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Impact of the Global Financial Crisis on the Female Labour Force Participation in East and Southeast Asia

Keynes' General Theory of Employment, Interest and Money
in Japan, South Korea, China and Vietnam

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1 Introduction

This Master's thesis originated as an answer to the assumptions of Antonopoulos, Walbys, and other scientists, who pay respect to the gender perspective concerning the Global Financial Crisis, and the possibility that it impacts women harder in two ways: directly by their losing their jobs more likely than their male colleagues in times of crises, and indirectly, by not profiting from the financial relief programs which may favour sectors dominated by male employees (Antonopoulos 2009:16). Deriving from my term paper "Does the Global Financial Crisis hit Women most by affecting Female Labour Force Participation?" (University of Vienna, 2010/2011), I expanded my researches on the impact of the Global Financial Crisis on Female Labour Participation in South Korea, Japan and China to Vietnam, and consulted John Maynard Keynes' General Theory of Employment, Interest and Money, in order to answer the research question as to what impact the Global Financial Crisis 2008/09 might have had on female employment in East and South East Asia.

I applied Keynes' theory for two reasons: On the one hand, Keynes analysed why countries usually get stuck in recessions during and in the aftermath of financial crises (namely, due to the lack of demand). On the other hand, Keynes provided in the same breath suggestions about how to attain not only recovery in economy but also full employment (Krugmann:4, 6). In addition, I briefly introduced Edmund S. Phelps' Theory of Inflation and Unemployment, in order to show what impact Global Financial Crisis might have had on female unemployment rates, as well as the Segmentation theories confirming Antonopoulos' and Walbys' suggestions. Nevertheless, the main focus of this thesis is to what extent changes in female employment might differ, according to Keynes' theory, from changes in male employment. By this means, I examined whether or not Global Financial Crisis had a different impact on the sexes, namely a more severe one on female employment.

I have selected these specific countries, also, for two reasons: First, as a sample for two democratic economies (South Korea, Japan) and for two communistic economies (China, Vietnam). Since the relationship between central bank and government might differ in democratic and communistic economies (ILO 2012:3–6), the political systems of the selected countries might have to some extent an influence on the way certain parameters change while applying Keynes' theory. Second, South Korea and Japan represent, as industrial countries, high income economies in East and South East Asia, China stands as a newly industrializing country for upper-middle income economies, and Vietnam represents, as a less developed country, lower-middle income economies (cf. ILO 2009:10, 11).

The period surveyed ranges from 1997 to 2014, albeit it was unfortunately not always possible to obtain accurate data for all countries for the whole period. Nevertheless, the data presented a reliable overview of economic developments in the pre- and post-crisis years by covering (where possible) the years during and in the aftermath of the Asian Financial Crisis in 1997 and, thereby, comparing (where possible) the impact of the Asian Financial Crisis on female and male employment with the impact of the Global Financial Crisis on this very employment.

As for the structure of this paper: In chapter 2, I introduced the theories I applied to this thesis (i.e. Keynes' Theory of Employment, Interest and Money, Phelps' Theory of Inflation and Unemployment, the Segmentation Theories). Chapter 3 to chapter 6 are dedicated to the application of Keynes' theory to South Korea, Japan, China and Vietnam: Consequently, chapter 3 is on the propensities to consume in the countries surveyed and, in this context, on the way consumption might have changed over time, and especially during and in the aftermath of the crisis. Chapter 4 is about the strength of the multiplier in the selected countries, i.e. about the impact that a certain volume of investment might have had on female and male employment in those countries. Chapter 5 is dedicated to the rates of interest and, therefore, to the amount of investments in the countries surveyed. And Chapter 6 is on the employment function indicating the amount of investments necessary to reach full female and male employment. In chapter 7, I briefly applied Phelps' theory to the selected economies as well. And chapter 8 answers the question what impact the Global Financial Crisis had on Female Labour Force Participation in South Korea, Japan, China and Vietnam.

In order to answer this research question, I mainly drew the data from several official statistical yearbooks of the countries surveyed (Korea Statistical Yearbook, Japan Statistical Yearbook, China Statistical Yearbook, Statistical Yearbook of Vietnam), calculated the values required by Keynes' theory (e.g. rates of change) and compared the rates in the Keynesian way with one another by summarizing them in the figures and tables in this thesis. The specific sources for each figure and table are named below the respective figure or table. The assumptions and explanations in the chapters and sections are almost solely based on, and therefore, refer to the data from those respective sources, as well as Keynes' theory. Consequently, "The General Theory of Employment Interest and Money" by Keynes was, as well as supplementary data from the International Labour Organization and The World Bank, also very valuable main sources to build this thesis upon.

The next chapter deals with the first of the three theories mentioned, namely Keynes' Theory of Employment, Interest and Money.

2 Theories

As stated above, I will primarily apply Keynes' Theory of Employment, Interest and Money to investigate the impact of the financial crisis on female employment. In addition, I will extend my investigation through Phelps' Theory of Inflation and Unemployment. And, in conclusion, I will introduce some aspects of the segmentation theories to illustrate why Antonopoulos suggests that the crisis could have a greater impact on female than male labour share. The cores of these theories will be the subject of the following three sections.

2.1 Keynes' Theory of Employment, Interest and Money

Keynes' Theory of Employment, Interest and Money basically explains how an economy may be revitalized in the case of a financial crisis (cf. Krugmann:4, 6). According to Keynes, the key is to increase the volume of demand by means of investment. Full employment could be achieved by this means (Keynes 2011:284).

In this spirit, the volume of employment is determined by effective demand (D), i.e. the point where aggregate supply and aggregate demand meet (Keynes 2011:89). It is composed of the volume of investment (D1) and the volume of consumption (D2; Keynes 2011:29).

The volume of consumption is stable as it is determined by the urge, or, as Keynes expressed it, by the *propensity* of people to consume. Propensity to consume is usually relatively constant. This becomes evident when people earn more: initially, they spend almost the same amount on consumption as they spent before their pay increased. It takes people some time to adapt their behaviour to their new circumstances, and increase their level of consumption. And vice versa: when people earn less money, they usually use their savings first to satisfy their needs. Only after some time, which unfortunately Keynes did not define precisely, people will scale down their level of consumption. Therefore, only significant changes in incomes or in expectations about future incomes will have an impact on peoples' propensity to consume, and therefore on the volume of consumption. In normal circumstance, propensity to consume and volume of consumption remain stable (Keynes 2011:95–97).

In contrast, the volume of investment is determined by the propensity to consume, the marginal efficiency of capital, and the rates of interest, and varies, therefore, as these parameters change (Keynes 2011:165, 166). To put it more clearly, depending on these parameters there will be greater or less investment within an economy, and consequently more or less employment. This suggestion makes the volume of employment a net function of the volume of investment (Keynes 2011:113).

In the following subsections, I will introduce the marginal efficiency of capital and the rates of interests, both of which determine the level of investment (Keynes 2011:165, 166). I will also introduce the so-called multiplier, which is an indicator of whether a given amount of investment will have a comparatively strong or only little impact on the volume of employment (Keynes 2011:117). And last but not least, I will introduce the employment function that reflects the level of investment necessary to achieve full employment (Keynes 2011:280).

Multiplier

The first question is the degree of impact a given amount of investment will have on the level of employment. To what extent the level of employment changes with the volume of investment is reflected in a function called multiplier k . The stronger the multiplier the greater the impact the volume of investment will have on the level of employment. The strength of the multiplier depends on the six parameters given below (Keynes 2011:115–117):

a. Additional Employees

The greater the number of persons additionally employed relative to the current number of employees, the higher the multiplier. For example, the multiplier is strong for a company with 100 staff which engages 30 new people, whereas the addition of just one person would result in a very weak multiplier (cf. Keynes 2011:126).

b. Share of Investment and GNI

A second factor which exerts an influence on the strength of the multiplier is the ratio between the volume of investment and gross national income (GNI). The larger the percentage of GNI the volume of investment represents, the stronger the multiplier (Keynes 2011:126).

c. Unemployment Rates

The level of unemployment has an influence on the strength of the multiplier: The more unemployment there is in economy, the stronger the multiplier. At lower unemployment rates, the weaker the multiplier (Keynes 2011:127).

d. Unemployment Insurance

The multiplier is stronger in countries where no unemployment insurance exists, and relatively weak in those with an unemployment insurance (Keynes 2011:121, 122).

e. Openness of a Country

The degree of openness of a country also determines the strength of the multiplier: in a closed country, the multiplier is stronger than it is for an open country (Keynes 2011:121, 122).

f. Wealth of a Country

And last but not least, the wealth of a country affects the strength of the multiplier: the poorer a country is, the stronger the multiplier. And the richer a country is, the weaker the multiplier. However, if the rich country has a high ratio of volume of investment to output, the multiplier can nevertheless be strong (Keynes 2011:126).

Unfortunately, Keynes does not provide any guides as to how to rate these six parameters, and the relative degrees of influence the parameters bring to bear on the level of employment. I will therefore treat the parameters equally in terms of their impact on the volume of employment. An interpretation of the relative strength of the multiplier can be made on the basis of the characteristics displayed by the country in question

Volume of Investment

The next question is what are the prerequisites for having a (comparatively) high volume of investment, and what conditions will result in a low volume of investment. Basically, the volume of investment depends on the marginal efficiency of capital, and on the rates of interest (Keynes 2011:165, 166).

a. Marginal Efficiency of Capital

The marginal efficiency of capital is the point where income revenues equal the costs of production (cf. Keynes 2011:135). Companies approach this point when investments and, therefore, output produced, increase. The increase in output produced causes a decrease in prices. And with decreasing prices, profit margins of companies also decrease. By this means, after a certain period of expansion, companies will eventually reach the break-even point, the marginal efficiency of capital (Keynes 2011:136, 137).

The curve reflecting to what extent it is still profitable (or no longer profitable) to invest in production is called the schedule of marginal efficiency of capital (Keynes 2011:184). It is not always the same (Keynes 2011:163), and varies with the confidence of the investors and the institutions (Keynes 2011:149). For an economic revitalization, the restoration of both is necessary (Keynes 2011:158).

b. Rates of Interest

Whereas the marginal efficiency of capital sets as a break-even point the conditions under which people want to have money for investment purposes, and, therefore, sets the conditions for the demand for money on credit (Keynes 2011:165), the rate of interest is the price at which people are willing to part with their money. Unlike marginal efficiency of capital, rates of interest set the conditions for the supply on credit (Keynes 2011:167, 168).

The rates of interest are determined by the amount of money in circulation (quantity of money M), and by what people intend to use their cash for (liquidity preference L ; Keynes 2011: 165, 166). Keynes identifies three motivations for having cash: 1. To spend on consumption (transaction motive). 2. To save as a buffer for financially bad times (precautionary motive). 3. To go public with it, i.e. to invest it (speculation motive; Keynes 2011: 196, 197).

The more income (Y) people have, the stronger is their motive to have cash for transaction and precautionary reasons. And the lower the income, the motivation to have money for transactions and precautionary reasons is lessened. Therefore, these two motives (L_1) and, subsequently, the amount of money dedicated to these two motives (M_1), are relatively independent of the economy (Keynes 2011:199).

By contrast, people's motivation to have money for speculative reasons becomes stronger as rates of interest decrease. On the other hand, the higher the rates of interest, the weaker the motivation for having cash to speculate with. The motive (L_2) and the amount of money for speculative purposes (M_2), are consequently determined by changes in economic conditions (Keynes 2011:197).

The amount of money that people intend to use for speculation, i.e. investments (M_2), can only increase when the amount of money for transaction (consumption) and precautionary (saving) reasons (M_1) increases first. That means that income needs to increase so that the amount of money available for consumption and savings may increase. In particular, an increase in the amount of money for consumption, and with it an increase in demand, will cause prices to fall. People will have more money, and more ability to satisfy their needs. Or to put it in other words: M_1 will increase further. A surplus of money will occur, so people will start to use their money for speculation. This will cause a decrease in interest rates. As a

consequence, the amount of money available for speculation, and with it the volume of investment, will increase (Keynes 2011:200).

In this context, Keynes stated that rates of interest are usually regulated by the central banking authority. Only in exceptional cases would a decrease in rates of interest not have repercussions on the volume of investment. This would indicate that the central banking authority had lost control over rates of interest (Keynes 2011:207, 208).

Employment Function

The final question is to what extent the level of employment varies in correspondence to (effective) demand in the form of the volume of investment, and what amount of investment will be necessary to achieve full employment. The answer comes in form of the employment function, which reflects the correlation between the number of people employed within an industry and demand directed to this industry (Keynes 2011:280). Each industry has its own employment function. And all of these individual employment functions add up to the employment function of the whole economy (Keynes 2011:282).

Generally speaking, an employment function is a kind of umbrella function, under which there are two “sub-functions” operating: the elasticity of output and the elasticity of employment. The elasticity of output indicates to what extent output produced increases when (effective) demand directed to it increases, and to what extent output produced decreases when demand decreases. For example, when output has to be increased to meet increased demand, companies will, in the beginning, carry out that production with their current number of employees. Only when the number of current employees proves to be insufficient to meet that increased demand, will companies take on more employees. By doing so, incomes, and therefore real wages in the economy, will increase (Keynes 2011:282–284).

At this point, the elasticity of employment will apply. It is an indicator of the extent to which the level of employment will change as the amount of output consumed varies (Keynes 2011:282). When more people are earning, creating a net increase in real wages, the amount of output consumed will increase in correspondence. Thereby, not only will the additional workplaces created to meet the increase in demand be consolidated, but companies will also have every incentive to increase production further. Thus, on the one hand, an increase in people's purchasing power will lead to an increase in demand that will substitute the demand that government had to artificially create via investments during the crisis. On the other hand, increasing demand will soon exceed “governmental demand”, and therefore induce companies to increase production (cf. Keynes 2011:282–284).

Some industries will reach full employment sooner, others later (Keynes 2011:300). For example, industries with a low elasticity of employment, like agriculture, will be the last to achieve full employment. Unfortunately, Keynes provides no clear indications concerning the elasticity of employment in other industries (Keynes 2011:286, 287). However, he emphasizes that full employment can and will be achieved by increasing the volume of investment and, thus, the effective demand directed to the individual industries, and, as a consequence, to the economy as a whole (Keynes 2011:284). An output that does not increase any further while prices keep on increasing may indicate the achievement of full employment (Keynes 2011:300).

Chapters 3, 4, 5 and 6 will show to what extent Keynes' theory has proven itself correct in the surveyed economies. But before we come to that, I want to move on to two theories that are also very significant in the light of the recent crisis.

2.2 Phelps' Theory of Inflation and Unemployment

Edmund S. Phelps's theory of inflation and unemployment is in some sense the opposite of Keynes' theory, as its emphasis lies on unemployment rates rather than employment rates. According to Phelps, it is crucial not to overlook unemployment rates because employment rates could (naturally) only reflect changes in employment, not changes occurring in unemployment at the same time. An upward trend in employment rates might be accompanied by increasing unemployment rates. Thus, only investigation of the unemployment rates could dismantle a development of this kind, and put an assumed economic upturn in a different light (Phelps 1995:228).

In addition, Phelps' idea of equilibrium has little relation to employment, let alone full employment. Rather, equilibrium consists of a certain rate of unemployment, i.e. the natural rate of unemployment. This natural rate is due to permanent transitions within the labour market. And, according to Phelps, the natural rate is important and healthy for the economy because it keeps potential employees available for the labour market. Without a natural rate, companies would be forced to raise salaries to retain staff beyond levels that are economically profitable (Phelps 1995:226). The level of the natural rate is determined by the health of the economy, as financial crises will push up the level of the natural rate. The same applies to activities in the labour market: taxation of employment and salaries (payrolls) will raise the natural rate. In contrast, value added taxation will not have any influence on the natural rate because it applies equally to all kinds of incomes, i.e. to salaried and non-salaried alike. Furthermore, economic independence has an influence on the level of the natural rate: the more independent employees are from their salaries, due to entitlement to receive unemployment relief or similar, the higher the natural rate (Phelps 1995:229, 230).

Generally speaking, the natural rate changes when people expect salaries and prices to change in a way that never happens. Changes in the natural rate of unemployment are therefore also based on incorrect expectations of inflation. There is not, therefore, only one natural rate of unemployment. A constant level of unemployment rate will only occur when people's expectations of changes in salaries and prices are in accordance with actual changes (Siven 1974:371).

A fairly reliable way of achieving equilibrium is to identify the rate of inflation that results in the best economic outcome over the long term, and then to adjust the actual rate of inflation to that optimum. In more specific terms, this means that expectations about a rate of inflation that are higher than the optimum can be adjusted by allowing the actual rate of inflation to be lower than the expected rate. By this means, the expected rate of inflation will settle down at the level of the optimum. Phelps suggests that "this can be accomplished through a restrictive financial policy". However, a side effect of this policy would be an increase in the natural rate of unemployment during the period of adjustment. This makes it even more crucial to take the

immediate as well as the long-term effects on the economy into account while identifying the optimal natural rate (Siven 194: 374).

However, research into the optimal rate of inflation in the long term would not only be beyond the scope of this paper, but would also miss the point of this thesis, i.e. what the impact of the recent crisis on female labour participation is. Therefore, I will restrict surveys to the present as well as the past unemployment rates, in the light of the aforementioned considerations.

2.3 Segmentation Theories

Finally, I will discuss Antonopoulos' gender specific view of the crisis and, in this context, the segmentation theories. In 2008, Antonopoulos indicated that in East and Southeast Asia a comparatively high percentage of women were working in vulnerable employment (cf. Antonopoulos 2009:19, 20). As people in vulnerable employment were, in times of economic crises, usually the first ones to be laid off, whereas people in employment requiring higher qualifications had higher chances of keeping their jobs, women were more likely to be hit by unemployment (cf. Walby 2009:9). Considering that a significant number of women had just worked their way up and out of poverty and their incomes were essential for maintaining their families' standard of living, unemployment might drive them and their whole families back into poverty (Antonopoulos 2009:24, 25). At the same time, financial relief programs would tend to favour sectors dominated by men (e.g. industries), but neglect sectors with comparatively high percentages of women (e.g. manufacturing; Walby 2009:19). Consequently, women were more likely to be hit harder by the crisis than men in two ways: directly by losing their jobs, and indirectly by not profiting from the financial relief programs.

These arguments can be illustrated by the segmentation theory. Strictly speaking, the segmentation theory is a conglomerate of theories (Sesselmeier, Funk and Waas 2010:273) that have one idea in common: the idea of a four-field matrix (Sesselmeier, Funk and Waas 2010:276). All workforces in the economy could be associated with one field in this matrix. An allocation between fields was governed by specific rules that I will describe in the following discussion (Sesselmeier, Funk and Waas 2010:273, 274).

a. Primary and secondary labour market

Depending on whether you adopt the institutional approach or the approach by alternative role, employees are assigned to the primary and the secondary labour market in a different ways. According to the institutional approach, the primary labour market is characterized by high-quality working conditions, whereas the secondary labour market is characterized by precarious working conditions (Sesselmeier, Funk and Waas 2010:276). This dichotomy is based on the composition of the market itself: the primary labour market is composed of large companies satisfying stable demand (core economy). Therefore, the primary market can offer job security. In contrast, the secondary labour market consists of small and medium-sized companies satisfying fluctuating demand (peripheral economy). It can therefore only offer insecure and vulnerable employment (Sesselmeier, Funk and Waas 2010:280, 281).

The approach by alternative role is essentially based on the institutional approach. It indicates that each employee in the secondary labour market has an alternative role: youths could undergo training, elderly employees could retire, women could stay at home running the household, employees with disabilities could leave for a home for people with disabilities or get home care, migrants could leave for their own countries, etc. Employees with an alternative role would therefore be more likely to quit their jobs and leave for their alternative role. Companies would consequently prefer employing these people only in jobs associated with low training and employment costs. By doing so, in times of economic crises, companies could lay these employees off while keeping the costs of fluctuation low (Sesselmeier, Funk and Waas 2010:282–284).

The approach by alternative role supports Antonopoulos' assumption, by illustrating that women in general could be at higher risk of losing their jobs in times of economic downturns than men. On the other hand, this approach indicates that young and old women, women with disabilities, female migrants etc., might face an enhanced risk of retrenchment in times of economic crises (cf. Antonopoulos 2009:24, 25).

b. Internal and external labour market

The assignment to the internal or the external labour market is also governed by different rules, depending on whether you adopt the institutional or the firm-centric approach. According to the institutional approach, the internal labour market (Sesselmeier, Funk and Waas 2010:284, 285) is composed of employees with professional knowledge acquired by formal training, and employees with firm specific knowledge acquired on the job. Employees with professional knowledge can change their jobs more easily than employees with firm specific knowledge (Sesselmeier, Funk and Waas 2010:286, 287). On the other hand, the external labour market is composed of people with the same qualifications as employees in the internal labour market. In this respect, the external labour market is a type of manpower reservoir for the internal labour market (Sesselmeier, Funk and Waas 2010:284, 285).

