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Procedia Economics and Finance 3 (2012) 1042 – 1048

Procedia
Economics and Finance

www.elsevier.com/locate/procedia

Emerging Markets Queries in Finance and Business

First oil shock impact on the Japanese economy

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Abstract

The purpose of this article is to show the influence of the first oil shock on the Japanese economy, its consequences and the way in which they have managed to implement the new solutions.
We will analyze the influence of the increase of oil price related to early 70s from three points of view: economic growth, inflation and trade balance. All three studies about Japan will be compared to the U.S. and UK.
To check whether the measures taken after the first oil shock have been successful, we will make, again, a comparison of Japan with the United States and Britain, capturing also the period of the second oil shock late 70's to see how the Japanese economy performed in relation to them.

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Keywords: Japan, first oil shock, Japanese economy

1. Introduction

The year 1973 brought the OPEC-introduced embargo during the Israeli-Arab conflict, concerning all oil importing countries supporting Israel. Due to the lack of supply alternatives and a deficit amounting up to 4 million barrels per day Moroianu 2011, 3, the price quickly rose from \$ 2.18, recorded in February 1971, to \$ 5.12, in October 1973, and then to \$ 11.65, in January 1974, marking the first oil shock Câmpean 2011, 8-9.

A steep increase in oil prices, like the mentioned one, would strongly affect the Japanese economy, in three key points: economic recession, inflation and trade deficit. In what follows, we will examine each of these factors, in order to better understand the impact on Japan.

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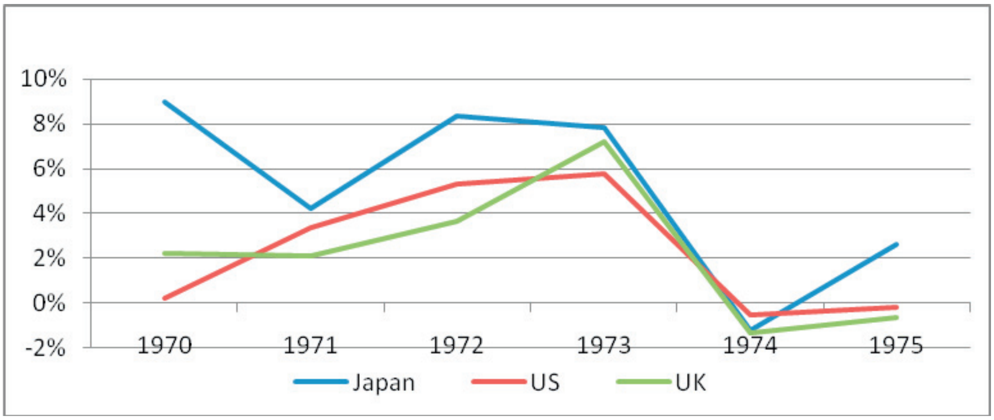
Selection and peer review under responsibility of Emerging Markets Queries in Finance and Business local organization.
doi:10.1016/S2212-5671(12)00271-7

1.1 Japanese economic growth

As we can see in the figure below, Japan started the eighth decade with a significant economic growth, reaching more than 8% per year for three years with the exception of 1971, when it had a growth of just over 4%, up to the obstacle called „the first oil shock". This made the Japanese economy to enter recession.

In a comparison concerning the three countries Japan, US, UK, we note that due to the much higher degree of dependence of the Japanese economy, it was the most affected, recording a fall of almost 10%, while the U.S. had a 6% one and the United Kingdom, -8.5%.



Source: own work, using http://www.stat.go.jp/english/data/chouki/03.htm, http://www.esri.cao.go.jp/en/sna/data/kakuhou/files/1998/12annual_report_e.html, last use: 26.07.2012, (Officer & Williamson 2011), (Johnston & Williamson 2011)

Fig. 1. Compared economic growth – Japan, US, UK 1970-1975

This shock determined the transfer of purchasing power from Japan to oil-producing countries, with the escalation of oil price and the recession that affected the importing companies, as a result of the deflationary policies. However, it also generated lower propensity to consume. As Yositomi Masaru showed (Yoshitomi 1976, 329), if during the interval 1963-1973 it decreased by 0.5% per year, only in 1974 it fell by 2.3%, reaching a level of 76%. This decrease occurred, probably, due to a strong depreciation of the real value of net financial assets held by households, and also due to their efforts to increase the savings with origin in the current income. A so steep economic downturn could not have existed without having effects on the labor market and corporate profit; so, the effective rate of available jobs, which remained constant over the period 1967-1974, dropped nearly to half at the end of 1975, and the net profit rate reached the lowest level after the second World War, dropping below 1% in the manufacturing sector (at 0.76%) in the first half of the fiscal year 1975 (Yoshitomi 1976, 330). The manufacturing industry was also affected by the fact that producing less, the economic agents increased their fixed costs, in addition to the increasing energy prices.

