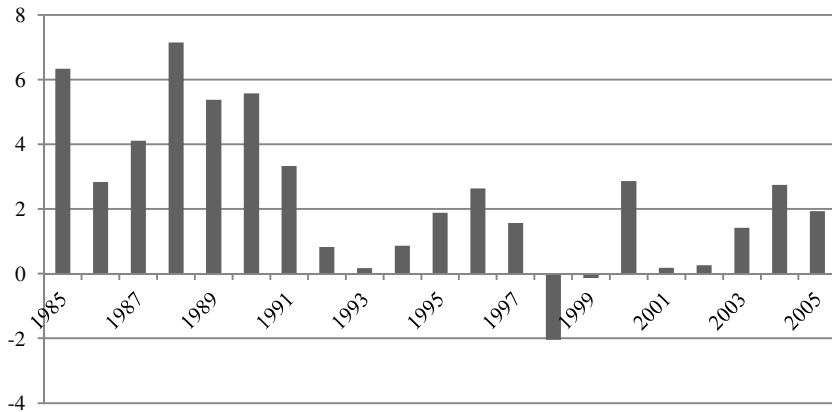
The reduction of the interest rate of 1986 was done simultaneously with similar moves of the American Federal Reserve and German Bundesbank.

⁵ <http://stooq.pl/q/d/?s=nikkei&c=0&d1=19850101&d2=20101231&i=y> (accessed 23.04.2011).

However, the Bank of Japan waited much longer with reversal of its policy and did it only in May 1989 starting a series of the discount rate increases. When Yasuki Mieno took over as a new chairman in December 1989, the discount rate reached 4.25% and the monetary policy was still tightened. Since 1989 also other interest rates (collateral overnight and uncollateral overnight) were increased. It initiated the collapse of January 1990 (Kindleberger 1999, pp. 199-200).

Sudden turnabout in Japanese monetary policy of 1989 was the main reason why the speculative bubbles on the Japanese stock exchange and housing market burst, starting deflationary processes in the economy. From that moment, the rates of inflation were lower and lower and eventually deflation appeared. The stock index Nikkei fell from 38 900 points in 1989 to 15 000 in 1992 (<http://stooq.pl>). Currently (2012) the value of the index doesn't exceed 10 000 points (<http://stooq.pl>).

Graph 4. Japanese Gross Domestic Product in the years 1985-2005 (constant prices, year to year percent changes)



Source: Own study on the basis of data from International Monetary Fund, World Economic Outlook Database, April 2011, <http://www.imf.org/external/pubs/ft/weo/2011/01/weodata>.

CONCLUSIONS

Having analyzed the situation of the Japanese economy and the monetary policy in this country in the period preceding deflation, one might observe many similarities to the phase of artificial boom described in the Austrian Business Cycle Theory. First of all, the occurrences described above took place in an economic system based on fractional reserve system, which lets monetary authorities flood the market with fiduciary money. Furthermore, the Bank of Japan being under the influence of the government often used expansive monetary policy as an instrument of realizing various political and economic objectives.

The Austrian Business Cycle Theory states that the main feature of the boom phase is an aggressive credit expansion. The phase of contraction in Japan was preceded by a loose monetary policy supported by an intensive credit expansion and a low interest rates policy. As presented in table 1 above, the M2 aggregate increased from year to year considerably in the subject period and the pace of those increases rose as well. Businesses took advantage of cheap credits on a large scale and started many new investment projects which later turned out to be malinvestments. Before that happened, the Japanese economy seemed to be on a way to prosperity likewise in Mises's description. Entrepreneurs very often reinvested the borrowed money on the Tokio Stock Exchange. The growing money supply contributed to the creation of huge speculative bubbles on the stock and housing markets. At that time, the economy seemed to prosper and the Japanese GDP measured in constant prices achieved over 7% growth y/y in 1988 and more than 5% in the following two years.⁶

In order to imagine the scale of credit expansion in Japan before the crisis, it is worth repeating that the reserve ratio was kept at the steady level of less than 1% during the whole period, which made the money creation multiplier very high likewise banks' risk. Moreover, low discount rate encouraged banks to exceed that limit. One should add to that cash injections in the shape of purchasing securities by the Bank of Japan (Samaryna 2010, pp. 62-63).

The problem was that huge rise in production in Japan was not supported by a relevant increase in capital goods generated by additional savings, i.e., by surpluses produced and not consumed. That issue was pointed out many times by the Austrian economists in their studies on the business cycles. Going farther, in accordance with their theory, a slowdown in the

⁶ Source: International Monetary Fund, World Economic Outlook Database, April 2011, <http://www.imf.org/>, accessed on 26.04.2011.

pace of the money supply growth measured by the M2 aggregate in 1989 was enough to begin the process of credit contraction and an economic slowdown. When inflation had risen considerably, the central bank had had to reverse its interest rates policy and finally increased the discount rate. That move began the credit tightening process and the bust phase.

When the Bank of Japan increased interest rates, it turned out there was not as much capital in the economy as businesses and investors thought, though Japan was a country of very large voluntary savings. However, credit expansion causes that, no matter how large voluntary savings are, people are misled thinking they are even larger. The prices of assets fell drastically commencing the collapse. Credit contraction and eventually deflation emerged.

Summing up, the case of Japan seems to confirm the assertions of the Austrian school of economists in respect of the causes of severe deflation periods. According to them, the source of deflationary crises is always prior credit expansion based on the fractional reserve system.

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