According to the firm-centric approach, the labour market is composed of a primary market and a secondary market. Only the primary market is divided into an internal and an external labour market. In the primary labour market, the internal labour market consists of employees with firm specific knowledge and the external labour market of employees with professional knowledge. In contrast, the secondary labour market is characterized by employees without firm specific or professional knowledge. These people have "unspecific qualifications" (Sesselmeier, Funk and Waas 2010:288).

The description of this secondary labour market, also called "everyman's market", is in some ways similar to those describing vulnerable employment. Vulnerable employment refers to "people who are employed under relatively precarious circumstances, who lack access to benefits of social protection programs and are more "at risk" to economic cycles"(Antonopoulos 2009:20) and is, therefore, related to employment requiring low qualifications.

If women are more likely to work in vulnerable employment, and men are more likely to work in secure jobs (Antonopoulos 2009:14, 15, 19, 20), men are more likely to be represented in the primary market, and women are more likely to be found in the secondary market. But it

is this very secondary labour market that is more prone to economic downturns than the primary labour market, because people with unspecific qualifications are usually the first ones to be laid off in times of economic crises. That means when there are more women than men representing the secondary labour market, more women than men will lose their jobs in times of economic crisis.

In any case, according to these segmentation theories, the assumption of an alternative role, as well as the lack of qualifications, may marginalize women into vulnerable employment. Therefore, in times of recession, they might be hit harder by financial crises than men. The following chapters will examine whether this has been the case or not.

3 Propensity to Consume

The first question regarding female employment (as well as male employment) is to what extent propensity to consume and, therefore, volume of consumption, changed from 1997 to 2013 (or within a shorter period of time in those cases where some data were unavailable). As the volume of consumption only changes when the amount of income distinctly changes, I will investigate the relationship between final consumption expenditure (hereafter referred to as “consumption” unless indicated otherwise), and gross national income (hereafter referred to as “income” unless indicated otherwise), of the individual countries. The results can be seen as estimations about how propensity to consume has changed through time. Still, they are far from representing certain rates of propensity to consume.

3.1 South Korea

From 1997 to 2003, both income and consumption experienced growth every year, except for 1998 and 2003, with income rates exceeding consumption rates in each case. Both rates were subject to wide fluctuations: income rates varied from -1.9 % (1998) to 11 % (2002), and consumption rates varied from -10.6 % (1998) to 9.7 % (1999). But the most striking aspect on this chart is that in all years, except 2000 and 2005, consumption rates decreased when income rates decreased, and, vice versa, increased when income rates increased. However, consumption rates did not increase or decrease to the same extent as income rates.

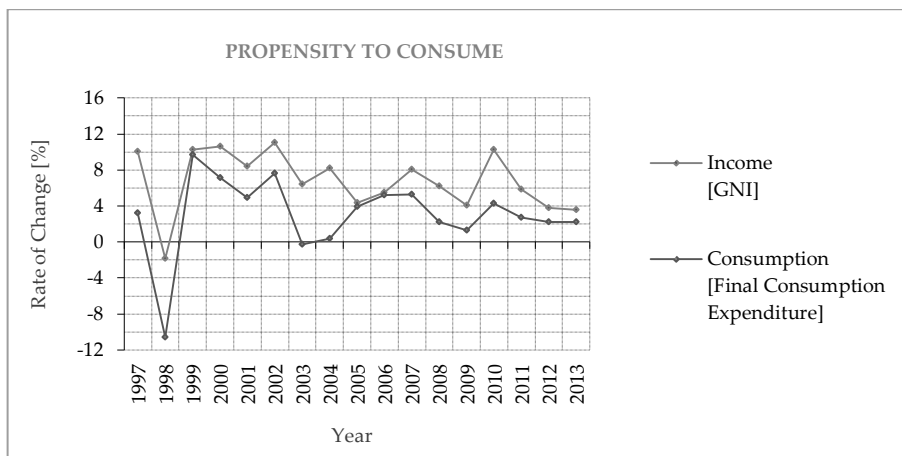


Figure 1 South Korea: Propensity to Consume

Sources:

GNI: Data adapted from Statistics Korea (comp.) 2015:763

Final consumption expenditure: Data adapted from Statistics Korea (comp.) 2015: 774, 775; Statistics Korea (comp.) 2010:766, 767;

National Statistical Office (comp.) 2007:722, 723

On the other hand, from 1997 to 2013, governmental share in total consumption accounted for around 20%, presenting a slight upward trend. In other words, the amount of consumption spent by government increased, with the exceptions of 1997, 1999, 2000-2002, 2010 and 2011, more rapidly than the amount of consumption spent by private units. In general, these changes in the composition of consumption do not seem to have been severe enough to cause distinct fluctuations in rates of consumption, as governmental consumption presented a narrow range from 19 % (1997) to 21 % (2013). Only in 2003 is it not fully clear whether the decline in governmental consumption might ultimately have been benign for the decrease in consumption rates or not.

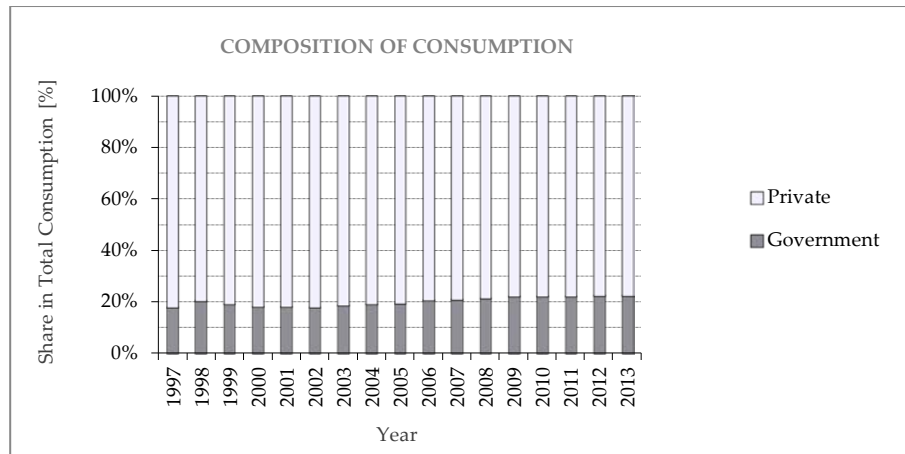


Figure 2 South Korea: Composition of Consumption (I)

Sources:

Statistics Korea (comp.) 2015:776, 777; National Statistical Office (comp.) 2007:724, 725

In either case, it seems to be crucial to take people's expectations into account while interpreting Figure 1. For example, in 1998, as incomes declined, people panicked and drastically reduced their level of consumption. This led to consumption declining more rapidly than income. But in 1999, when financial relief programs took effect, and arguably not only saved jobs, but also created new ones, people became optimistic about future prospects, and consumed a distinct amount more than the previous year. Soon, people became sceptical about whether growth in incomes would last or not. Consumption rates decreased from 2000 on, and, after an upturn in 2002, reached -0.3 % change in 2003. At that time, income rates decreased comparatively slowly. From 2004, people became more optimistic: consumption rates increased steadily to reach 5.3 % in 2007, although income rates took a roller coaster ride at that time, presenting a distinct decrease in income rates in 2005. From 2008, the two rates moved more in unison. Peaks in consumption rates were not as high as peaks in income rates, nor did they match the previous years' peaks. People seemed to be more hesitant in their consumer behaviour at that time. The upward trend continued, although in 2007 consumption did not increase as sharply as the years before, reflecting people's doubts about future prospects. Indeed, soon crisis did occur, causing incomes, and with them consumption, to increase more slowly than the preceding years. From that time on, growth in consumption slowed to almost match growth in income.

Summary

Nonetheless, people's consumer behaviour, or propensity to consume, with the exception of 2000 and 2005, did change in the way Keynes proposed. When income increased more rapidly than the year before, so did consumption. And, likewise, when income increased more slowly than in the preceding year, consumption stayed in step. When income decreased, consumption did likewise. These changes in consumption did not happen to the same extent as they did for income rates.

There are, however, some parallels between the rates in 1998, 2001 and 2002. Deviations like those in 1999, 2000 or 2005 seem to be caused by uncertainties in society, and certain expectations. But again, all in all, Keynes' suggestions regarding propensity to consume seem to apply in this respect to South Korea. In 2013, propensity to consume levelled off with income rates at a level similar to 2009, and can be, therefore, regarded as relatively low compared to the previous years.

3.2 Japan

In all the years during the period surveyed, except for 1998 and 2008, consumption rates were above zero. Only in 1998 and 2008 did consumption rates go negative, ranging from -0.7 % (2008) to 2.5 % (2010) during that time. In addition, consumption rates were higher than income rates, with the exceptions of 1997, 2005, 2007 and 2010. The greatest gap between consumption rates and income rates occurred in 2009 and 2001. On the other hand, during the period surveyed, income rates were below zero with the exceptions of 1997, from 2004 to 2007, 2010 and 2012, with a range from -7.4 % (2009) to 3.9 % (2010). For more than half of the period surveyed, the two rates moved in parallel, increasing and decreasing with one another (from 1997 to 1999, from 2005 to 2008, from 2010 to 2012). In all other years (i.e. from 2001 to 2004, and in 2009) the rates moved in opposite directions.

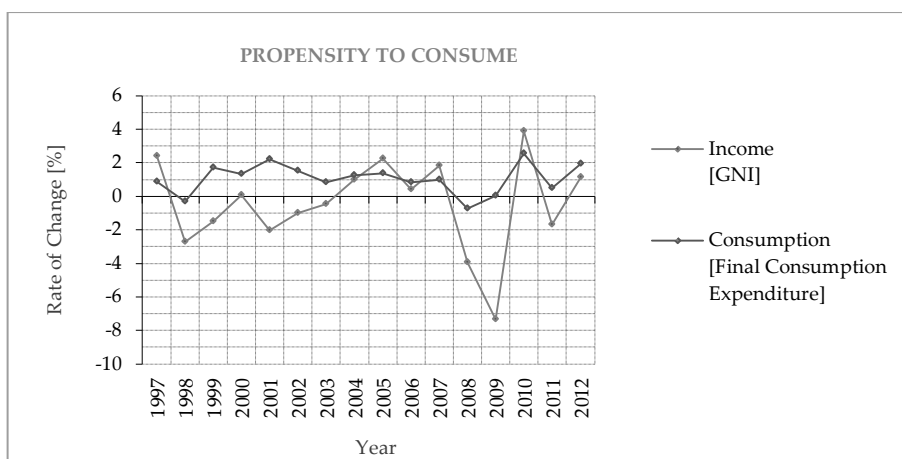


Figure 3 Japan: Propensity to Consume

Sources (see below, p. 22)

Sources (Figure 3):

GNI: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:104; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:102; Statistics Bureau et al. (eds) 2004:98

Final consumption expenditure: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2012:93

It is interesting to note that in every year (except 1998 and 2008) more was consumed than the year before, although only in 1997, from 2004 to 2007, in 2010 and 2012, did people earn more money than the previous year.

On the other hand, from 1997 to 2012, governmental share in total consumption was between 22 % and 25 %. During that time, governmental share steadily increased, and in fact each year this increase was at a slightly higher rate than private consumption. For example, in 1999 governmental consumption increased by 3.5 %, whereas private consumption increased by only 1 %. In 2000, governmental consumption increased by 4.5 % and private consumption by only 0.5 %. And in 2001, governmental consumption increased by 4.2 % and private consumption by only 1.6 %. Another year that shows a large discrepancy between governmental and private consumption is 2009, in which governmental consumption increased by 2.3 %, while private consumption decreased by 0.7 %. In those years (from 1999 to 2001, and in 2009), governmental share of the total consumption increased significantly, to reach a maximum of 25 % in 2013. Only in 1997, 2005, 2006, 2010 and 2012, did governmental consumption increase more slowly than private consumption. The difference however between increases in rates had a narrow range of 0.2 % to 1 % (cf. Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2012:93).

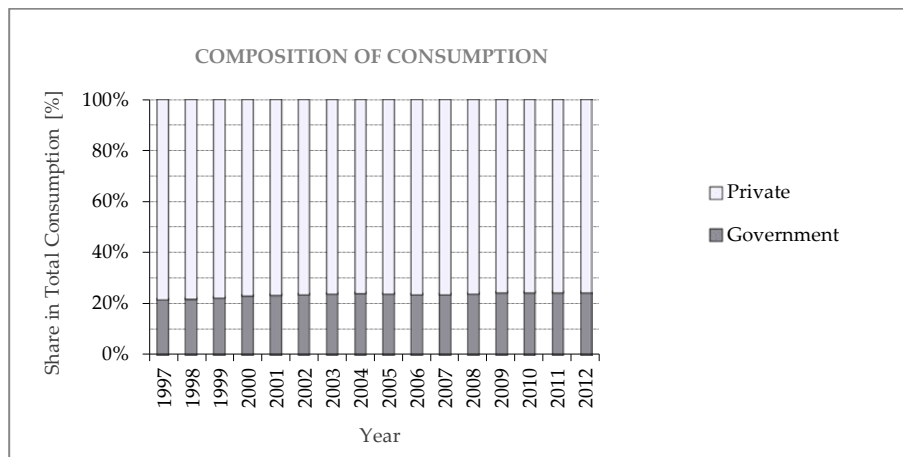


Figure 4 Japan: Composition of Consumption (I)

Sources:

Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2012:94

In 2010, financial relief programs seem to have saved some jobs or created new ones, so that more people were able to spend money on consumption, causing private consumption to increase more rapidly than governmental. In the other years mentioned, people might have been more optimistic about future prospects, causing private to outstrip governmental consumption. But, all in all, there are no rapid changes or statistical blips in the share of governmental consumption that might have influenced changes in consumption rates.

It is striking that consumption rates show fewer outliers, whereas income rates seem to be more volatile, with distinctly higher maximum and lower minimum values than consumption rates. In the years 1999 to 2004, 2009, and 2011, people's consumer behaviour seems to be almost independent from changes in income rates, as rates moved in the opposite way to each other, or sat on either side of the zero mark. Or to put it in other words, in those years changes in income rates seem to have had only little impact on people's consumer behaviour, and, therefore, on people's propensity to consume.

They nevertheless seem to have had some impact. For example, in 2004, when income rates increased, consumption increased as well, but not to the same extent as income rates did. When income rates increased further in 2005, consumption rates did also, but, again, not to the same extent as income rates. As for 2006, the opposite development occurred: income rates decreased faster than consumption rates. This pattern also applies to the years 2007, 2010 and 2012, when consumption rates increased to a lesser extent than income rates. And in 2008 and 2011, consumption rates decreased less than income rates. Only 2009 presents an exception, with decreasing income rates but stagnating consumption rates. This may be accredited to the financial relief programs making people more optimistic about future prospects.

Summary

All in all, consumption rates seem to reflect income rates, but in a sluggish way, making consumption rates far more consistent than income rates. In other words, people in Japan seem to respond to changes in income cautiously and hesitantly. This might be due to resignation about what the media refers to as "the lost decade": people seem to have been pessimistic about income prospects, and curtailed their consumer behaviour accordingly. And income rates did not seem to increase rapidly enough to counter any expectations of that kind.

In addition, income rates might be too low to have any greater effect on propensity to consume. The highest increase in income rates was about 4 % (2010), and the second highest about 2 % (2005). In contrast, the highest peak in South Korea was 11 % (2002), the second highest 10 % (2000). For comparison, in Japan the lowest value in income rates was -7 % (2009), whereas in Korea it was -2 % (1998). This shows that in South Korea the 2008 Global Financial Crisis did not hit income as hard as it did in 1998, in the aftermath of the Asian Financial Crisis, whereas in Japan, the impact of the 2009 crisis was greater than that of 1998. Furthermore, in South Korea peaks in income rates were distinctly higher in the positive range (11 % in 2002), than they were in Japan (4 %). On the other hand, in Japan extremes in income rates were far more distinct in the negative range (-7 %) than they were in South Korea (-2 %). And again, in South Korea a sharp drop in income rates occurred in 1998. In 2008, South Korea was not hit as hard as it was in 1998. In contrast, the Japanese minimum was reached in 2009, indicating that Japan was hit far harder by the crisis in 2008 than it was in the course of the Asian Financial Crisis.

In conclusion, the relatively slow growth in Japan's income rates (compared to South Korea), and the harsh decrease in income rates (also compared with South Korea), might account for the far more sluggish response in consumption levels to changes in income rates, and, therefore, a sluggish response of propensity to consume to changes in income rates. Still, changes in income rates seem to have had an impact on the level of consumption, but in a far less pronounced way than they do, for example, in South Korea.

3.3 China

From 1997 to 2013, income rates and consumption rates showed a positive rate of increase across all years. The consumption rate increase was greater than income for most of this period. Income and consumption rates increased at the same pace only from 1997 to 1999. Other exceptions are 2002 and 2003, when income rates increased faster than consumption rates.

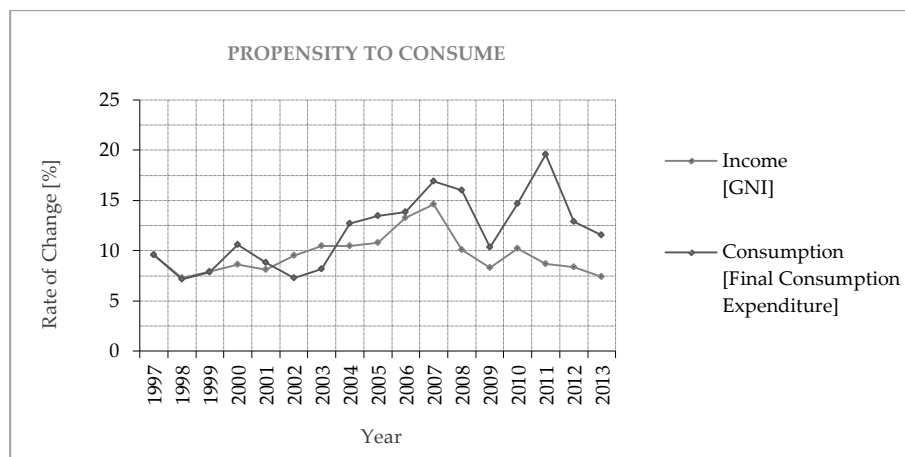


Figure 5 China: Propensity to Consume

Sources:

GNI: Data adapted from National Bureau of Statistics of China (comp.) 2014:53

Final Consumption Expenditure: Data adapted from National Bureau of Statistics of China (comp.) 2014:68

Income rates ranged from 7.3 % to 14.6 %, while consumption rates varied from 7.2 % to 19.6 %. Income rates reached a maximum in 2007 (14.6 %), whereas consumption rates had a maximum in 2011 (19.6 %). Both rates hit their lowest point in 1998 (7.3 %). In all years except 2002 and 2011, consumption rates increased with income rates. Since consumption rates were higher than income rates for most of the period, the increase in people's consumption in those years, in general, exceeded the extra money they were earning.

It is also interesting that the chart can be divided into three sections: the first is the period from 1997 to 1999, when income rates increased at the same pace as consumption rates. In the second section, from 2000 to 2006, the gap between income rates and consumption rates continuously opens and closes. First, consumption rates increased more rapidly than income

rates did. Then both rates crossed (in 2001) to change places, so that income rates increased more rapidly than those of consumption (in 2002 and 2003). In 2004, both rates changed places again to almost meet each other once more in 2006. From 2007 to 2013, however, there was another trend evident: both rates moved in a somewhat parallel way to each other. As in Japan and South Korea, the consumption rate did not increase to the same extent as the income rate did. Nevertheless, there remains some degree of correspondence between consumption rates and income rates.

Furthermore, it is interesting that the share of governmental consumption was, with a range from 22 % (1997) to 28 % (2013), the highest of the four countries studied. But also here, increase in governmental share of total consumption occurred slowly and relatively steadily, so it alone does not account for the large fluctuations in the consumption rates.

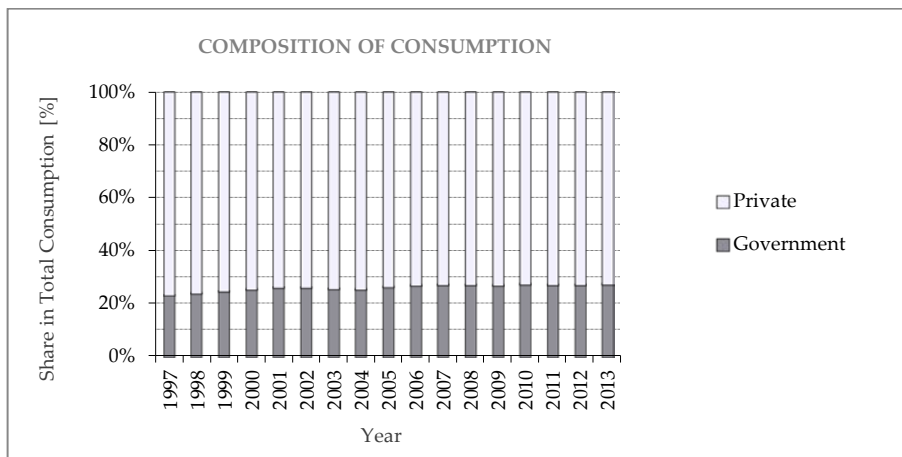


Figure 6 China: Composition of Consumption (I)

Sources:

National Bureau of Statistics of China (comp.) 2014:69

Therefore, it can be said that from 1997 to 1999, people's expectations of income rates were in line with actual changes in income rates. From 2000 on, people attempted (with less success than the year before) to adjust their consumer behaviour to the extent they thought income rates would increase to: in 2000, they increased consumption in excess of their increased earnings. But in 2001 and 2002, they grew pessimistic about future income prospects and, consequently, did not maintain the previous year's consumption increase. But then, people seemed to realize that they were not spending as much as the increase in their earnings would justify. Therefore, in 2004, the increase in consumption rose distinctly more rapidly than in the previous year. Rates kept on increasing the following years to make up for restraint in consumption during the years prior to 2005 and 2006, but at a slower pace. But then, in 2007, optimism spread when people realized that income was rapidly increasing compared to the years before. Consumption rocketed at that time. From then on, people only consumed to a smaller extent more than the year before, when income increased more slowly than the preceding year (with the exception of 2011). While doing so, people were not too hesitant in their consumer behaviour, keeping consumption rates above income rates, when consumption increased sharply while income rates decreased.