Table 1. Net profit margin in the manufacturing sector

		Net profit margin
1970	First semester	6.0
	Second semester	4.9
1971	First semester	3.8
	Second semester	3.6
1972	First semester	4.0

	Second semester	5.1
1973	First semester	6.3
	Second semester	5.7
1974	First semester	4.4
	Second semester	2.3
1975	First semester	0.9
	Second semester	2.3
Average 1964-1972		5.2

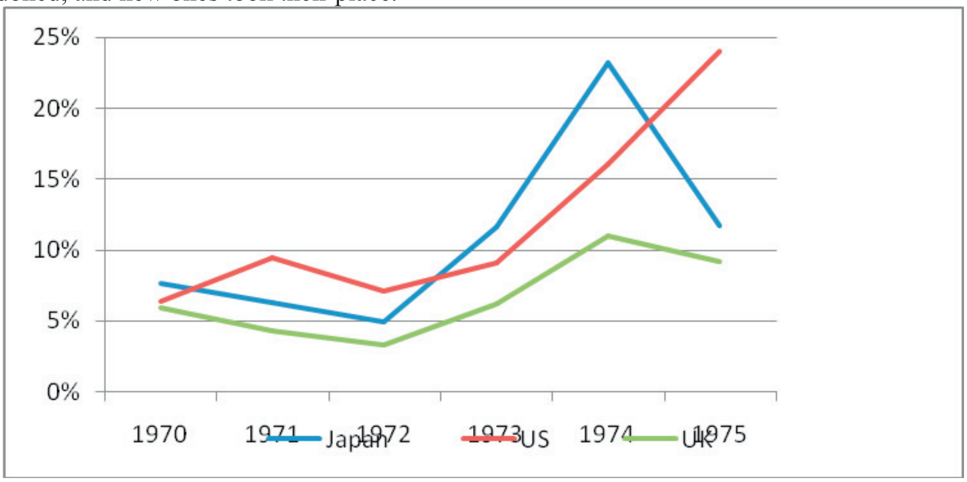
Source: (Yoshitomi 1976, 334)

As the investment rate was also affected by the new imbalances, recording a downward trend, falling from 21% to 15% between 1973 and 1975, the state had to do everything possible to bring it back on an upward trend. For this (the economic recovery), they choose the solution of the execution of public works, and an interest rate reduction of four times in six months, from 9% in April 1975 to 6.5% in October 1975. Private construction sector increased by 13.4% in 1975, after a fall of 14.4% a year before. 1977 would bring a stimulating budget, with of 0.7 billion yen tax cuts on income and a reduction of 1.5% concerning the interest rate, which reached a level of 5% in just two months March, April 1977. In addition, Japanese exports were supported by US measures in order to boost consumption, events that would help Japan to get out of trouble Yoshitomi 1976, 331,333,337.

Recession for this period is characterized as an inflationist one, due to significant rising prices.

2. Inflation evolution

If we compare the inflation evolution in the three countries analyzed in the eighth figure, we see that Japan has the highest generalized increase in consumer prices over 18%, from 5% to 23.20%, while the US had an increase of almost 9%, and Britain just over 7.5%. One of the reasons for the significant increase in consumer prices was also due to increasing electricity prices. During the period of cheap oil, the electrical system of Japan was largely made up of thermal power plants, operated by burning imported oil. With the increased cost of this resource, electricity prices increased exponentially, becoming much higher than in other developed countries; the Japanese competitiveness was violently hit, especially in some particular branches aluminium electrolysis, etc. The years 1973, 1974 brought also restrictions in power use. Therefore, certain branches were to be abandoned, and new ones took their place.



Source: Own work, using http://www.stat.go.jp/english/data/chouki/22.htm, last use: 28.07.2012 and (S. H. Williamson 2011), (Williamson & Officer 2012)

Figure 2. Compared inflation – Japan, US, UK (1970-1975) / percentage

Following these events, the government's number one priority became stopping inflation. The main Government target for 1975 was an inflation decreasing towards 10%.

As it can be seen in the previous figure, inflation was well managed in the period after the oil shock when it exceeded the 23% threshold, in 1975 being close to the official target, reaching 11%. Therefore, the Japanese archipelago has recorded a deflation of about 12%, the UK, of almost 2%, while in the U.S. consumer price index continued its upward trend.