Summary

All in all, the analysis of rates in China reveal that people in China are comparatively more optimistic about spending than people in the other countries surveyed. Provided income permitted consumption, the Chinese seemed to be less inhibited or cautious about spending than their counterparts in South Korea, whose consumption tendentially showed a greater increase than income each year.

In addition, Keynes' theory seems also to apply to some degree to income and consumption rates in China: income would appear to have an impact on the volume of consumption, and, therefore, on the propensity to consume. This impact can be observed most clearly after 2006. In the years prior to this, income may not have changed sufficiently strongly to cause a comparatively parallel movement of both rates, as in 2013. Perhaps it takes a change in income rates of the order of 13 % to bring about such a response in consumption rates.

This is a question that cannot be answered by a sample of only four countries. And even with a larger sample base, it may not be possible to draw conclusions, and establish a rule. It would be worthwhile keeping these questions in mind.

3.4 Vietnam

Vietnam presents a very different picture than South Korea, Japan or China. While income increased rapidly each year, consumption increased comparatively hesitantly. People had clearly considerably more income each year, but for some reason their consumption pattern does not match. This is most evident in 2008 and 2011, in each of which there was a spike in relative income change. The most modest increases were in 2001 (9 %), 2009 (10.4 %) and 2013 (10.2 %). It is notable that there was no decrease in income at any time from 2001 to 2013, not even in the years of the financial crisis.

The same applies to consumption, which showed only positive rates of change throughout that period. The consumption rate reached peaks in 2007 (10.6 %) and 2008 (9.2 %), and hit lows in 2009 (3.5 %), 2011 (4.3 %) and 2001 (4.7 %). All in all, consumption did not grow as rapidly as income.

It is of note that the pattern of correspondence between the curves is erratic. An exception is 2009, which shows a mutual sharp drop in both rates, and in some years, such as 2002, 2003, 2005 and 2010, consumption rate increases roughly match income changes, albeit at quite different paces. In other years, however, consumption rates seem to be quite unaffected by changes in income rates.

As early as 2003, people seemed to doubt whether the increase in income rates would last, and consequently adopted a more cautious consumer behaviour, spending only a tentative amount more than the preceding year, although income was showing a distinct rate of increase. In 2004, they consumed more, but to a lesser extent, than they had the year before, even though income rates were continuing to increase at an ever greater rate. In 2005, people continued their caution with regards spending money on consumption. In 2006, people seem to have become more optimistic about income prospects, consuming more rapidly than the previous few years, even though income had increased at a lesser rate.

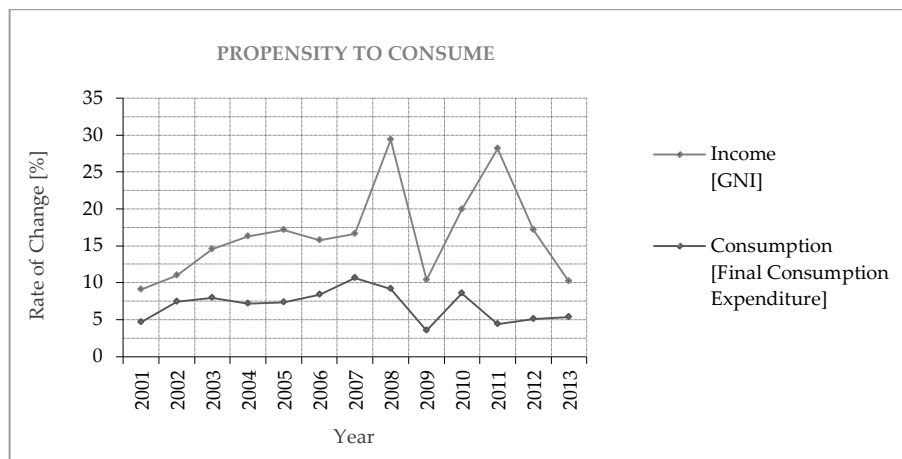


Figure 7 Vietnam: Propensity to Consume

Sources:

GNI: Data adapted from General Statistics Office of Vietnam 2014b:158; General Statistics Office of Vietnam 2009b:84
 Final consumption expenditure: Data adapted from General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83; General Statistics Office of Vietnam 2006b:71

All the more interesting is that, although 2008 experienced a sharp increase in income rate, consumption spending did not respond in kind. In fact, people rather seemed to have grown even more sceptical about lasting income rates, and lowered their consumption rate of increase to far below that which income rates would have justified. An interpretation is that people had changed their focus from income prospects, to saving their money for bad times (precautionary motive), or, alternatively, for future investment (speculative motive). This seems to be all the more the case from 2008, when income rates reached their second peak, without the people increasing spending accordingly. It was only in 2009 and 2010 that consumption rates and income rates move in correspondence. And again in 2011, despite income strength, people consumer confidence did not follow suit. And, in 2012 and 2013, when income rates showed a marked decline, people for some reason nevertheless continued to increase their consumption rate.

At the same time, governmental share in consumption rates was almost constant during the time surveyed, and ranged between 9.5 % (2001) and 9 % (2013). Therefore, changes in governmental consumption do not seem to have caused the fluctuations in consumption rates, as they were comparatively smooth and limited in extent.

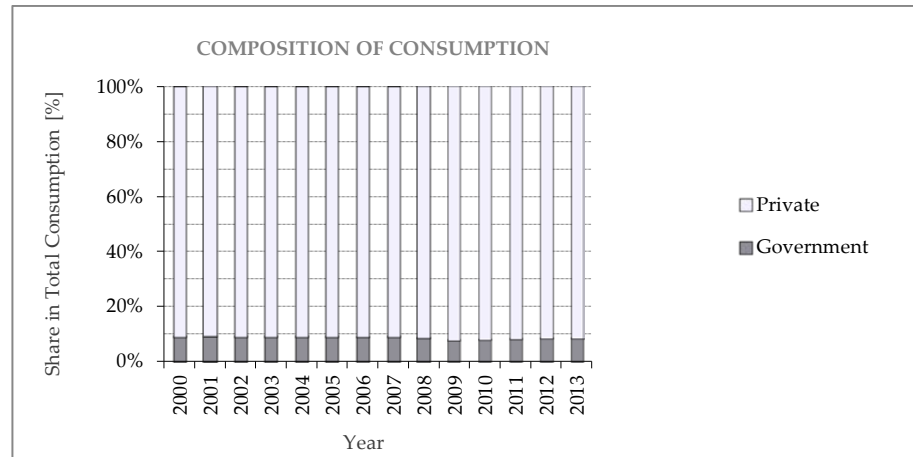


Figure 8 Vietnam: Composition of Consumption (I)

Sources:

General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83; General Statistics Office of Vietnam 2006b:71

Summary

It therefore seems as if consumer behaviour (i.e. propensity to consume) in Vietnam is not driven so much by income rates as expectations. It could be that people in Vietnam have less interest than people in South Korea, Japan and China in spending the extra money they earn on consumption, but prefer to use it in another way. In either case, Keynes' theory seems to apply only in broad terms to Vietnam. Between 2002 and 2007, there is a distinct upward trend in income rates, but only a modest upward trend in consumption rates at the same time. And between 2008 and 2013, there is a downward trend in income rates but only a slow downward trend in consumption rates. And in some individual years, consumption rates seem not to correlate at all to changes in income rates.

In contrast to Japan, too low a change in income rates cannot account for this trend, as income rates changed by more than 9 % per year. Possibly governmental share in consumption rates can be held responsible, as government spending accounted for nearly 10 % of overall consumption in Vietnam. In South Korea, Japan and China, on the other hand, where governmental spending accounted for at least 20 %, consumption rates seemed to have been more responsive to income rates. Therefore, in countries where the government has a higher share in final consumption, the government appears to spend more money on consumption when income increases, making consumption rates more responsive to income rates. But in a country where the government has a comparatively lower share in final consumption, consumption rates do not seem to respond as much to changes in income rates. This appears to be all the more the case as people in Vietnam seem to spend only a small part of their additional money on consumption, and prefer to use it in other ways.

All in all, in Vietnam propensity to consume seems to be less affected by changes in income rates than in South Korea, Japan or China. Consumption rates and, therefore, propensity to consume, seem to be very low when compared to income rates. By contrast, in China, consumption rates were not only the highest of the four countries, but also higher than

income rates, meaning that every year people consumed to a greater extent more than the increase in their earnings. Propensity to consume seems, therefore, to be the highest compared to South Korea, Japan and Vietnam.

4 Multiplier

The next question is whether an investment will have a strong or a weak impact on employment. As this question can only be answered by comparing across the board the rates of the four countries, in this section I calculate the truncated average value of the rates in question, by eliminating the two highest and the two lowest values for the period from 1997 to 2013. For the periods from 2000 on, I eliminated only the highest and the lowest value in the rates. By doing so, I attempt, on the one hand, to level off possible fluctuations caused by the economic crises in 1997 and 2008, and, on the other, I try to make the rates of the surveyed countries more comparable with one another. In this way, it becomes possible to rate the countries in terms of each individual parameter (see 2.1 Keynes' Theory of Employment, Interest and Money – Multiplier). And by doing so, it becomes possible to estimate which countries present a profile in line with strong, and which with weak, multiplier characteristics (see 4.7 Summary).

4.1 Additional Employees

In order to compare the percentage of additional employees, I calculate, based on the number of employees, the rates by which employment changes over the previous year. If not indicated otherwise, hereafter this change in number of people additionally employed is referred to as “additional employees”, “additional employment”, or simply “employment rates”.

South Korea

Regarding the percentage of additional employees compared to the year before, rates for females present both higher maximum and lower minimum values than the equivalent rates for males: in 1998, rates for women additionally employed hit a minimum (-7.3 %). In contrast, the highest increase in rates of women additionally employed was seen in 2000 (5.2 %).

On the other hand, rates of men additionally employed also reached their minimum value (-2.8 %) in 1998. The peak in male additional employment, as for females, was attained in 2000 (3.7 %). Therefore, rates of male additional employment present a smaller range with, naturally, smaller outliers during the surveyed period, than rates for females.

From 1997 to 2012, employment increased every year, with the exceptions of 1998, when both rates of additional employment declined, and 2003, when rates of female additional employment decreased. In those years, as well as in 2002 and 2008, rates of female additional employment were lower than rates of male additional employment. In all other years, rates of female additional employment were higher than rates of male additional employment. Only in 2007 were both rates equal.



Figure 9 South Korea: Additional Employment

Sources:

Data adapted from Statistics Korea (comp.) 2015:237; Statistics Korea (comp.) 2013:235; Statistics Korea (comp.) 2009:217, National Statistical Office (comp.) 2005:215

Since the rates of women additionally employed were, with the exceptions mentioned above, higher than the rates of men additionally employed, regarding this parameter, the multiplier was stronger for female employment than for male employment, so that investments had a greater impact on female employment than on male employment. In 1998, when rates of additional employees hit an all-time low, investments had their smallest impact on employment. In 2000, when rates of additional employment reached their peak, investments had their strongest impact on employment. In 2009, investments had less impact on employment than they had the years previously. But since 2010, the strength of the multiplier has increased with the rates of additional employees (with a small lead of rates of females additionally employed over the rates for males).

From 1997 to 2013, the average rate of women additionally employed, excluding the two highest values, in 2000 and in 2004, and the two lowest values, in 1998 and in 2003, is at 1.9 %. In 2014, the rate of women additionally employed was below the previous years' average (1.8 %). Thus, the multiplier was weaker in 2014 than it had been on average over the preceding years. Regarding rates of men additionally employed, the average rate from 1997 to 2013 was 1.1 %. Therefore, in 2014, the rate of male additional employment was, at 1.8 %, above the previous years' average, indicating a stronger multiplier than the years before. Since the multiplier was stronger for male employment and weaker for female employment in 2014, investments seem to have a similar impact on total employment than in the previous years. However, in 2014 the multiplier was equal for male employment and for female employment. The same amount of investment, therefore, had a similar impact on female employment as it had on male employment.

Japan

Recent events in Japan, such as the Tohoku earthquake, and the Fukushima Daiichi nuclear disaster associated with it, emphasize the importance of eliminating the two highest and the two lowest values while calculating the average rate post 1997. As events like the Asian Financial Crisis, the Global Financial Crisis, the Fukushima Daiichi nuclear disaster etc., tend to cause strong distortions to the rates, the exclusion of the two highest and the two lowest values eliminates possible outliers caused by at least two events, and therefore help to create an average value that reflects rates under more “normal” circumstances.



Figure 10 Japan: Additional Employment

Sources:

Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014c:492, 493

It is striking that the decrease in rates of additional employees was far more severe in 2011 (male and female: -4.5 %), than it was after the Asian Financial Crisis in 1998 and 1999 (male and female: -0.9%), or in the aftermath of the Global Financial Crisis in 2009 (female: -0.7 %, male: -2.3 %). The Fukushima Daiichi nuclear disaster seems, therefore, to have had a significant impact on employment. This decrease in employment rates had been compensated by a distinct increase in additional employees in 2012 (female: 5.1 %, male: 4.7 %). In 2013, however, the rates fall again (female: 1.8 %, male: -0.2 %).

In general, the male employment rate in the period from 1998 to 2013 was below or just above zero (with the exception of 2012). That means that during that time not only was there practically no male additional employment, there was an overall decrease in overall male employment compared to previous years. Interestingly, in 2002, the decrease in male employment was more severe than in post-financial crisis 1999. Only from 2005 to 2007, and in 2012, did male employment rates achieve a value above zero.

All in all, rates of female additional employment were, with the exceptions of 1999, 2002, 2007 and 2011, higher than rates of men additionally employed. Rates of female additional employment were also more often above zero (namely in 2001, from 2003 to 2007, in 2010, 2012 and 2013), than below zero.

From 1998 to 2011, however, both male and female employment rates were just below 1 %. Only in 2012, did both rates reach an all-time maximum, before declining sharply in 2013.

For 1997 to 2012, therefore, the average rate of female additional employment, without the two highest and the two lowest values, amounts to 0 %. In 2013, the rate of female additional employment of 1.8 % was, therefore, above average, reflecting a multiplier which had gained in strength over previous years. Much the same can be said for male employment rates, which have an average of -0.4 % during that period. In 2013, rates of male additional employment were, at -0.2 %, above average, also reflecting a stronger multiplier than in the previous years.

The multiplier might be not as strong as for South Korea, where male as well as female employment rates were distinctly higher than the previous years' average, whereas rates in Japan were just above average.

China

Unfortunately, China's statistical yearbooks do not differentiate between the sexes, providing only total numbers for employment. I have therefore resorted to data provided by the International Labour Organization (ILO). The methods used by the ILO seem to be different to those used by China's statistical office, in that they, for example, divide employees into more age groups, rather than merely the two groups: economically active and non-economically active. For a comparison with South Korea, Japan and Vietnam, I therefore make a calculation of the rates of men and women additionally employed aged between 15 and 64. By doing so, I take into account that there may be people over 64 years who are employed, and, therefore, included in the numbers of employees in South Korea and Japan, but not in the other data sets. Since the ILO has data only for some years, regarding economically active persons of all ages, and for economically active persons aged between 15 and 64, it is not possible to determine the number of people over 64 who are still economically active. Therefore, this chart can only indicate the trend in China in comparison to the other countries. It does not use the same methods for calculations as the charts on South Korea or Japan, and it also refers to a shorter period of time.

From 2001 to 2005, and from 2009 to 2012, male and female employment rates were very close to each other, in fact, one could say, in a number of years practically congruent. During these periods, the rates increased and decreased together. Only in 2006 were there distinctly more women additionally employed than men, and in 2007 distinctly fewer women additionally employed than men compared to the year before. Therefore, with the exceptions of 2006 and 2007, there was no significant difference between changes in rates of men additionally employed and rates of women additionally employed: women have been additionally employed to almost the same extent as men. The greatest rate of additional employment occurred in 2001, for both women and men (2.2 %). In 2006, the rate of women additionally employed reached another peak. In contrast, the rate of men additionally employed reached their second peak in 2009 (1.3 %). In 2007, rates of female additional employment fell to a low (-0.2 %). In 2010, both rates reached the minimum value of 0 %.

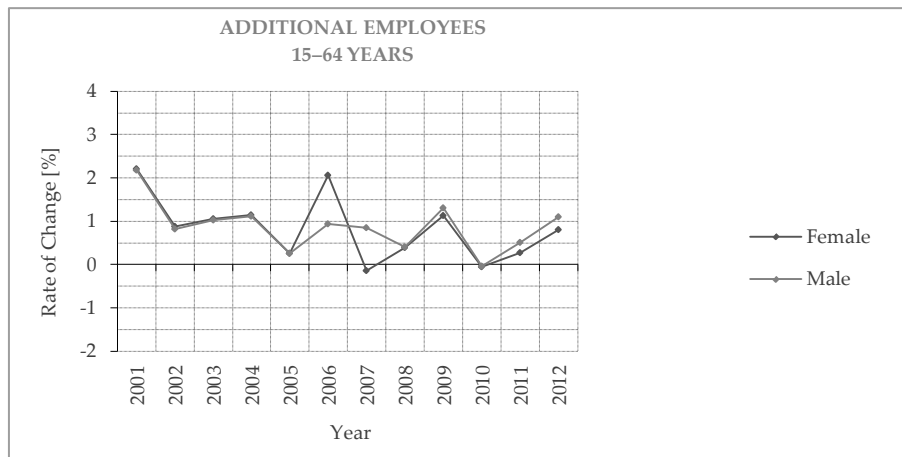


Figure 11 China: Additional Employment

Sources:

Data adapted from ILO 2015b:#China

In general, both rates of additional employees, despite the broad variation, show a long-term downwards trend. The pattern of up and down movements will likely continue, with the increase in 2012 being followed by a decrease, which could level out, even below zero in the following year.

From 2001 to 2011, the truncated average for the female employment rate was 0.7 %. In 2012, the female employment rate was, at 0.8 %, just above average. As in 2012, there were more women additionally employed than in the previous years, the multiplier in 2012 can be considered as being stronger than it was the years before. At the same time, the truncated average for men additionally employed was 0.8 %. Therefore, in 2012, the rate of men additionally employed was, at 1.1 %, also above average, indicating a stronger multiplier than the years before.

In a comparison of the averages over the entire period across the board, South Korea presents the highest average (female: 1.8 %, male: 1.2 %). That means that there have been more men and women additionally employed in South Korea than in China or Japan. In this regard, the multiplier was stronger in South Korea than in China or Japan. China presents the next strongest multiplier (male and female: 0.8 %) for this parameter. And Japan seems to have the weakest (female: 0 %, male: -0.5 %).

Vietnam

From 2006 to 2013, employment rates in Vietnam show an opposing trend between the two rates: as one increases, the other decreases at an equal rate. There was only one exception, in 2013, when both rates decreased at almost the same pace. It therefore seems as if there is a certain set amount of employment available: when more female employees were additionally employed compared to the year before, there had to be fewer male employees taken on, and vice versa. As both rates intersect each other from 2006 to 2012 at somewhere between 3 % and 2.3 %, the optimal rate of additional male and female employees seems to be in that range for

those years. For example, if employers decide to take on 8 % more female employees in a year in which the total additional employment would be 3 %, it would be at the cost of loss of male additional employment, which would fall from the expected 3% to -2%. And indeed, in 2007, when 7.9 % of female employees were additionally employed, 1.7 % fewer male employees were additionally employed compared to the previous year. In that year, male employment rates hit an all-time low (-1.7 %), with another minimum value in 2013 (1.3 %). Female employment had already reached its low point in 2006 (-1 %), followed by another in 2008 (1.3 %).



Figure 12 Vietnam: Additional Employment

Sources:

Data adapted from General Statistics Office of Vietnam 2014a:114

It is also interesting that as of 2008 the gap between male and female employment rates diminishes. The cross-over point between the male and female employment rates remains at around 3 %, indicating that in 2008 there were as many jobs available as in 2006 and 2007. In the subsequent years, the cross-over point falls to 2.1 %, indicating a decrease in additional employment available from 2012.

Generally, since 2012, both rates show a decreasing trend. Thus, in 2013, rates were lower than the years before: The truncated average rate of female employment from 2006 to 2012 was 2.6 %. In 2013, female employment rates were, at 1.8 %, far below average. The truncated average rate of male employment was 2.8 %. In 2013, the male employment rate was, at 1.3 %, also below average. At this point in time, there were fewer men and women additionally employed than in previous years, indicating a weakening multiplier, albeit stronger for Vietnam than for South Korea, China or Japan.

International Comparison

For an accurate comparison of the multipliers in South Korea, Japan, China and Vietnam, regarding the number of additional employees, I compare the rates from 2006 to 2012, by calculating the average male and female employment rate without the highest and the lowest

value. By doing so, the average rates for comparison are not subject to distortion by the application of different time periods in their calculation. I eliminate only the maximum and the minimum values, as these are likely to have been caused by the financial crisis in 2008. Since the Asian financial Crisis was not part of this period, I did not eliminate more values in the calculation of the average level.

Table 1 Additional Employment

Country	Truncated Average Rate of Additional Employees [2006–2012]	
	Female	Male
Vietnam	2.6 %	2.8 %
South Korea	1.4 %	1.1 %
China	0.6 %	0.7 %
Japan	0.2 %	-0.4 %

Sources:

South Korea: Data adapted from Statistics Korea (comp.) 2015:237; Statistics Korea (comp.) 2013:235; Statistics Korea (comp.) 2009:217, National Statistical Office (comp.) 2005:215

Japan: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014c:492, 493

China: Data adapted from ILO 2015b:#China

Vietnam: Data adapted from General Statistics Office of Vietnam 2014a:114

The above table shows that between 2006 and 2012, there have been 2.6 % female employees and 2.8 % men additionally employed in Vietnam. In South Korea, there have been on average 1.4 % female employees and 1.1 % men additionally employed. In China the average rate accounts for 0.6 % of female employment and 0.7% of male employment during that period. And, lastly, in Japan, the average female employment rate was 0.2 %, while the average male employment rate was -0.4 %. That means that between 2005 and 2012, Vietnam had the highest average rate in men and women additionally employed compared to South Korea, China and Japan. Therefore, regarding this parameter, the multiplier from 2006 to 2012 was stronger in Vietnam, and investment had a more significant impact on employment in Vietnam than in the other three countries during that time. That impact was slightly more pronounced for male employment than female employment, because the percentage of additional male employees was slightly higher than the percentage of women additionally employed.

South Korea is the country with the next strongest multiplier: from 2006 to 2012, there were 1.4 % women additionally employed. During that period, 1.1 % male employees were additionally employed. As there were fewer employees on average additionally employed than in Vietnam during that time, the multiplier in South Korea was not as strong as in Vietnam, but still stronger than in China or in Japan, where there were fewer people additionally employed. Investments in South Korea had a slightly greater impact on female employment than on male employment, because there are slightly more women additionally employed than men.

China's average female employment rate was 0.6 % during that time. The male employment rate accounts for 0.7 %. Therefore, on the one hand, there has been barely 1 % men and women additionally employed each year, and, on the other hand, the multiplier for this parameter was weaker in China than it was in Vietnam and South Korea at that time: investments had less impact on employment than they had in Vietnam or in South Korea. Still, the impact of investment on employment was stronger than in Japan. It was also a little

stronger on male employment than on female employment, because the average rate of male employment exceeded the rate of female employment slightly.

In Japan, from 2006 to 2012, there were on average 0.2 % women additionally employed and 0.4 % fewer men employed, compared to the previous year. These rates not only demonstrate near stagnation in female employment, but also a downward trend in male employment. Japan therefore has the weakest multiplier compared to Vietnam, South Korea and China. Or to put it in other words, compared to the other three countries, investments had the least impact on employment in Japan during that time. The impact of investments on employment was a little greater on female employment than an male employment, as the rate of female employment is not only higher but also positive, while that for male employment is lower and negative.

4.2 Share of Investments in GNI

South Korea

Gross capital formation, hereafter referred to as “investments”, had its highest share in gross national income (GNI) in 1997 (almost 34.6 %), when the Asian Financial Crisis occurred. Other peaks in rates appeared from 2006 to 2008 (around 33.5 %) and in 2011 (32.6 %). In 1998 and 2009, when the crises took effect, investments had their lowest share in GNI (1998: 26.1 %, 2009: 29 %). In 1999 and 2013, however, investments barely accounted for 30 % of GNI.

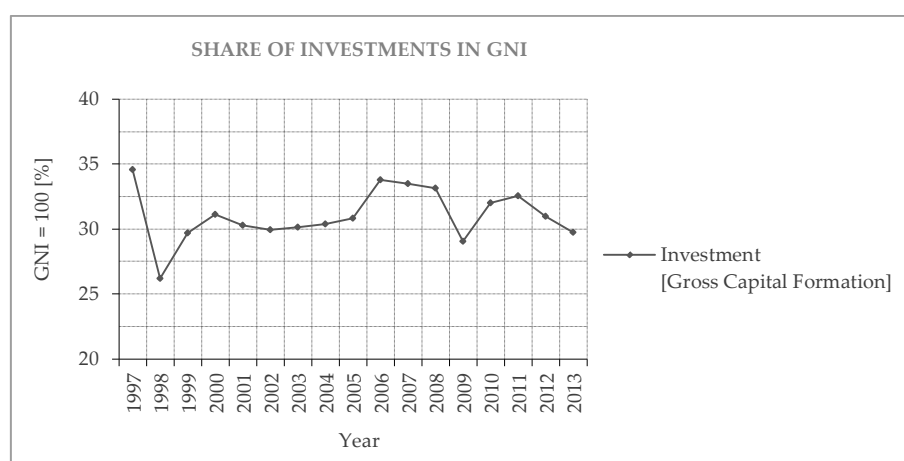


Figure 13 South Korea: Share of Investments in GNI

Sources:

GNI: Data adapted from Statistics Korea (comp.) 2015:763

Gross capital formation: Data adapted from Statistics Korea (comp.) 2015: 774, 775; Statistics Korea (comp.) 2010:766, 767; National Statistical Office (comp.) 2007:722, 723

Put simply, when the economic crises took effect in 1998 and 2009, the share of investments in GNI decreased. In 2009, however, the decrease was less pronounced than in 1998. In all other years from 1997 to 2013, the share of investments in GNI accounted for more than 30 %. Only in 1999 and 2013, was it slightly less than 30 %. Therefore, in 1998, 1999, 2009 and 2013, the multiplier was weaker compared to the other years of the period surveyed.

Investments had their greatest impact on employment in 1997, 2006 to 2008, and 2010 when investments had their highest share in GNI. Since 2011, however, the multiplier would appear to be losing its relative strength as the share of investments in GNI decreases.

The average share of investments in GNI from 1997 to 2012, excluding the two lowest values in 1998 and 2009, and the two highest values in 1997 and 2006, was 31.2 %. Compared to this value, share of investments in GNI in 2013 was, at 29.8 %, below average. Similarly, the share of investments in GNI in 2012 was, at 31 %, just below the previous years' average of 31.2 %. Therefore, the multiplier in 2012 and 2013 was weaker than the years before, and will be weaker again in years to come, when the share of investments in GNI accounts for distinctly less than 31.2 %.

Japan

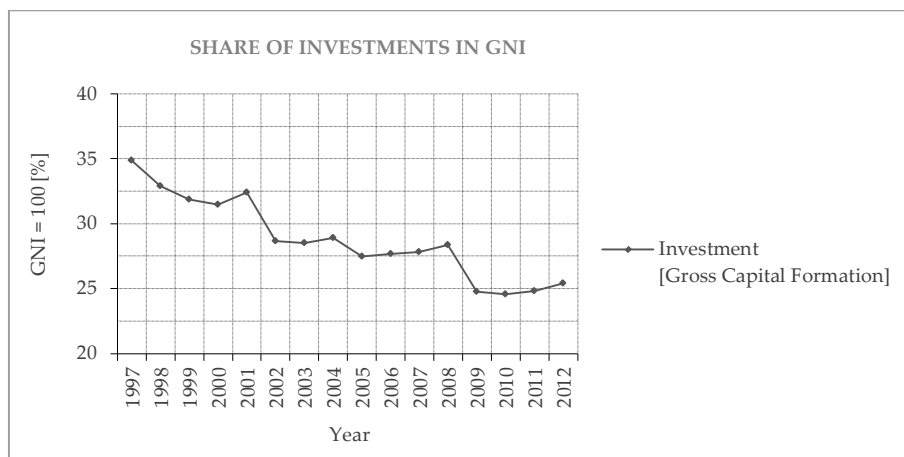


Figure 14 Japan: Share of Investments in GNI

Sources:

GNI: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:104; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:102; Statistics Bureau et al. (eds) 2004:98

Gross capital formation: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91; Statistics Bureau et al. (eds) 2004:87

The rate of gross capital formation in gross national income shows a fascinating development. Between 1997 and 2012: it distinctly decreases from 34.9 % to 25.4 %. While decreasing, it shows a staircase pattern, maintaining a level for a couple of years, before experiencing a sharp fall. In the year 2000, investments were around 31 % of GNI. In 2002 they dropped to around 28%, where they remained until 2004. In 2005, the rates dropped again to 28 %, and remained

there, decreasing only slightly, until 2008. And then in 2009, there was a sharp fall in the rates to almost 25 %, where they remained, increasing only slightly till 2012.

For the time being, I regard the rate in 2012 as below the average rate, without taking the two highest and the two lowest values into account. They are not only far from average, but also distinctly lower in 2012 (25.4 %) compared to South Korea (31 %). That shows not only that the multiplier was weaker in Japan in 2012 than it has been in previous years, since it is below the average rate, but also that the multiplier is weaker than in South Korea in 2012 in this respect.

China

Whereas Japan's share of investments in GNI decreases by stepped increments, in China the share of investments in GNI increases in steps: from 1997 to 1999, investment rates almost levelled off at approximately 37.5 % (with only a slight downward trend). After a distinct decrease in 2000, investment rates increased from 2001 (36.8 %) to 2004 (43.4 %). Rates plateaued the subsequent years to some degree before significantly increasing in 2008 and 2009 (48.3 %). Since then, rates have retained that level, with only 2013 seeing a slight rise.

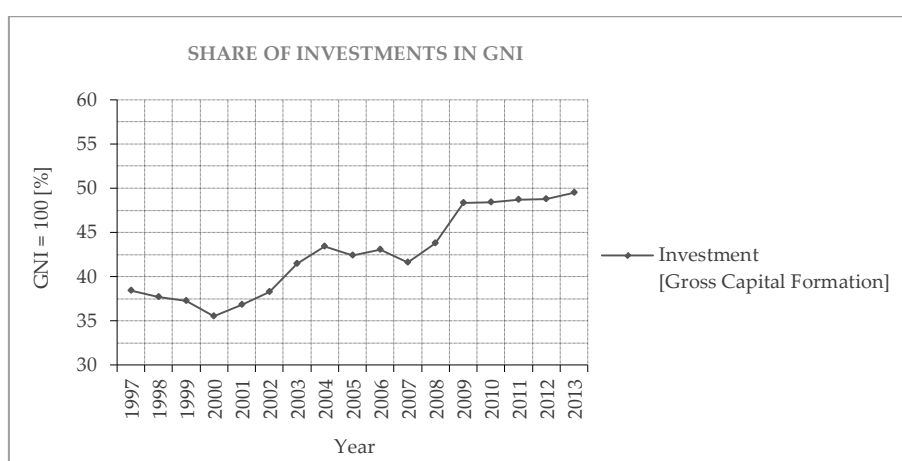


Figure 15 China: Share of Investments in GNI

Sources:

GNI: Data adapted from National Bureau of Statistics of China (comp.) 2014:53

Gross Capital Formation: Data adapted from National Bureau of Statistics of China (comp.) 2014:68

Whereas on the whole, since 1997, investment rates in South Korea have maintained their level (31 %), and investment rates in Japan have been decreasing, in China investments rates show an upward trend.

It is very interesting that in 1998 investments did not decrease as sharply as they did in South Korea (from 35 % to 26 %), or, to some extent, in Japan (from 35 % to 33 %), rather more moderately (from 38.4 % to 37.7 %), and a little bit more in 1999 (37.2 %) and 2000 (35.6 %). In 2009, when there was a decrease in investment rates in South Korea (from 33 % to 29 %), and in Japan (from 28 % to 25 %), investment rates in China increased (from 44 % to almost 48 %).

Which leads me to the next surprising aspect of China's investment rates: investments in China represent a distinctly higher proportion of GNI than they do in South Korea or Japan. This, however, is understandable, given that since 2011 China has been the world's second largest economy.

In 2013, investment rates were, at almost 50 % of GNI, distinctly above the previous years' truncated average of 42 %. The 2013 multiplier in China was stronger than it had been the years before.

Vietnam

While the level of investment volume in South Korea is constant, decreasing in Japan, and increasing in China, Vietnam's investments are characterized by a roller coaster ride. Except for a decrease in 2005, from 2000 to 2007 investment rates increased (from 30 % of GNI in 2000 to almost 45 % of GNI in 2007). From 2008, however, investment rates decreased each year, to reach 27.8 % of GNI in 2013. The steepest fall was in 2011 (from 37.1 % to 31.1 % of GNI).

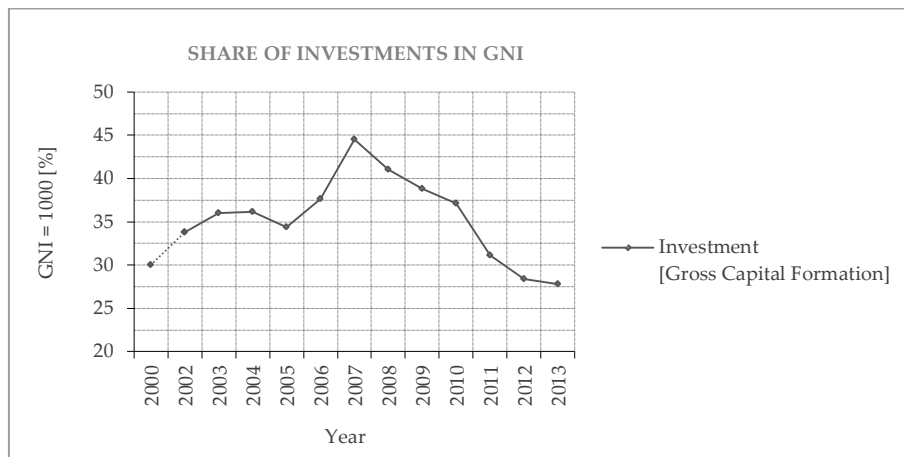


Figure 16 Vietnam: Share of Investments in GNI

Sources:

GNI: Data adapted from General Statistics Office of Vietnam 2014b:158; General Statistics Office of Vietnam 2009b:84

Gross capital formation: Data adapted from General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83; General Statistics Office of Vietnam 2006b:71

Given the decreasing share of investments in GNI, from 2008 on, the multiplier in Vietnam weakened year by year. In 2000 and from 2002 to 2012, the average share of investments in GNI (excluding the highest and the lowest values) was 35.6 %. In 2013, the share of investments in GNI was 27.8 % and, therefore, distinctly below average compared to the years before. Thus, the multiplier was weaker in 2013 than it had been in previous years.

International Comparison

Table 2 Share of Investments in GNI

Country	Truncated Average Share of Investments in GNI [2000, 2002–2012]
China	43.7 %
Vietnam	35.6 %
South Korea	31.5 %
Japan	27.4 %

Sources:

South Korea: Data adapted from Statistics Korea (comp.) 2015:763, 774, 775; Statistics Korea (comp.) 2010:766, 767; National Statistical Office (comp.) 2007:722, 723

Japan: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93, 104; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91, 102; Statistics Bureau et al. (eds) 2004:87, 98

China: Data adapted from National Bureau of Statistics of China (comp.) 2014:53, 68

Vietnam: Data adapted from General Statistics Office of Vietnam 2014b:157, 158; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83, 84; General Statistics Office of Vietnam 2006b:71

Comparing the average share of investments in GNI of South Korea, Japan and Vietnam, in 2000 and from 2002 to 2012 (without taking the maximum and the minimum values into account), China presents the highest average share of investments in GNI, with 43.7 % of GNI, and, consequently, the strongest multiplier during that period.

The country with the next strongest multiplier during that period is Vietnam: the average share of investments in GNI in 2000 and 2002 to 2012 accounts for 35.6 % of GNI, which makes it the second highest in the group including China, South Korea and Japan. Therefore, in terms of this parameter, investments had a lesser impact on employment in Vietnam than they had in China, but still greater than in South Korea or Japan.

In South Korea, the average share of investments in GNI accounts for 31.5 % of GNI during that time. This means that investment rates were lower, and the multiplier was, therefore, weaker than in China or Vietnam, yet stronger than in Japan.

And in Japan, the average share of investments in GNI during the period surveyed was 27.4 %. Therefore, Japan had the lowest share of investments in GNI compared to China, Vietnam and South Korea, and, therefore, the weakest multiplier for this parameter.

4.3 Unemployment Rates

South Korea

From 1997 to 2012, there were more unemployed men than women. Both the female unemployment rate and the male unemployment rates peaked in 1998 (male: 7.8 %, female: 5.7 %) and in 1999 (male: 7.2 %, female: 5.1 %). The lowest point for both rates was in 1997 (male: 2.8 %, female: 2.3 %). It is interesting to note that the two rates increased and decreased

together, albeit to differing degrees. Only in 2005 and 2008, the female unemployment rate levelled off, while the male unemployment rate decreased to a lesser rate. In 2010, the female unemployment rate was increasing, while the male unemployment rate decreased.

Even though the unemployment rates increased in 2009 (male: 4 %, female: 3 %), they did not reattain the level of 1998 (male: almost 8 %, female: 5.7 %) or 1999 (male: 7.2 %, female: 5.1 %). Since 2011, both rates have been clearly decreasing, before increasing in 2014.

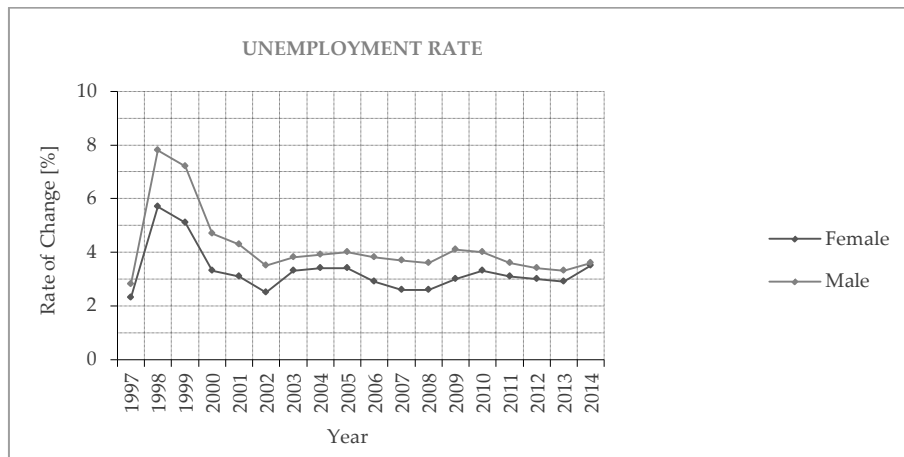


Figure 17 South Korea: Unemployment Rates (I)

Sources:

Statistics Korea (comp.) 2015:237; Statistics Korea (comp.) 2009:217, National Statistical Office (comp.) 2005:215

From 1997 to 2013, the average rate of female unemployment, excluding the two highest and the two lowest values, was 3.1 %. The average rate of male unemployment is 3.9 %. Therefore, in 2014, the female unemployment rate, at 3.5 %, was above average, whereas the male unemployment rate, at 3.6 %, was below the previous years' average

This means that in 2014 the multiplier was for male employment weaker than the years before, and investments had less impact on male employment than in the previous years. As the female unemployment rate was above average in 2014, this suggests that investments had more impact on female employment than in the previous years, and more impact than they had on male employment.

Japan

From 1998 to 2013, the rate of male unemployment was higher than the rate of female unemployment. Only in 1997 were the two rates equal. In general, the rates increased and decreased together, albeit at different paces. Only in 2000, 2003 and 2010, did the rates show contrary movement, with male unemployment rising slightly against a slight fall in female unemployment.