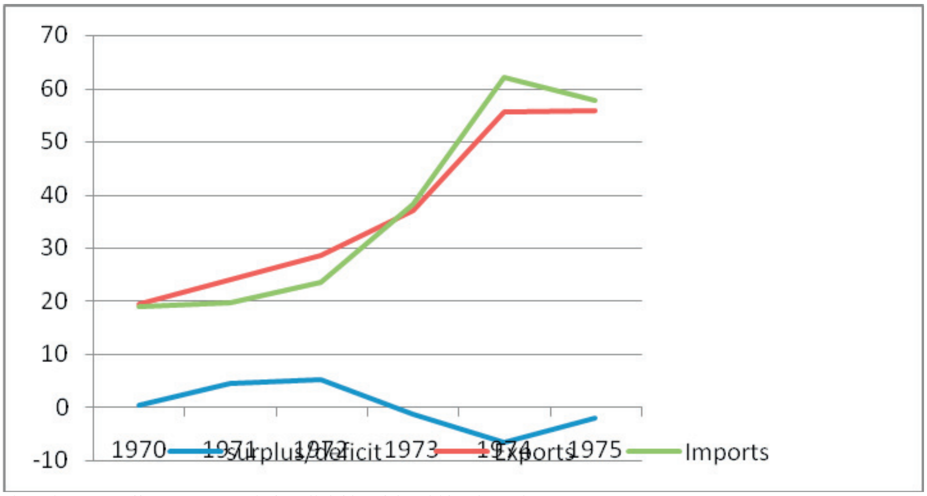
The measures taken by the Japanese government reducing energy consumption and reorientation have paid off, the recession being less severe than in the the other analysed countries. For the Japanese it was important that the main objective of stopping inflation was achieved.

Such an increase in crude oil prices, for a country as dependent as Japan, was, logically, reflected in its trade balance.

3. Trade balance evolution

As it can be seen in the third Figure, the early '70s brought a trade surplus for Japan, which, although insignificant in 1970, reached more than 5 billion dollars in 1972.

A so sharp increase concerning the oil barrel price charged massively the imports bill of Japan, leading the country into a trade deficit with the peak in 1974 over $ 6 billion. Imports increased in 1974, in comparison to 1973, by nearly $ 24 billion, the Japanese advantage being that they have succeeded to export more in this period; otherwise, they would have had a much larger deficit.



Source: own work, using http://www.stat.go.jp/english/data/chouki/18.htm, last use: 25.07.2012

Figure 3. Japanese trade balance evolution (1970-1975); billions USD

Following the taken measures reorientations, alternative resources, etc., the trade deficit recorded in 1975 a decrease, its value being of only $ 2 billion; a few years later, Japan would dominate the world in terms of surpluses.

4. Consequences of the first oil shock

In terms of consequences of the first oil shock on Japan, we note first that the dependence on foreign oil became a question of national security; the Japanese understood their vulnerability to international fuel price evolutions and reorganized their entire industry.

Therefore, the increasing dependence pushed Japan towards intense research in the field of saving raw materials, energy and of course the substitution of such products. A new type of industry became privileged, the Japanese focusing on integrated circuits, computer machines, industrial robotics, electronic materials, etc.

Japan was facing two major challenges: the significant inflation, as well as the transition from one model of economic growth high one to another medium one – nevertheless, higher than in the other developed states.

The Government could not intervene in force in order to strengthen the existing domestic demand due to inflation, and also the budget deficit. In order to regain the industrial production level reached before the first oil shock especially the peak of November 1973, Japan needed eight quarters from the second quarter 1975 – to the first quarter of 1977. The large losses due to giving up to some industries, the significant costs of establishing others investments in technology, etc., the public spending that the state began in 1975, after stopping inflation rise and maintaining it at the desired target, were pushing Japan into an urgent need for funding. In addition, expenses were increasing without a same trend for the revenues, and, besides the cyclical deficit generated by the recession, Japan was also recording an structural one. In order to fill this need, in 1975 there were issued bonds Worthing 5.5 trillion yen, while, a year later, there were launched new ones, reaching 7.4 trillion yen, about 4.5% of the GDP. In 1977, the new bonds had a value of 8.5 billion yen, an amount that exceeded 4.5% of GDP Yoshitomi 1976, 333,335. Since that moment, the transition to medium economic growth but higher than in other developed countries began, with expectations of economic growth to decline from 11% to 5.5% in the next decade. There were several reasons for this slowdown.

Internationally, there were large uncertainties after the first oil shock the supply with resources will be continuous or not, the imbalances arising in some countries balances of payments; we can also add here the process of giving up the fixed exchange rate, which appreciated by nearly 18% from 1970 to 1976.