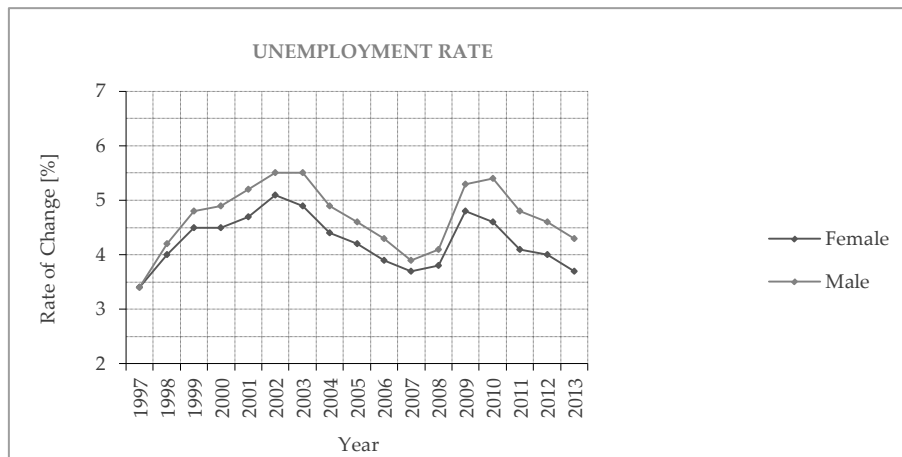


Figure 18 Japan: Unemployment Rates (I)

Sources:

Statistics Bureau and Ministry of Internal Affairs and Communications 2014c:492, 493

After the crises in 1997 and 2008, unemployment rates increased significantly: Both unemployment rates increased from 3.4 % in 1997 to reach maxima in 2002 (female: 5.1 %, male: 5.5 %). In 2003, the female unemployment rate was the first to start to fall, with the male unemployment rate following suit in 2004. By 2007, both rates reached their first minimum values since 1997 (female: 3.7 %, male: 3.9 %), but began to rise again in 2008. In 2009, reached another maximum (male: 4.8 %, female: 5.3 %), albeit this maximum was a little lower than the one in 2002. And, as in 2003, female unemployment rates were the first to begin to fall, whereas male unemployment rates continued their climb in 2010, before turning downwards, a year after the female rate.

Since 2010, both rates have shown a downward trend. The average rate of female unemployment from 1997 to 2012 (excluding the two highest and the lowest values) was 4.3%, while the average male rate was 4.8%. In 2013, both the female (4 %) and male (4.6%) unemployment rates were below average. The multiplier in 2013 could therefore be regarded as weak in terms of this parameter. It might be a little stronger than in South Korea, however, where unemployment was slightly lower in 2012 than it was that year in Japan. Since the female unemployment rate was (like in the other years) lower than the male unemployment rate in 2013, investments had a stronger impact on male employment than on female employment in that year.

China

Regarding unemployment rates, the statistical yearbooks of China and the ILO only provide total unemployment rates, without segregating them into female and male categories. Another difference between the composition of unemployment rates in South Korea and Japan, versus unemployment rates in China and Vietnam, is that the unemployment rates in China and Vietnam represent only urban area unemployment rates, without consideration of rural areas. In contrast, unemployment rates in South Korea and Japan are composed of unemployed

people in both urban and rural areas, and, therefore, are representative of all unemployed people in the whole country. There may be various reasons for composing unemployment rates in China and Vietnam this way: it may be, for some reason, more difficult to obtain an accurate count of the number of unemployed people in the rural areas of China and Vietnam, than it is in South Korea or Japan. Or it could be that the number of unemployed people in urban areas is deemed sufficiently representative to dispense with rural areas. Whatever the reason, the statistical yearbooks of China and Vietnam only refer to total unemployment rates in urban areas. It is therefore not possible to tell to what extent the female and male unemployment rates differ.

The unemployment rates in China and Vietnam provide therefore only an overall view of how unemployment, and the related multiplier for this parameter, changed over time. Care needs to be taken while comparing unemployment rates in China and Vietnam directly with unemployment rates in South Korea and Japan, because the composition of the respective rates is derived using different methods.

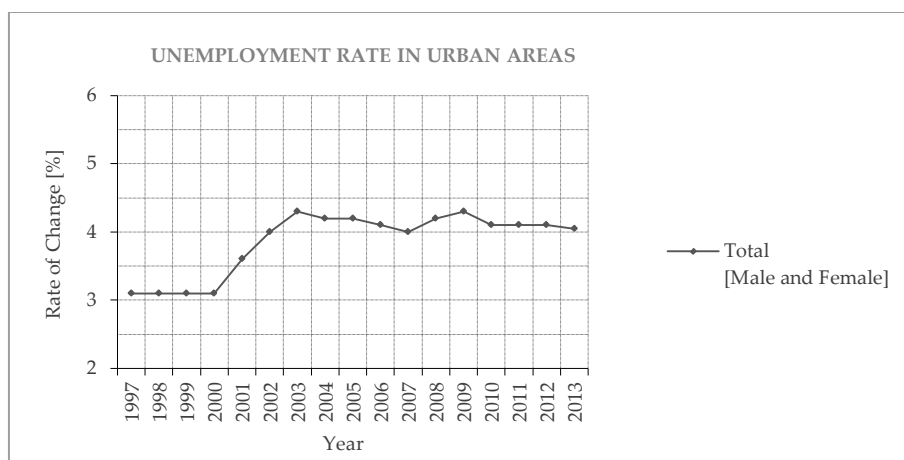


Figure 19 China: Unemployment Rates (I)

Sources:

National Bureau of Statistics of China (comp.) 2014:89; National Bureau of Statistics of China (comp.) 2008:109; National Bureau of Statistics of China (comp.) 2003:123; National Bureau of Statistics of China (comp.) 2000:115

From 1997 to 2000, unemployment rates in China showed no variation (3.1 %), despite the Asian Financial Crisis. From 2001 to 2003, however, unemployment rates rose significantly, reaching 4.3 % in 2003. From 2003 to 2013, rates stabilised at around 4.3 %, drifting down to their new lowest level in 2007, before rising again through 2008 and 2009. In 2010, they slip down to their pre-crisis level (4 %), where they have since plateaued. In summary, in China the unemployment rate from 1997 to 2000 was slightly above 3 %, increasing from 2001 to 2003, where it has remained, with only slight variation during the course of the economic crisis in 2008 and 2009, at slightly above 4 %.

The truncated average rate of unemployment from 1997 to 2012 was 3.9 %. In 2013, therefore, the unemployment rate was, at 4.1 %, just above average. In other words, in 2013 there were a few more people unemployed than the previous years. Consequently, the multiplier in 2013 was a little stronger than the years before.

Vietnam

For Vietnam, the unemployment rates reveal a falling trend from 2000 (6.4 %) to 2012 (3.2 %). Interestingly, the Global Financial Crisis seems to have brought a stop to the decrease in unemployment rates, which retained the 4.7% mark in 2008 and 2009. It was not till 2010 that the rates continued their long-term fall, to reach 3.2 % in 2012. In 2013, however, unemployment rates, for the first time during the period surveyed, rose marginally.

The 2013 unemployment rate was, at 3.6 %, nevertheless still distinctly below the average of 5.1 % for the period from 2000 to 2012. Despite the rise in 2013, the unemployment rate did not return to the longer term average. Consequently, in 2013, the multiplier was weaker than the previous years.

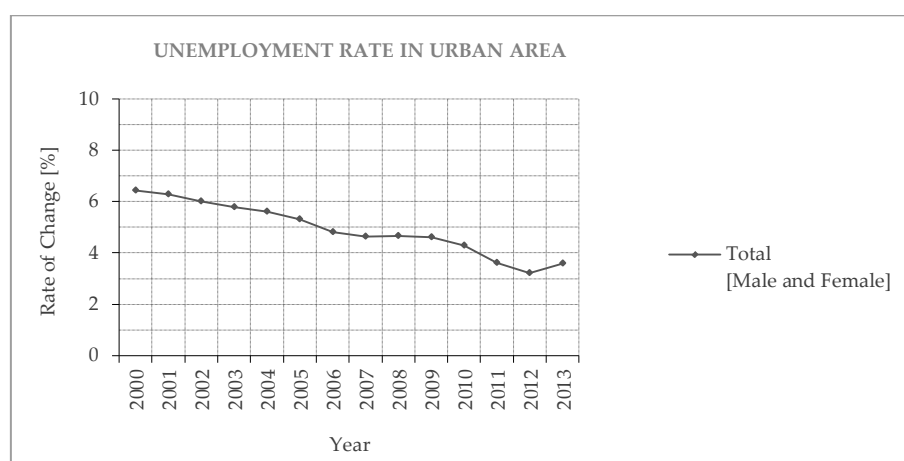


Figure 20 Vietnam: Unemployment Rates (I)

Sources:

General Statistics Office of Vietnam 2014a:133; General Statistics Office of Vietnam 2011a:119; General Statistics Office of Vietnam 2009a:61; General Statistics Office of Vietnam 2006a:49

International Comparison

In a comparison of the four countries, the relative strengths of the multipliers are not so easily determined. Since using only the data for later years would be biased for the countries showing more stable rates in those years, I instead contrast the truncated average unemployment rates (excluding the maximum and minimum values) from 2000 to 2012. I chose this time period because the unemployment rates for Vietnam are available from statistical yearbooks back to the year 2000, while the unemployment rates for 2013 have not yet been included in South Korea's latest yearbook.

Table 3 Unemployment Rates

Country	Truncated Average Unemployment Rates [2006–2012]		
	Female	Male	Total [Male and Female]
Vietnam	–	–	5.1 %
Japan	4.4 %	4.9 %	4.6 %
China	–	–	4.1 %
South Korea	3.1 %	3.9 %	3.5 %

Sources:

South Korea: Data adapted from Statistics Korea (comp.) 2015:237; Statistics Korea (comp.) 2009:217, National Statistical Office (comp.) 2005:215

Japan: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014c:492, 493

China: Data adapted from National Bureau of Statistics of China (comp.) 2014:89; National Bureau of Statistics of China (comp.) 2008:109; National Bureau of Statistics of China (comp.) 2003:123; National Bureau of Statistics of China (comp.) 2000:115

Vietnam: Data adapted from General Statistics Office of Vietnam 2014a:133; General Statistics Office of Vietnam 2011a:119; General Statistics Office of Vietnam 2009a:61; General Statistics Office of Vietnam 2006a:49

From 2000 to 2012, the average unemployment rate in Vietnam was 5.1 %, which makes it the highest of the four countries. Japan had the next highest average rate for the period, with 4.6 % (female: 4.4 %, male: 4.9 %). China follows with 4.1 %. And South Korea boasts the lowest average unemployment rate of 3.5 % (female: 3.1 %, male: 3.9 %).

In summary, from 2000 to 2012, investments on average had their greatest impact on employment in Vietnam. They had their next greatest impact on employment in Japan, less in China, and least of all on employment in South Korea. In Japan and South Korea, the impact of investments was noticeable greater on male than female employment, due to the slightly higher male than female employment rates in both countries. Even so, since Japan in 2012 had, with 4.3 %, the highest rate of unemployment, investments might have had greater impact on employment in Japan than expected in that year. China may have had a weaker multiplier than Japan, but it was stronger than those of Vietnam and South Korea (2012: 4.1 %). In 2013, China and Japan exchanged positions, with investments having a greater impact on the former than the latter.

Country	Unemployment Rates, Total		
	2012	2013	Truncated Average Unemployment Rates [2006–2012]
Vietnam	3.2 %	3.6 %	5.1 %
Japan	4.3 %	4.0 %	4.6 %
China	4.1 %	4.1 %	4.1 %
South Korea	3.2 %	–	3.5 %

4.4 Unemployment Insurance

South Korea

The increase in unemployed people who received unemployment benefits, from 25.1 % in 2000 to 45.5 % in 2012, means that the multiplier in 2012 was distinctly weaker than it had been in 2000. And it seems to grow weaker as the number of people eligible to receive and are receiving unemployment benefits increases. It should be noted that, although each year more people seemed to be covered by unemployment insurance, more than half of the people unemployed received no benefits.

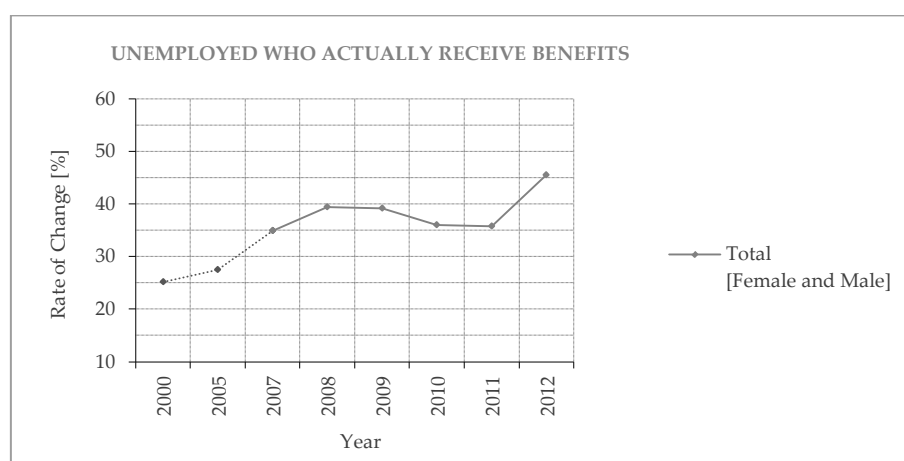


Figure 21 South Korea: Unemployed Who Actually Receive Benefits

Source:

ILO 2014:#Korea, Republic of

On the other hand, it is not at all surprising that more men than women received unemployment benefits, as more men than women were unemployed during that period. However, seeing as the number of female unemployed receiving benefits increased in direct proportion to the number of male unemployed receiving benefits, without there being any blatant disparity, a possible conclusion might be that a similar percentage of women to men were working in jobs which entitled them to receive unemployment benefits. Therefore, there may not have been more women than men working in the kind of vulnerable employment that does not entitle them to receive unemployment benefits.

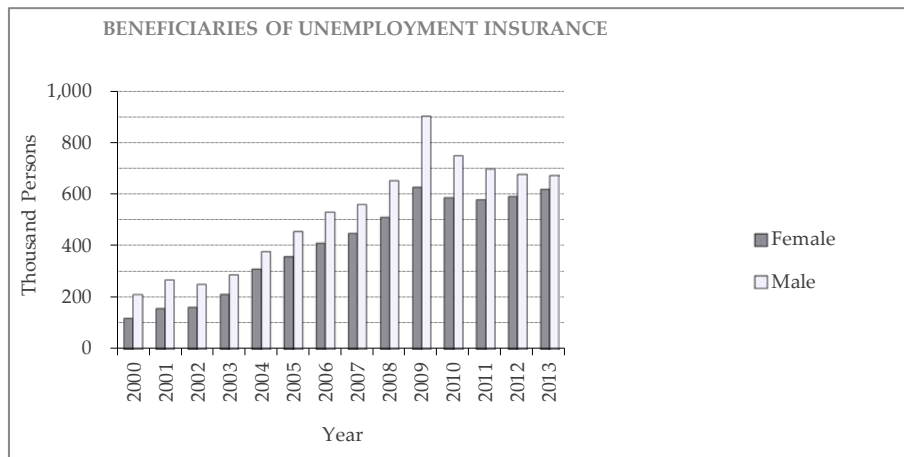


Figure 22 South Korea: Beneficiaries of the Unemployment Insurance

Sources:

Statistics Korea (comp.) 2015:270; Statistics Korea (comp.) 2013:268; Statistics Korea (comp.) 2009:256; National Statistical Office (comp.) 2006:242; National Statistical Office (comp.) 2005:240

Japan

Fewer people were receiving unemployment insurance benefits in 2011 than in 2000. Since there were a few more unemployed in 2000 than in 2011, it seems natural that in 2000 more people were receiving unemployment benefits than in 2011. In addition, for a number of possible reasons, some people might not be covered by unemployment insurance any more in 2011, and therefore not eligible to receive unemployment benefits.

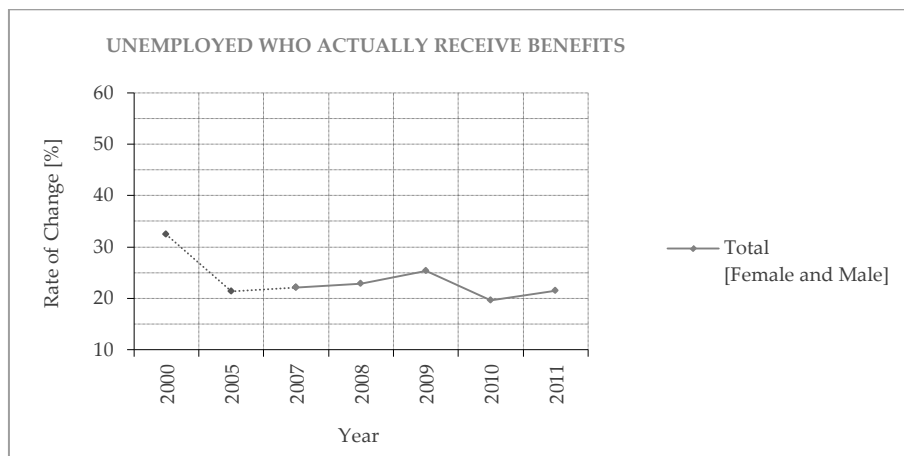


Figure 23 Japan: Unemployed Who Actually Receive Benefits

Source:

ILO 2014:#Japan

Whatever the reason, the multiplier in 2011 must be considered stronger than in 2000 and the other years, as the rate of unemployed receiving benefits decreased from 2000 to 2011. And as

the number of unemployed receiving benefits was lower in Japan (2011: 22 %) than it was in South Korea (2011: 36 %), the multiplier was also stronger in Japan than in South Korea.

China

Between 2000 and 2005, the number of unemployed people receiving benefits rose, before falling over the subsequent years. Even in 2008 and 2009, when unemployment rates were slightly increasing, the rate of unemployed receiving benefits continued to decrease.

Another interesting fact is that there were almost as many people unemployed in 2011 as there were in 2005. It seems, therefore, as if there were fewer people covered by unemployment insurance in 2011. It could be that some of the unemployed in 2011 were no longer qualified to receive benefits. Or perhaps there were actually fewer people working in employment entitling them to receive unemployment benefits in 2011. As the case may be, there were fewer unemployed people receiving benefits by 2011 than in the years previously.

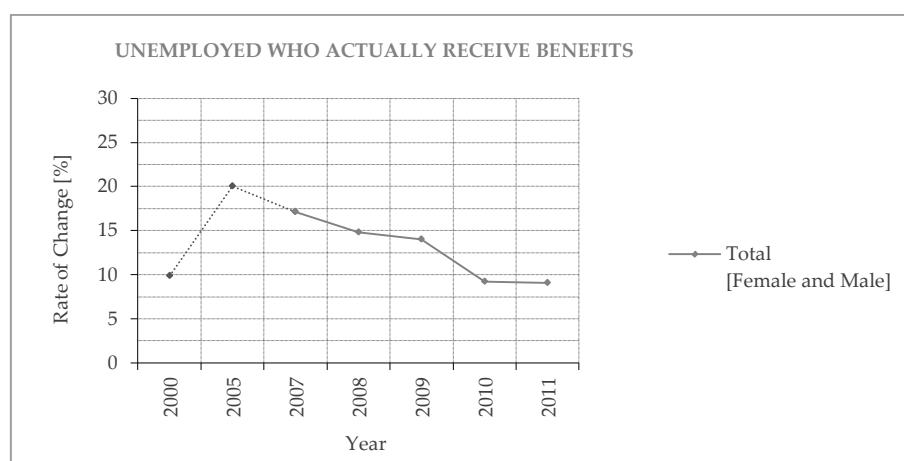


Figure 24 China: Unemployed Who Actually Receive Benefits

Source: ILO 2014:#China

In 2000, 2005, and from 2007 to 2011, the truncated average rate of unemployed receiving benefits was 14.2 %. In 2011, the rate of unemployed receiving benefits was, at 9.1 %, distinctly below average compared to the previous years. In 2011, therefore, the multiplier was stronger than the years before. Or to put it in other words, in terms of this parameter investment had a stronger impact on employment in 2011 than the years before.

Vietnam

Unemployment relief programs were established in Vietnam only in 2009. For this reason, the percentage of people receiving unemployment benefits in 2009 are recorded as being less than 1 %. We therefore see a dramatic rise in reported unemployment benefits recipients in 2010, to

10.8 %, which is in marked contrast to South Korea, China and Japan, where the rates of unemployed receiving benefits fell in 2010. Rates drop slightly through 2011 (9.5 %) and 2012 (8.4 %), causing the multiplier to increase in strength.

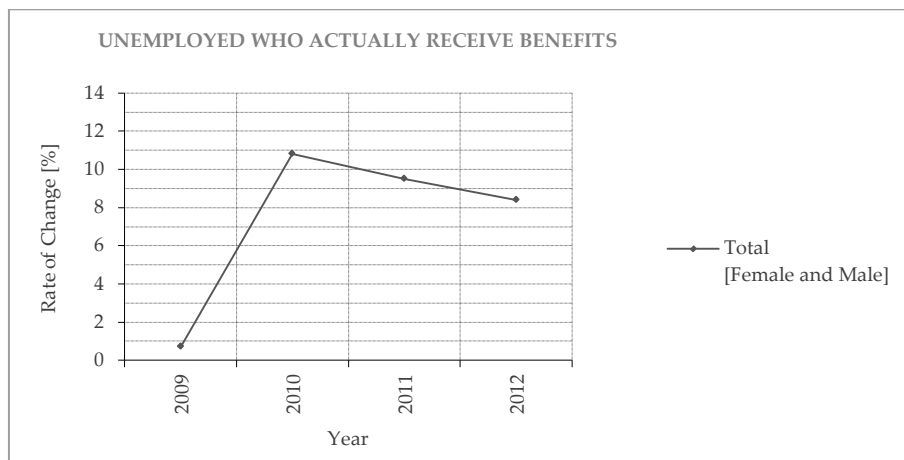


Figure 25 Vietnam: Unemployed Who Actually Receive Benefits

Source:
ILO 2014:#Viet Nam

International Comparison

For this parameter, it is difficult, if not impossible, to make a comparison of average rates of unemployed receiving benefits across the same timeframe. Vietnam's data is restricted to the period from 2009 to 2012. In contrast, Japan's rates include 2000, 2005, and the years from 2007 to 2011, and the available data for South Korea and China extend these same years to include 2012. Trying to apply the same time periods for all sets of data would result in using data only from 2009 to 2011. Removing the maximum and minimum values from this range would result in a somewhat distorted and misleading picture.

For this reason, I take all values available after and including 2007 into account, while calculating the average rate of unemployed receiving benefits, minus the maximum and the minimum value. By doing so, I try to compare the determinants in the rates of unemployed receiving benefits over a contiguous period in the recent years.

Table 4 Unemployed Who Actually Receive Benefits

Country	Truncated Rate of Unemployed Who Actually Receive Benefits [from 2007 on]
Viet Nam	9 %
China	12.7 %
Japan	22.2 %
South Korea	38.5 %

Sources:
South Korea: Data adapted from ILO 2014:#Korea, Republic of

Sources (Table 4, cont.):

Japan: Data adapted from ILO 2014:#Japan

China: Data adapted from ILO 2014:#China

Vietnam: Data adapted from ILO 2014:#Viet Nam

From 2007 to 2012, there were on average 38.5 % of unemployed people receiving unemployment benefits in South Korea. In Japan, only 22.2 % of unemployed received benefits in the period from 2007 to 2011, and for the same period in China, 12.7 %, with 9% in Vietnam for the period 2008 to 2012. In order of strength of multiplier, and degree of impact for comparable investment, Vietnam was the highest, followed by China, then Japan, and lastly South Korea.

4.5 Openness of a Country

All four of the countries surveyed are open countries in the Keynesian sense. All of them have some measure of activity related to export and import. In this section, I calculate the relative shares of the gross domestic product (GDP) which derive from exports and imports of goods and services. This provides a scale for direct comparison of openness.

South Korea

In South Korea, exports usually exceeded imports for the period 1997 to 2013. Only in 1997 did a minor trade deficit appear, while in 2008 exports balanced imports. In all the other years in this period, there was a net trade surplus.

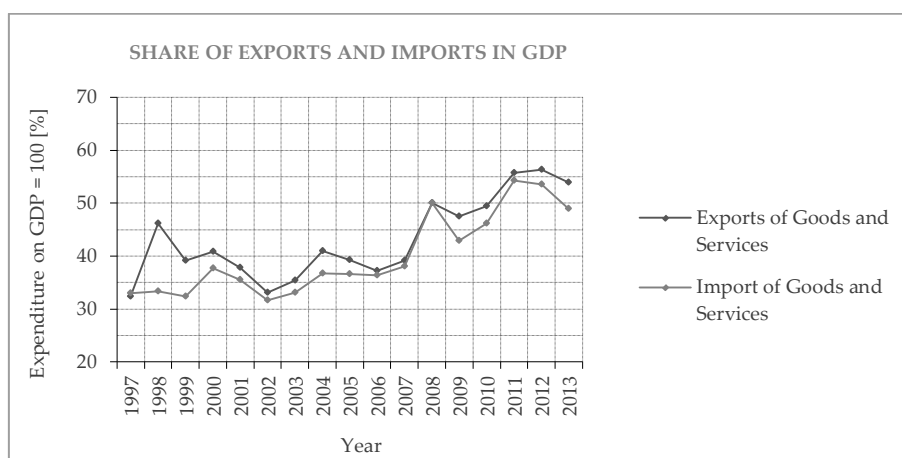


Figure 26 South Korea: Share of Exports and Imports in GDP

Sources:

Exports and Imports, GDP: Data adapted from Statistics Korea (comp.) 2015:774, 775; Statistics Korea (comp.) 2010:766, National Statistical Office (comp.) 2007:722

Both exports and imports show a long-term rise from 1997, reaching peaks in 2008 (imports and exports: 50 %) and from 2011 to 2013 (imports: 52 % on average, exports: 55 % on average). It is of interest that distinct rises in exports in 1998 (46 %), 2004 (41 %), 2008 (50 %), but also in 2011 and 2012 (about 56 %), were followed by decreases in exports in the following years (1999: 39 %, 2005: 39 %, 2009: 48 %, 2013: 54 %).

With some exceptions in 2005, 2006 and 2012, import rates increased and decreased with export rates, albeit at different paces. In this context, it is also very interesting that the decrease in imports was steeper in 2009 than in 1999. In contrast, export rates decreased to a greater extent in 1999 than they did in 2009. All in all, exports and imports increased from 32.5 % in 1997, to respectively 54 % for exports and 49 % for imports in 2013.

That means that the multiplier in South Korea was not only weaker than in a closed country, but in 2013 it was also distinctly weaker than it had been in 1997. Since 2012, the multiplier, with declining exports and imports, shows signs of strengthening, compared to the years before. It is, however, still fairly weak compared to the preceding years of the period from 1997 to 2013.

Japan

From 1997 to 2008, there was a trade surplus in Japan: exports and imports were steadily increasing, with the exceptions of 1998, 1999 and 2001. And in 2008, exports even equalled imports. In 2009, they fell dramatically to the level they had had in 2006 (12.5 %). In 2010, both rates recovered, opening up a trade surplus. Import rates continued to rise in 2011 and 2012, whereas export rates experienced a slight downturn, resulting in a trade deficit for those years.

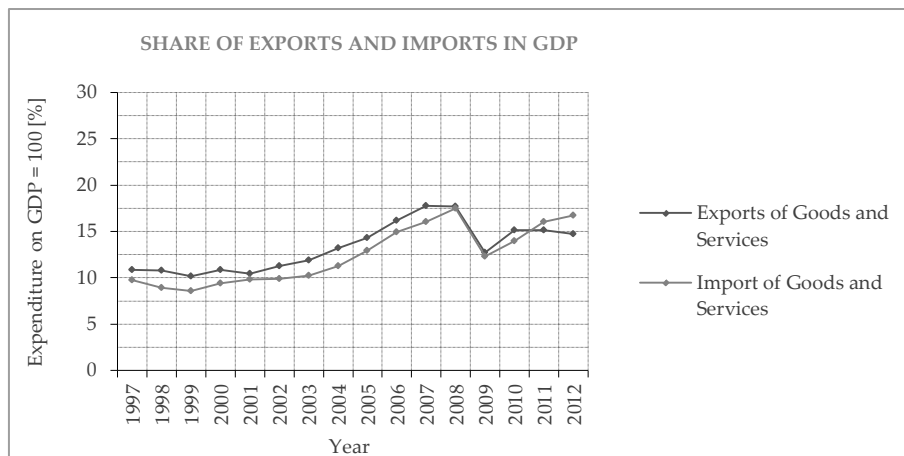


Figure 27 Japan: Share of Exports and Imports in GDP

Sources:

Exports and Imports, GDP: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91

The chart suggests that the multiplier in 2012 was not as strong as it had been at the end of the 1990s, or at the beginning of the new millennium, because exports and imports in 2012 both

account for a higher share of GDP than they had at the end of the 1990s. Even though the multiplier in 2012 seemed to be weaker than it had been in 2009, when both rates fell significantly, it appears to be stronger than in 2008 when the rates reached their maxima.

From 1997 to 2012, the average rate of exports (excluding the two highest and the two lowest values) was 12.9 %. In 2012, the share of exports accounts for 14.7 % of GDP, so above the long-term average. For the same period, the average share of imports (again, excluding the two highest and the two lowest values) was 11.9 % of GDP. In 2012, import rates were, at 16.7 % of GDP, therefore also above average. As exports and imports in 2012 were higher than the years before, this high level of trade indicates a weaker multiplier by 2012. It was, however, stronger than the multiplier in South Korea, which showed a higher level of trade in 2012 (exports: 56 %, imports: 54 %).

China

China had a trade surplus every year from 1997 to 2013. With the exception of 2001, export and import rates increased over the previous year's rate, from 1999 till the middle of the first decade of the 2000s. It is interesting that import rates plateaued around 2005 (29 %), before sliding down gradually to a low in 2009 (20 %). Over the same period, export rates continued to increase to reach a peak in 2007 (35 %). By 2008 and 2009, the upward trend had reversed for both rates, though neither fell as far as their pre-crisis level. Both rates followed the pattern of recovery in 2010 and gradual fall after that.

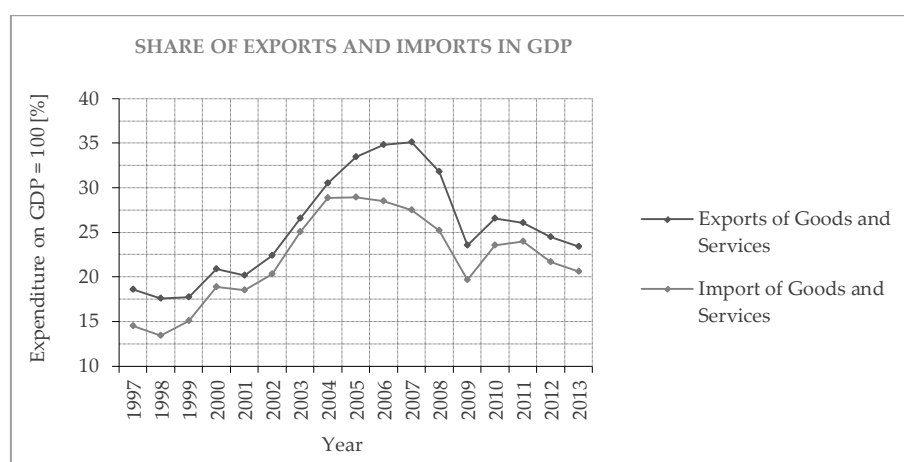


Figure 28 China: Share of Exports and Imports in GDP

Sources:

GDP: Data adapted from National Bureau of Statistics of China (comp.) 2014:53

Exports and Imports: Data adapted from National Bureau of Statistics of China (comp.) 2014:329

The chart also reveals the decrease in export and import rates in 1998, due to the Asian Financial Crisis (exports decrease from 19 % to 18 %, imports decrease from 15 % to 14 %). The

fall in rates in 1998 was not as severe as in 2009, when exports fell from 32 % to 24 %, and imports from 25 % to 20 %.

All in all, the multiplier in 2012 and 2013 seemed to be weaker than from 2003 to 2007, when export and import rates were at their highest. And indeed, from 1997 to 2012, the truncated average export rate was 25.4 %, and the truncated average import rate was 22.3 %. In 2013, both rates were below average: exports at 23.4 %, and import at 20.6 %. As the level of trade in 2013 was lower than in the previous years, the multiplier was stronger that year.

Vietnam

Regarding foreign trade, Vietnam presents a very different picture to South Korea, Japan and China. In 2000, and from 2002 to 2011, there was a trade deficit in Vietnam. Only in 2012 and 2013 did a trade surplus occur. It is interesting that exports and imports increase distinctly every year from 2002 to 2013. In 2009, this upward trend slowed as export and import rates fell in the wake of the crisis (imports: 79 %, exports: 68 %). In 2010 and 2011, the rates recovered, and finally, in 2012, import rates finally fell enough to bring about a trade surplus.

It is noteworthy that in 2000 imports were already at 58 % and exports 55 % of GDP. In 2007, import rates rose rapidly from 78 % to 93 %, whereas export rates lagged behind somewhat, only moving from 74 % to 77 %. In 2007 and 2008, import rates reached their peak at 93 %, causing the greatest trade deficit for the period surveyed. After the sharp fall of both rates in 2009, both the export and import rates recovered to reach 83.9 % (exports) and 79.8 % (imports) respectively in 2013.

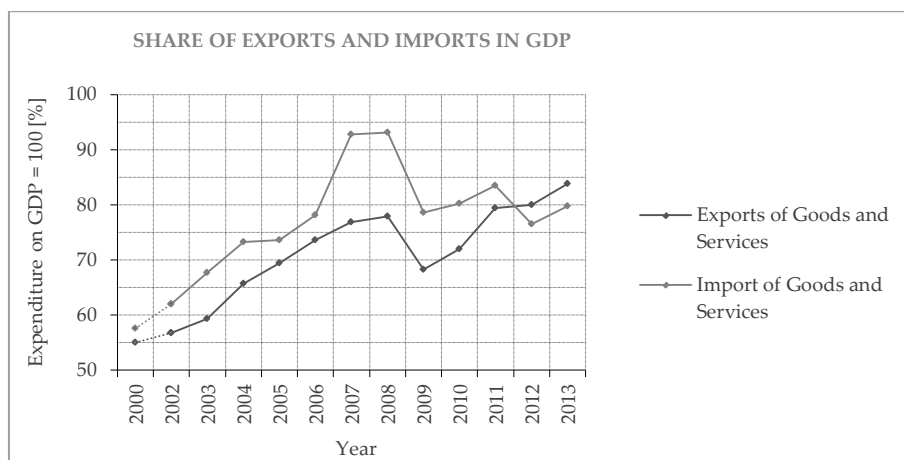


Figure 29 Vietnam: Share of Exports and Imports in GDP

Sources:

Exports and Imports: Data adapted from General Statistics Office of Vietnam 2014d:527; General Statistics Office of Vietnam 2010b:447

GDP: Data adapted from General Statistics Office of Vietnam 2014b:158; General Statistics Office of Vietnam 2009b:84

These rates are outstanding in the following way:

Export rates in 2013 were, at 83.9 % of GDP, clearly above the truncated average of the years 2000 and from 2002 to 2012 (69.9 %). Import rates in 2013 were, at 79.8 % of GDP, also above the previous years' average (76.2 %). In 2013, there were, therefore, more exports and imports than there had been on average over the years before.

Even so, it is somewhat difficult to tell whether the multiplier in 2013 was stronger or weaker compared to the years before. On the one hand, the level of trade in 2013 was distinctly higher than previously. But on the other hand, from 2000 to 2011, there had been a trade deficit, indicating that Vietnam was, regarding exports, less dependent on its trading partners than it was in 2012 and 2013, but also less dependent than South Korea, China or Japan, during that time. In this respect, from 2000 to 2011, Vietnam seems to have been more closed than in later years, but also more closed than the other three countries.

Therefore, the trend in rates may be understood as follows: even though there had been more trade activity in 2013 compared to the years before, the multiplier did not change much, as there had been a trade deficit for many years. Or, to put it another way, from 2000 to 2011 the strength of the multiplier should have been dramatically decreasing with equally dramatically increasing export and import rates. It does not seem to have that much strength though, as there was a trade deficit during that time, indicating a more closed economy. Only in 2012 and 2013, did the multiplier seem to have been distinctly weaker than the years before, due to a combination of rates that were above the previous years' average, and, even more importantly, due to a trade surplus.

International Comparison

In terms of this parameter, in 2000 and from 2002 to 2012, the average export rates in Vietnam were, without taking the highest and the lowest value into account, 69.9 % of GDP. Import rates were 76.6 % of GDP during that time. Vietnam therefore had the highest share of exports and imports in GDP during that time. Vietnam seems, therefore, to have been more open regarding trade than South Korea, China or Japan, and, therefore, had the weakest multiplier.

Table 5 Share of Exports and Imports in GDP

Country	Truncated Average Share of Exports and Imports in GDP [2000, 2002–2012]	
	Exports	Imports
Japan	14.2 %	13.4 %
China	28.0 %	24.4 %
South Korea	43.5 %	41.1 %
Viet Nam	69.9 %	76.6 %

Sources:

South Korea: Data adapted from Statistics Korea (comp.) 2015:774, 775; Statistics Korea (comp.) 2010:766, National Statistical Office (comp.) 2007:722

Japan: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91

China: Data adapted from National Bureau of Statistics of China (comp.) 2014:53, 329

Sources (Table 5, cont.):

Vietnam: Data adapted from General Statistics Office of Vietnam 2014b:158; General Statistics Office of Vietnam 2014d:527; General Statistics Office of Vietnam 2010b:447; General Statistics Office of Vietnam 2009b:84

But, as Vietnam's economy suffered from a trade deficit for a long time (2000, 2002 to 2011), the multiplier might not be as weak as the rates suggest, only weakening with the occurrence of the trade surplus as of 2012. A certain amount of investment might have had only a small impact on employment in Vietnam, but not as limited as the figures indicate. As the difference between the rates in South Korea and the rates in Vietnam is comparatively large, with the rates in Vietnam being far above those in South Korea, investments might still have a weaker impact on employment in Vietnam than on employment in South Korea.

South Korea, in 2000 and from 2002 to 2012, had an average export rate of 43.5 % of GDP, and an average import rate of 41.1 % of GDP. South Korea had therefore a distinctly lower level of trade than Vietnam during that period, but still more than either China or Japan. Therefore, the multiplier was stronger in South Korea than it was in Vietnam, yet weaker than in China or Japan.

China presents an average export rate of 28 % of GDP, and an average import rate of 24.4 % of GDP, during the period. Trade in China, therefore, is not only one third by percentage of Vietnam's trade, but lower than the volumes of trade in South Korea. For this reason, the multiplier for China was distinctly stronger than for Vietnam or South Korea, but weaker than for Japan.

Japan has the lowest level of trade during the period in question. Exports on average account for 14.2 % of GDP, imports for 13.4%. The multiplier in Japan was the strongest for this parameter: a comparable amount of investment has the greatest impact on employment in Japan for this period.

4.6 Wealth of a Country

South Korea

South Korea is regarded as a high income country, which would normally result in a weak multiplier for this parameter. However, if investment accounts for a high percentage of GDP, the multiplier would be stronger.

Investments had their highest percentage contribution to GDP in 1997 (36 %). This peak was followed by a sharp fall in 1998 (to 25 %). After 1999, investments were more stable, never less than 29 %. From 2006 to 2008 and from 2010 to 2011, they reached maximum values of 32.6 % on average. But in 2009 and since 2012, there were downturns in investment rates.

In the period from 1997 to 2012, the average share of investments of the GDP was, excluding the two highest and the two lowest values, 30.9 %. In 2013, investments were, at 29 % of GDP, below average, indicating a weaker multiplier than in the previous years, while in 2012 investments rose to 31 %, just above the previous years' average of 30.8 %. All in all, for this parameter the multiplier is not as weak as in Japan (see below).

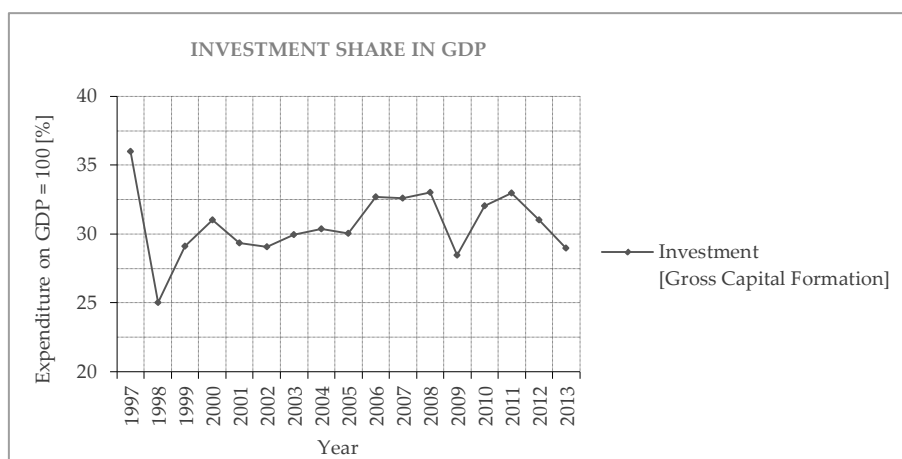


Figure 30 South Korea: Investment Share in GDP

Sources:

Gross capital formation, GDP: Data adapted from Statistics Korea (comp.) 2015:774, 775; National Statistical Office (comp.) 2007:722, 723

Japan

Japan is undoubtedly a high income country, and might, therefore, have a weak multiplier for this parameter. Therefore, as is the case for South Korea, it is important to investigate the investment share of GDP, as the multiplier could be still strong if investments accounted for a high share of GDP.