Internally, there were several elements, among which we mention:

- capital-labor ratio was declining;
- the total working was about to fall because of declining employment, and the extension of free time;
- transfer of labor from less productive sectors towards other, more productive ones, had to have an end;
- a number of investments concerning the environment ignored until then were about to be done, etc.

Yoshitomi 1976, 336-337.

In order to see if these measures have paid off, we awill ttempt a comparative analysis of Japanese economic growth over the next decade (which would also include the second oil shock)

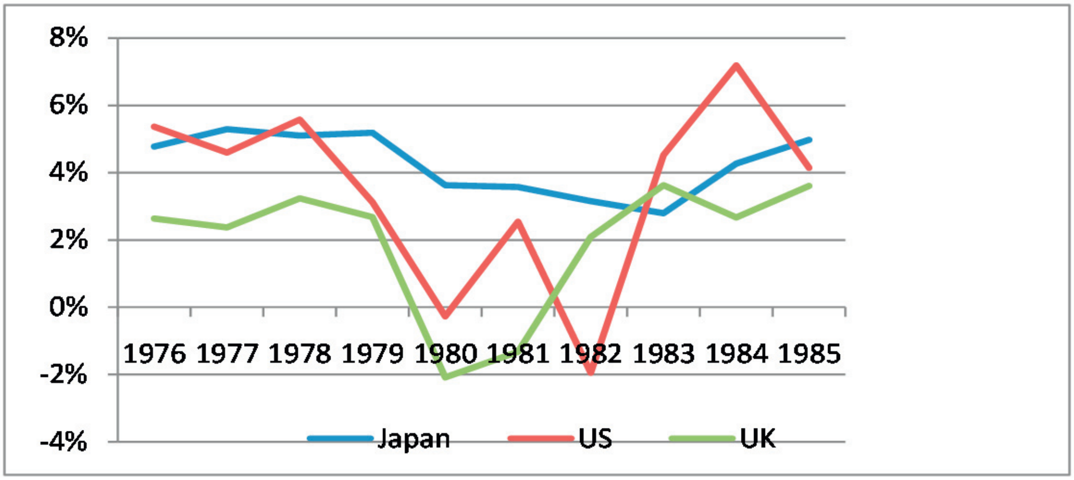


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Figure 4. Compared evolution of economic growth – Japan, US, UK (1976-1985) - percentage

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Looking at Figure 4, the first conclusion that emerges is related to the dynamism of the Japanese economy, its ability to adapt to new requirements; an economy that, although it had been strongly affected by the first oil crisis, has now been ready for new challenges, because of the important changes that were implemented, both at microeconomic and macroeconomic level.

Impressive efforts have been made, but, as it can be seen in the Figure, the result was not to be expected: the second oil shock caught the Japanese archipelago on guard, with a decrease in economic growth of only 2%, while the other analysed countries suffered declines of -7.5% the US and respectively -5.5% the UK.

We underline here the fact that the Japanese archipelago was much more dependent than the other two countries in terms of oil imports.

The second conclusion, that we wish to emphasize, is that the Japanese economy, although experiencing a decline in economic growth, did not enter at all into the negative range, unlike the other two countries examined. This aspect makes even more valuables the Japanese developments and achevements of this period.

Acknowledgments:

This work was possible with the financial support of the Sectoral Operational Programme for Human Resources Development 2007-2013, co-financed by the European Social Fund, under the project number POSDRU/88/1.5/S/60185 with the title „Innovative doctoral studies in a knowledge society”.

References

Câmpean, Marius. Organizația țărilor exportatoare de petrol. Cluj Napoca: Doctoral thesis, 2011.
Johnston, Louis, and Samuel H. Williamson. What Was the U.S. GDP Then? New York, june 15, 2011.

Moroianu, Gabriela. Prețul petrolului și influențe asupra economiei. Bucarest: Doctoral thesis, 2011.
Officer, Lawrence H, and Samuel H Williamson. What Was the Japan GDP or CPI Then. New Yok, april 7, 2011.
Williamson, Samuel H, and Lawrence H. Officer. The Annual Consumer Price Index for the United States. New York, may 5, 2012.
Williamson, Samuel H., Seven Ways to Compute the Relative Value of a U.S. Dollar Amount. New York, april 10, 2011.
Yoshitomi, Masaru. The recent japanese economy: the oil crisis and the transition to medium growth path, The Developing Economies, 1976: 319-340.

http://www.esri.cao.go.jp/en/sna/data/kakuhou/files/2003/17annual_report_e.html
http://www.stat.go.jp/english/data/chouki/03.htm,
http://www.stat.go.jp/english/data/chouki/22.htm
http://www.stat.go.jp/english/data/chouki/18.htm
http://www.esri.cao.go.jp/en/sna/data/kakuhou/files/1998/12annual_report_e.html