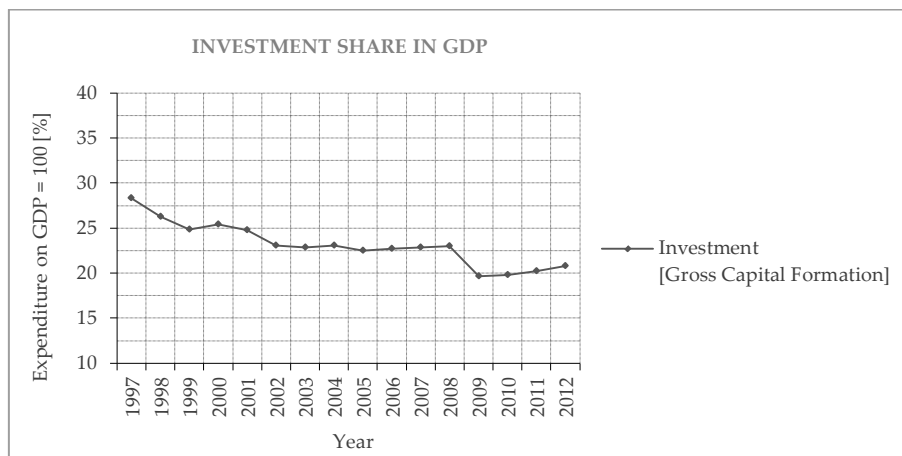


Figure 31 Japan: Investment Share in GDP

Sources:

Gross capital formation, GDP: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91

Clearly, the investment share of GDP decreased over the period from 1997 to 2013. In 1998 and 1999, it decreased comparatively quickly. From 2002 to 2008, the rates plateau at 22.9 %, before

declining rapidly in 2009 (19.7 %). From 2009 to 2012, the rates have been levelling off at 20.1 %, with a slight upwards trend.

As the average rate from 1997 to 2011 accounted for 23.2 %, investment share of GDP, in 2012, at 20.8 %, was below average. That indicates that the multiplier in 2012 was weaker than the years before. The multiplier was also weak compared to the multiplier in South Korea, which had an average value of 30.9 %, and a share of investment of 31 % of GDP in 2012.

China

As an “upper-middle income economy”, China is situated between high income and low income countries. Its multiplier is, therefore, stronger than it is for the high income countries South Korea and Japan, yet weaker than in low income countries.

The figures reflect this premise: from 1997 to 2013, the investment share of GDP increases from 37 % to 48 %. Up to 1999, the rates were fairly level. Between 2000 and 2005 they increased and levelled off again, before increasing considerably in 2008 and 2009. From 2010 on, the rates plateaued at above 47.7 %.

All in all, from 1997 to 2012, the truncated average investment rate was 41.2 % of GDP. In 2013, the rates, at 47.8 % of GDP, were therefore clearly above average.

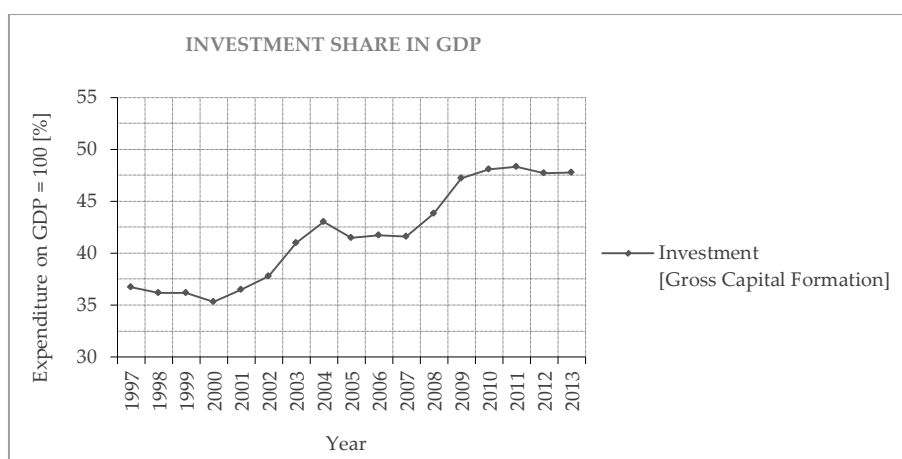


Figure 32 China: Investment Share in GDP

Sources:

GDP: Data adapted from National Bureau of Statistics of China (comp.) 2014:53

Gross Capital Formation: Data adapted from National Bureau of Statistics of China (comp.) 2014:68

In South Korea, from 1997 to 2012, the truncated average investment rate was 30.9 % of GDP. This rate was, on the other hand, higher than in Japan, accounting for 23.2 % of GDP from 1997 to 2012. Therefore, the multiplier in China, as an upper-middle income economy, was distinctly stronger than in South Korea or Japan, which are high income economies.

Regarding this parameter, South Korea had a stronger multiplier than Japan. A comparable amount of investment would, therefore, have the weakest impact on employment in Japan, a stronger impact on employment in South Korea, and an even stronger impact in

China. The strongest impact of investment on employment is likely to be in Vietnam, as a lower-middle income economy (see below).

Vietnam

It is not necessary to investigate the investment share of GDP to find out whether the multiplier is stronger in Vietnam than in South Korea, Japan and China. Keynes is very clear about how to rate the multiplier strength according to the wealth of the countries. Surveys about whether the amount of investment accounts for a higher or lower share of GDP are, therefore, merely a means of finding out whether a country has a strong multiplier, despite its relative wealth. In contrast, a poor country will always have a strong multiplier. Similarly, a country with a wealth index between a poor and a rich country will have a multiplier with a relative strength between the two as well.

International Comparison

Table 6 Investment Share in GDP

Country	Wealth of the Country	Truncated Average Share of Investments of GDP [1997–2012]
Vietnam	lower-middle income economy	–
China	upper-middle income economy	41.2 %
South Korea	high income economy	30.8 %
Japan	high income economy	23.0 %

Source:

The World Bank 2013: #Lower-middle-income economies (\$1,046 to \$4,125), #Upper-middle-income economies (\$4,126 to \$12,745), #High-income economies (\$12,746 or more)

All in all, investments had their strongest impact on employment in Vietnam, being a lower-middle income country. They had a weaker impact on employment in China that had, as an upper-middle income country, a higher investment share of GDP than Vietnam. In South Korea, a high income country, investments had an even weaker impact on employment than in Vietnam or China. The multiplier in South Korea was stronger than in Japan, because investment in South Korea, at 30.8 %, had a higher share of GDP than investments in Japan. The multiplier in Japan, as a high income country, therefore, was the weakest of the four countries: investments had their weakest impact on employment in Japan.

4.7 Summary

Depending on the parameter we are focussing on, the relative strengths of the multipliers for South Korea, Japan, China and Vietnam vary.

I therefore rank the countries by a system of awarding points for the multiplier, according to each parameter. The stronger the multiplier the fewer points are awarded. 1 point means that the respective country has the strongest multiplier for that particular parameter (for example, Vietnam had the highest rate of additional employees, so consequently the strongest multiplier for this parameter). 4 points mean that multiplier was the weakest of the four countries surveyed, for the parameter in question (for example, in Japan, there were fewer additional employees compared to the other three countries. Therefore, Japan's multiplier is ranked as the weakest). 2 and 3 points are awarded to the respectively ranked middle-strength multipliers (for example, the multiplier for additional employees was stronger for South Korea than for China).

Finally, the points awarded to the individual countries are summed, allowing the countries to be ranked according to the overall strength of their multiplier. The lowest total indicates the strongest multiplier, and therefore the strongest impact of investments on employment in that country. And vice versa, the highest total indicates the weakest multiplier, and therefore the weakest impact of investments on employment in that country. These are the results:

Table 7 Multiplier: International Comparison

Parameter/Country	Vietnam	China	Japan	South Korea
Additional Employees	1	3	4	2
Investment Share in GNI	2	1	4	3
Unemployment Rates	1	3	2	4
Unemployment Insurance	1	2	3	4
Openness of a Country	4	2	1	3
Wealth of a Country	1	2	4	3
Total	10	13	18	19

In the recent years, Vietnam had the strongest multiplier for 4 of 6 parameters and consequently the lowest total. In contrast, South Korea presented the weakest multiplier for 2 of 6 parameters and the second weakest multiplier for 3 of 6 parameters. Consequently, South Korea's total is the highest of the four countries. Since China had the second strongest multiplier for 3 of 6 parameters, China presented the second highest total. And in Japan, the strength of the multiplier was for 3 of 4 parameters the weakest one, making Japan's total the second lowest one.

In summary, Vietnam has had the strongest multiplier. The same comparative amount of investment, therefore, would have had the greatest impact on employment in Vietnam, followed by China, then Japan, and finally South Korea.

In Vietnam and China, the rate of men additionally employed was on average higher than the one for women additionally employed. Consequently, the same amount of investment might have had a stronger impact on male employment than on female employment in those countries. In Japan and South Korea, where the average rate of women additionally employed was higher than the rate of men additionally employed, investments might have had a stronger impact on female employment than on male employment. But since male unemployment rates were higher than female unemployment rates in Japan and South Korea,

indicating a stronger multiplier for male employment, impact of investments might be levelled off for male and female employment in Japan and Korea.

On the other hand, if there are also more men than women (or as many men as women) unemployed in Vietnam and China, investments will definitely have a little stronger impact on male employment than on female employment. Otherwise, impact of investments might be levelled off for male and female employment in Vietnam and China.

Since the data was not available for all countries for all parameters and for the whole period, I chose the longest congruent period for which data for each parameter could be reliably obtained. The result is limited to identifying trends with regards the strengths of the multipliers. This section introduces a possible method for applying Keynes' theory to today's economies.

The result is limited to identifying trends with regards the strengths of the multipliers, rather than concrete numbers. This section introduces a possible method for applying Keynes' theory to today's economies and, consequently, for determining which country might have a stronger or weaker multiplier compared to other countries. By applying Keynes' theory by this means to the surveyed economies, it becomes visible in which countries a comparative volume of investment would have had a greater impact on employment than in the other countries surveyed.

In the next chapter, we move on to the parameters determining the volume of investment.

5 Rates of Interest

As stated in section 2.1 (Keynes' Theory of Employment, Interest and Money – Volume of Investment), the amount of investment depends, on the one hand, on the marginal efficiency of capital that is determined by the confidence of investors and institutions. On the other hand, the amount of investment depends on the rates of interest, which in turn is determined by the reasons for which people want to have money (liquidity preference L), as well as by the amount of money in circulation (quantity of money M).

Keynes explains the correlation between amount of money and rates of interest as follows: An increase in income means that there is more money in the economy available for consumption or for saving (i.e. increase in consumption and saving money, $M1$). When people spend more money on consumption, prices decrease due to the increased demand. Decreasing prices adds to the quantity of available money. Therefore, people would start to speculate with their extra money, causing rates of interest to decrease as the demand for securities increases. The more the rates of interest decrease, the more people are able to invest (i.e. increase in speculation money, $M2$). More investments would lead to more employment, and the resulting added income leads to even more investment, and so on and so forth. By this means, full employment would be achieved in the whole economy.

In order to examine whether Keynes' assumptions were right regarding developments in South Korea, Japan, China and Vietnam, I apply the following parameters:

Parameter	Explanation
L1 (Y)	motive for having money to spend it on consumption or to save it for bad times, also referred to as liquidity preference one ($L1$), determined by the amount of income (Y)
L2 (r)	motive for having money to speculate with, also referred to as liquidity preference two ($L2$), determined by the rates of interest (r)
M1	amount of money one ($M1$), corresponding to liquidity preference one ($L1$)
M2	amount of money two ($M2$), corresponding to liquidity preference two ($L2$)

Hereafter, $M1$ will be represented by the private final consumption expenditure of the individual countries (below simply referred to as "consumption" unless otherwise indicated). I do not include private savings, as accurate figures for private savings are not readily available.

$M2$ will be represented by gross fixed capital formation (hereafter referred to as "investments" unless indicated otherwise). Since South Korea and Japan provide additional data on private and the public gross fixed capital formation, while China and Vietnam are restricted to the total gross fixed capital formation, private and public gross fixed capital formation are included for South Korea and Japan only.

The motive for having $M1$ (i.e. money for transaction and out of precaution) is called liquidity preference $L1$, and will increase in direct proportion to income (Y). Hereafter, income will be represented by the compensation of employees.

The motive for having M2 (i.e. money for speculation) is called liquidity preference L2 and will increase in a negative correlation to the rates of interest (r). Rates of interest will, naturally, be represented by the real interest rates.

I highlighted the “private sectors” of the parameters that I applied in the section above. Therefore, I do not apply gross national income in order to represent “income”, but the private income in the gross national income, i.e. compensation of employees. Nor do I apply final consumption expenditure in general to represent “consumption”, but rather private final consumption expenditure. By doing so, I aim to meet the spirit of Keynes’ theory as far as possible, as this part of his theory especially indicates the way consumer behaviour might influence the amount of money invested (M2), and, thereby, the level of employment. Consumer behaviour, however, can only change when the level of (private) income changes, just as employment will only change with changes in the level of income. Therefore, in this section, I focus on the amount of money that the private economy receives as compensation, as well as on the amount of money the private economy spends on consumption. As stated above, unfortunately it was not possible to obtain reliable data on private investments for all four countries. For this reason, I apply total (i.e. private and public) gross fixed capital formation to represent “investment”.

However, as demand, employment, and, therefore, income decreases in times of crises, the government has to make up for the lack of demand and make investments by itself in order not only to maintain employment levels, but also to enhance it, triggering the development that Keynes indicated (see 2.1 Keynes’ Theory of Employment, Interest and Money). Therefore, I introduced in the sections above items such as total gross capital formation (private sector as well as public sector) to present as broad a picture of economical development as possible. However, for the reason stated above, in this section it appears to make more sense to go further into detail to find out how an increase in income and, therefore, an increase in money spent on consumption (M1), might have changed the level of investment (M2).

5.1 South Korea

Income and Consumption

In South Korea, rates of compensation of employees (hereafter referred to as “income” unless indicated otherwise) presented a slightly decreasing trend from 2000 to 2013. In 1999 and 2009, but also in 2013, income rates were at their lowest (1999: 5 %, 2009: 3.6 %, 2013: 4.2 %). It is interesting that in the years immediately following, 2000 and 2010, income rates increased far more rapidly than in the years before (2000: by 4.9 %, 2010: by 3.4 %), before subsequently levelling off or sliding. The reason for these increases in income rates might be that more people were additionally employed than the year before, or that any pay cuts had been reversed in 2000 and 2010. But in general, income rates of increase showed a steady decreasing trend from 2000 (8.9 %) to 2009 (3.6 %), reflecting a slowdown in growth. After the rise in income rates in 2010, rates steadily decreased to a level of 4.2 % in 2013.

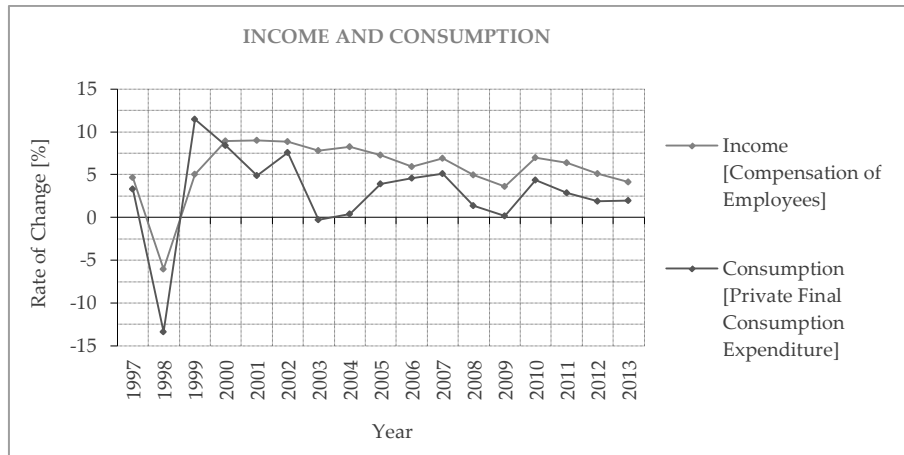


Figure 33 South Korea: Income and Consumption

Sources:

Compensation of employees: Data adapted from Statistics Korea (comp.) 2015:782, 783; National Statistical Office (comp.) 2008:760, 761; National Statistical Office (comp.) 2005:662, 663; National Statistical Office (comp.) 2002:562, 563

Private final consumption expenditure: Data adapted from Statistics Korea (comp.) 2015:774, 775; National Statistical Office (comp.) 2007:722, 723; National Statistical Office (comp.) 2005:654, 655

In contrast, private final consumption (hereafter referred to as “consumption” if not indicated otherwise) had reached its lowest value already in 1998 (-13.4 %), with minimums also in 2003 (-0.3 %) and in 2009 (0.2 %). In each case, the consumption rate recovered to varying degrees: in 1999 by almost 25 %, in 2004 by 0.4 %, and in 2010 by 4.4 %. In general, these increases in consumption rates were then followed by phases of decreases in the subsequent years: rates dropped from 1999 (11.5 %) to 2003 (-0.3 %). After some years of increase, the consumption rates fell from 2007 (5.1 %) to 2010 (4.4 %). Even though rates slightly increased in 2013, in general, consumption rates presented a decreasing trend from 1999 to 2013. Whenever consumption rates reached a minimum value, in the subsequent years, the peaks in rates were not as high as in previous years. Therefore, the peak in 2007 was lower than those in 1999 and 2002. And in 2010, the peak was even lower than that in 2007. As far as can be determined, growth in consumption, just as growth in income, has been decelerating.

It is also interesting that only in 2003 and 2004 and from 2006 to 2012, compensation rates increased with increasing income rates, or decreased with decreasing income rates (even if they did so, especially in 2003 and 2008, at different paces).

It is also interesting that only in 2003 and 2004 and from 2006 to 2012, compensation rates increased with increasing income rates, or decreased with decreasing income rates (even though they did so, especially in 2003 and 2008, at different paces).

From 1999 to 2002, in 2005 and 2006, however, there does not seem to be any correlation between income and consumption. As income rates increased, consumption rates decreased, and vice versa. The reason for this opposing trend in rates might be rooted in people’s expectations of future prospects: In 2001, people consumed, possibly due to a lack of confidence in income prospects, more, but to a distinctly lesser degree, than the preceding year, albeit income increased at the same pace as it did the year before. In contrast, in 2005 and

2006, people seemed to have been optimistic about income prospects increasing consumption to a level exceeding the increase in incomes. And they kept on being optimistic post 2007, in which period consumption rates increased or decreased with income rates, and not in the opposite direction as previously (with the exception of 2013). To put it in other words, from 2007 to 2012 (but also in 2003 and 2004), rates moved in a manner in line with Keynes' proposal.

Consumption and Prices

In contrast, from 1997 to 2013, regarding consumption rates and price rates, one rate increased while the other decreased, just as Keynes had proposed. Only in 2007, 2009, 2010 and 2012, did price rates increase or decrease with consumption rates.

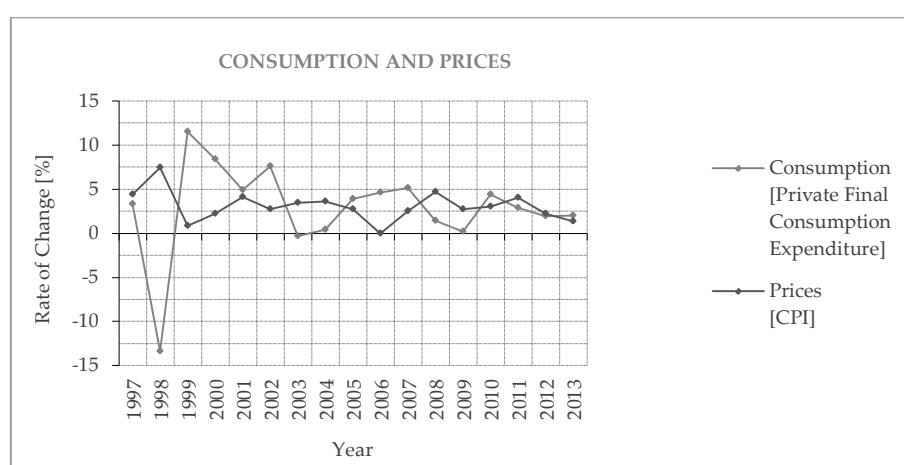


Figure 34 South Korea: Consumption and Prices

Sources:

Private final consumption expenditure: Data adapted from Statistics Korea (comp.) 2015:774, 775; National Statistical Office (comp.) 2007:722, 723; National Statistical Office (comp.) 2005:654, 655

CPI: Data adapted from Statistics Korea (comp.) 2015: 686

From 2008 to 2009, and again from 2011 to 2012, both rates sank to almost the same extent. As income rates were falling in these years, it seems as if people were spending less money on consumption due to loss of income, while entrepreneurs tried to motivate people to spend more money by decreasing prices.

It is, however, not so easy to explain why prices increased to a significant degree, while consumption only increased slightly in 2007, or why prices increased barely noticeable, while consumption increased more significantly in 2010. It seems as if price rates would change only slightly when consumption rates changed significantly (2007), and vice versa (2010). This seems also to be the case in other years where price rates and consumption rates were moving in a contrary direction (from 1997 to 2003, in 2005 and in 2006). Only in 2000, 2008, 2011 and 2013, do both rates change to almost the same extent. Even though price rates changed, for some reason, tendentially to a greater extent when consumption rates changed slightly, and to

a lesser extent when consumption rates changed more dramatically, there are some exceptions (2000, 2008, 2011, 2013), turning this correlation into a tendency but not a general rule.

All in all, Keynes' theory applies to most years from 1997 to 2013. In 2004, 2007, 2009, 2010 and 2012, however, price rates increased or decreased with consumption rates, which is not consistent with Keynes' theory. In 2004 and 2007, it seems as if changes in previous years' prices were not strong enough to meet the changes in previous years' consumption, so that price rates had to increase in 2004 and 2007 to adjust themselves to the previous years' changes in consumption rates. In 2003, price rates seemed to have increased to a too small extent in view of the decrease in consumption rates. Therefore, they had to increase a little bit further in 2004. But in 2006, price rates decreased by too great an extent in view of the decrease in consumption rates. Therefore, price rates had to increase to meet the previous years' changes in consumption rates in 2007. In 2009 and 2012, entrepreneurs seemed to be trying to increase consumption by decreasing prices in view of decreasing consumption rates, perhaps because they could not respond quickly to decreasing demand.

Furthermore, it is interesting that price rates did not exceed the level of 4.6 % following 1999, regardless of the extent to which consumption rates slowed down. Price rates were also never below 0 %. Therefore, during the period surveyed, there has never been deflation regardless of the extent to which consumption increased.

Keynes' theory therefore applies, in this respect, to South Korea, with some degree of digression in the years 2004, 2007, 2009, 2010 and 2012.

Prices and Investments

According to Keynes, decreasing price rates should lead to increasing investments. Indeed, from 1997 to 2013, price rates and rates of gross fixed capital formation (hereafter referred to as "investment rates") were moving in contrary directions.

As private investment accounted for around 82 %, whereas public investment accounted for around 18 %, from 2006 to 2013, changes in investment rates did not seem to be caused by changes in the share of private or public sectors in total investment. Only in 2009, disturbances in investment rates might have occurred due to a faster increase in public investment than in private investment. Consequently, in 2009 public investment accounted for a higher share of total investment than the years before or the years after 2009. In 2010, the ratio between public and private investment reached pre-crisis level and retained that level.

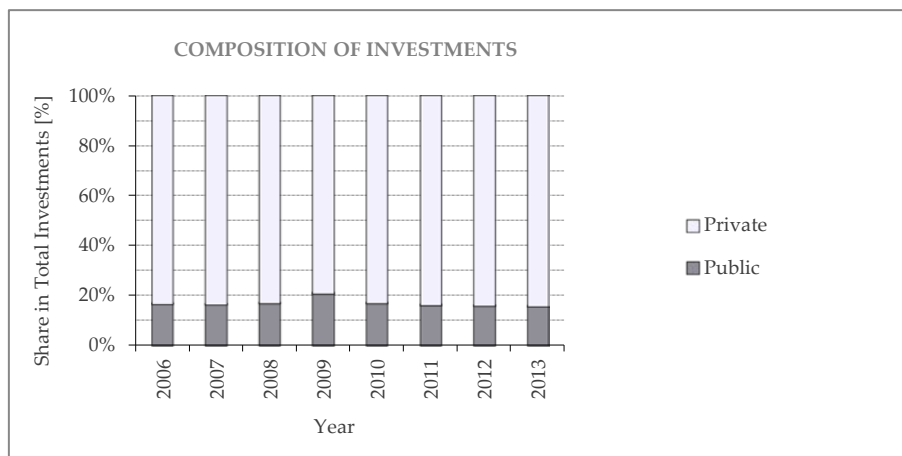


Figure 35 South Korea: Composition of Investments

Sources:

Statistics Korea (comp.) 2015:774, 775

As stated above, price rates and investment rates seemed, indeed, to present an inverse relationship: as one rate increased, the other decreased. However, price and investment rates did not change at the same pace or to the same extent: when prices increased slightly in 1998 (from 4.4 % to 7.4 %), investment rates fell dramatically (from -2.3 % to -22.9 %). But in 1999, when prices increased more slowly than the year before, the investment rate sharply increased (8.3 %). This pattern recurred, to a lesser extent, in the subsequent years (from 2001 to 2006, in 2008, 2009, 2011 and 2013). Only in 2000, 2007, 2010 and 2012, did investment rates increase or decrease with price rates.

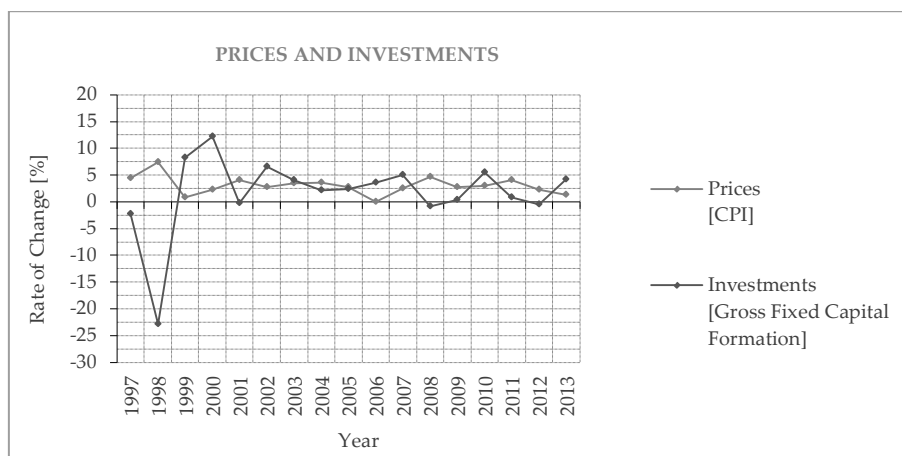


Figure 36 South Korea: Prices and Investments

Sources:

CPI: Data adapted from Statistics Korea (comp.) 2015: 686

Gross fixed capital formation: Data adapted from Statistics Korea (comp.) 2015:774, 775; National Statistical Office (comp.) 2007:722, 723; National Statistical Office (comp.) 2005:654, 655

In this context, it might be an interesting coincidence that there was a deviation in the relationship between consumption rates and price rates from Keynes' theory in 2007, 2010 and 2012 as well. In 2007, people consumed more than the year before, but price rates increased further instead of decreasing. Against this background, it is notable that people invested more than in previous years, although they would appear to have had less money, considering the increase in both prices and consumption. In 2010, people consumed distinctly more than the year before. But price rates did not decrease, instead actually increased a little bit at that time. Again, it is remarkable that investments in 2010 increased significantly compared to the year before, even though people seem to have had, due to the increase in consumption and prices, less money for investment than the previous year. In 2012, however, consumption rates decreased with price rates. Therefore, there should have been more money left for investments in that year, but instead the level of investment fell.

These deviations can, therefore, only mean that people drew on their savings to meet their desire for consumption and speculations in 2007 and 2010. By using their savings, they made up for the shortfall in income in those years, while expecting better times to come. But in 2012, people were not as optimistic as they had been in 2007 and 2010. Instead of using their excess income for consumption or investment, they chose instead to save it, indicating uncertainty about that situation continuing in the future. But with the exception of these years (2000, 2007, 2010, and 2012), Keynes' theory applies also in this respect to South Korea.

Investments and Interest

When price rates decrease, people will have more money left for investing, so the rates of interest will decrease, enabling even more people to invest. And vice versa, a decrease in investment rates should cause, according to Keynes' theory, an increase in rates of interest.

Indeed, from 1997 to 2013, the rates of interest increased with decreasing investment rates, and decreased with increasing investment rates, even though they did so at different paces. Only in 1999, 2001, 2003, 2005, 2006 and 2010, did rates of interest increase or decrease with investment rates.

Rates of interest ranged from 2.0 % (2009) to 10.5 % (1999). They reached their peaks in 1999 (10.5 %), 2006 (4.5 %), and 2012 (4.3 %), and their minimum values in 2003 (2.8 %) and 2009 (2.0 %). Therefore, in 1999, people seemed to be very optimistic about economic recovery, investing more, despite the rise in rates of interest that year. The same applies to 2010, when rates of interest were increasing while investment rates increased.

It is also notable that the low point in investment rates did not cause rates of interest to reach a peak (1998, 2001, 2008 and 2012), just as peaks in investment rates did not cause rates of interest to fall to a minimum value (2000, 2002, 2007, and 2010). For example, in 2001, it is not clear whether rates of interest decreased because initial investment led to the assumption that there would be more investment than there actually was, or whether people invested to a lesser extent than the year previously, because they expected rates of interest to keep their higher level, and not to decrease further.

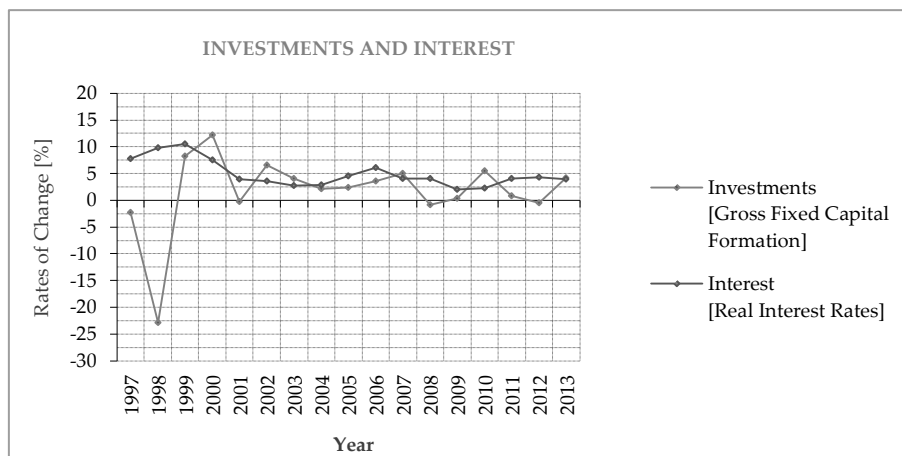


Figure 37 South Korea: Investments and Interest

Sources:

Gross fixed capital formation: Data adapted from Statistics Korea (comp.) 2015:774, 775; National Statistical Office (comp.) 2007:722, 723; National Statistical Office (comp.) 2005:654, 655

Real interest rates: The World Bank 2015:#Real interest rate (%).FR.INR.RINR. Korea, Rep.

As rates of investment and of interest are closely linked and mutually dependent, especially in those years in which the rates deviate from the way Keynes proposed, it is hard to tell whether it was the changes in investment rates which occurred first, causing rates of interest to change, or the rates of interest which changed investment rates.

All in all, from 2007 to 2013, investment rates and rates of interest changed in the way Keynes proposed. The only exception was 2010, when rates of interest did not decrease, but rose slightly, despite the distinct rise in investment rates. In contrast, in the period from 1997 to 2006, Keynes' theory applies only to 1998, 2000, 2002 and 2004. In all the other years (1999, 2001, 2003, 2005, 2006), investment rates increased and decreased together with rates of interest. Therefore, it seems that investment rates were rather determined by people's expectations about future prospects than by actual changes in rates of interests in those years.

Summary: Consumption and Investments

All in all, it is only in 2008 and 2011 that all four parameters influenced each another in the way Keynes proposed. Therefore, even though the rates changed at different paces in these years, investment rates should increase or decrease with consumption rates as Keynes assumed. In 1998, from 2002 to 2004, in 2009 and in 2013, the rates changed for 3 out of the 4 parameters in the way Keynes proposed. Therefore, the probability was 75 % that investment rates also increased and decreased with consumption rates the way Keynes proposed. As Keynes's theory applied to only 2 of 4 parameters from 1999 to 2001, from 2005 to 2007 and in 2012, the probability that investment rates would change in direct proportion to consumption rates was only 50 %. And in 2010, when only consumption rates increased or decreased with income rates, while all other rates moved opposite to the way Keynes suggested, the

probability that investment rates increased or decreased with consumption rates was only one in four.

Table 8 South Korea: Rates of Interest (Parameters)

Parameter / Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Income and Consumption						x	x			x	x	x	x	x	x	
Consumption and Prices	x	x	x	x	x	x		x	x		x			x		x
Prices and Investments	x	x		x	x	x	x	x	x		x	x		x		x
Investments and Interest	x		x		x		x			x	x	x		x	x	x

But contrary to these assumptions, only in 2000, 2004, 2005, 2009 and 2013, did rates move opposite to the way Keynes suggested. In all other years, rates increased or decreased with one another, just as Keynes proposed. It is very interesting that these years do not seem to have anything in common: they neither have one or more parameters missing in common, nor do they have one or more parameters moving the way Keynes proposed in common.

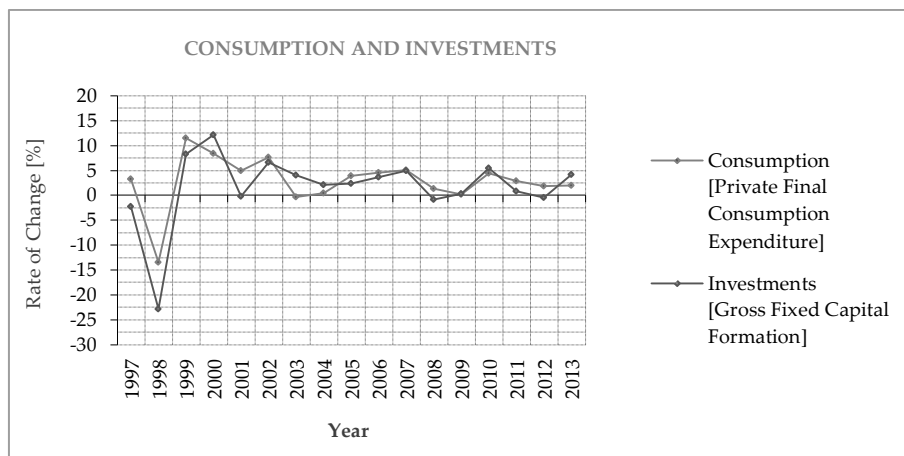


Figure 38 South Korea: Consumption and Investments

Sources:

Private final consumption expenditure, Gross fixed capital formation: Data adapted from Statistics Korea (comp.) 2015:774, 775; National Statistical Office (comp.) 2007:722, 723; National Statistical Office (comp.) 2005:654, 655

For example, in 1999, 2001, 2005 and 2006, Keynes' theory applied to the same two parameters, but only in 1999, 2001 and 2006, did consumption rates and investment rates change in correspondence with Keynes' theory. Similar applies to the years 1998, 2002 and 2013 when rates changed the way Keynes' suggested only in two out of three cases, albeit these years had

three parameters moving the way Keynes proposed in common. On the other hand, in 2010 investment rates changed with consumption rates the way Keynes suggested, although 3 of 4 parameters moved in a way opposed to Keynes' theory. Therefore, it is hard to tell which parameter, or which combination of parameters, has to be applied the way Keynes suggested, to cause investment rates to increase or decrease with consumption rates.

Consequently, only the application of Keynes' theory to all four parameters, as in 2008 and 2011, seems to be in South Korea a guarantee for investment rates increasing or decreasing with consumption rates. In contrast, a greater or smaller number of parameters changing in a way opposed to Keynes' theory does not seem to present a correspondingly greater or smaller hindrance for investment rates to increase or decrease with consumption rates.

Regarding the relation between investment rates and income rates, both rates hit minimums in 1998 (investment rates: -22.9 %, rates of interest: -13.4 %). In 1999 and 2000, both rates reached maximums (investment rates: 12.2 %, rates of interest: 11.5 %). In 2002, 2007 and 2010, rates reached again their maximum values, which were, however, lower than the ones in 1999 and 2000. Interestingly, in those years (2002, 2007, and 2010), consumption and income increased at the same pace, but there were no parameters in common which changed the way Keynes suggested. Especially in 2007 when both rates were congruent with one another, only two pairs of parameters, consumption and income on the one hand, and investments and interest on the other, changed the way Keynes proposed. On the other hand, the years where Keynes's theory applied to all four parameters did not present any particular characteristic in common: rates did not increase or decrease in an especially parallel way or the like.

In the course of the time surveyed, peaks became lower over later years than they had been in 1999 and 2000, just as minimum values did not drop as sharply as they had in 1998. Therefore, the level of investment does not decline as sharply as it did in 1998 (cf. 2001, 2008, and 2012). In summary, the growth in the level of investment tended to slow down with the slowdown in growth of the level of consumption. Thereby, it slowed down to a similar extent to the growth in consumption slowdown. Consequently, in order to increase the volume of investment to a certain extent, it might be necessary to increase additional consumption to a corresponding amount.

5.2 Japan

Income and Consumption

In contrast to South Korea, in Japan, consumption rates were higher than income rates, indicating that the extra consumption exceeded the increase in earnings. Only in 1997, 2000, 2008 and 2011, did income rates exceed consumption rates. From 1997 to 2013, income rates ranged from -4.9 % (2009) to 2.6 % (1997). Consumption rates ranged from -0.8 % (1998) to 2.8 % (2010).

As for income rates, rates were positive for half of the period surveyed (1997, 2000, 2005, 2006, 2008 and from 2010 to 2012). In all other years, income rates were decreasing, reaching

their minimum values in 1999 (-2 %), 2002 (-3 %) and 2009 (-5 %). On the other hand, they reached their highest points in 2000 (0.7 %), 2005 (0.9 %), 2008 (0.5 %) and 2011 (0.7 %).

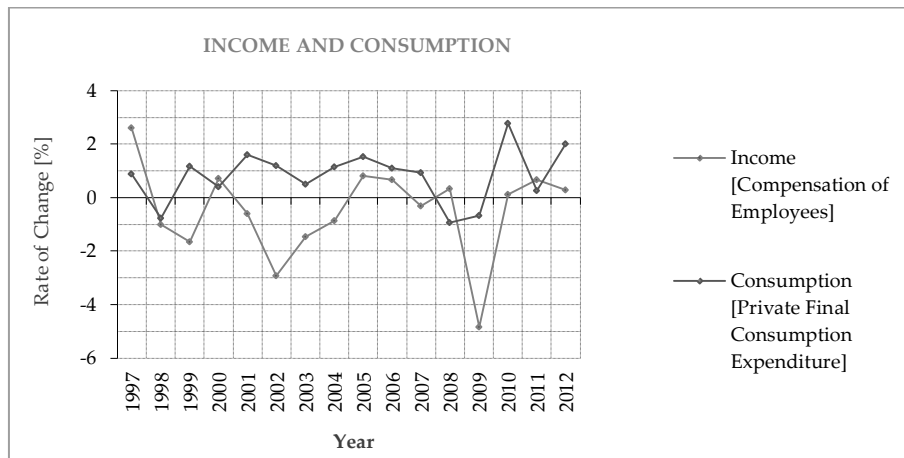


Figure 39 Japan: Income and Consumption

Sources:

Compensation of employees: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:104; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:102; Statistics Bureau et al. (eds) 2004:98

Private final consumption expenditure: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91

It is striking that declines in income rates have been getting more severe over time: in 2009, the minimum value for income rates was lower than in 2002, which was lower than in 1999. Therefore, it is questionable whether the next low in income rates will fall below the value of 2009.

It is also interesting that, with the exception 1997, maximum values in income rates did not exceed 1 % (2000: 0.8 %, 2005: 0.8 %, and 2011: 0.7 %). Therefore, it is likely that the next maximum value in income rates will not exceed a value of 1 % either.

While income decreased in 1998, 1999, from 2001 to 2004, 2007, and in 2009, consumption decreased only in 1998, 2008 and 2009. In all other years, consumption rates were increasing. It is, therefore, notable that in 1999, from 2001 to 2004, and in 2007, people increased their amount of consumption despite their incomes being restrained. Consequently, people might have drawn on their savings to meet their desire for consumption in those years confirming Keynes' theory about propensity to consume not changing as quickly as income. Only in 2009, did people seem to expect incomes to decrease in a more dramatic way than they actually did, and, therefore, cut down on their consumption sharply to a level significantly below consumption rates. In contrast, in 2010, financial relief programs might have encouraged people to spend more money on consumption even though their earnings did not increase to the same extent. In 2011, the Tohoku earthquake and the Fukushima Daiichi nuclear disaster seem to have caused consumption rates to decrease sharply, as people became uncertain about future prospects. The earthquake and nuclear disaster do not seem to have affected income rates though.

All in all, Keynes' theory applies to 1998, 2005, 2006, and 2010, when both rates were either above or below zero, and increasing or decreasing with respect to one another. With the exception of those years, compensation rates mostly did not respond to changes in income rates the way Keynes proposed. First, in 8 of 16 years (1998, 1999, from 2001 to 2004, 2007, 2009), income was decreasing, whereas consumption was decreasing in only three of those years (1998, 2008, and 2009). Second, in three other years (2000, 2011, 2012), when income and consumption were both increasing, both rates were moving in the opposite direction, to the contrary of Keynes' theory. Third, in other years (1999, 2001, 2003 and 2008), when income rates were below zero, and consumption rates above zero, both rates moved in a contrary way, and, therefore, also against the Keynesian trend. As rates increased and decreased with one another in 2002, 2004 and 2007, while income rates were below zero and consumption rates above zero, Keynes' theory seems to apply only partly in those years.

Consumption and Prices

From 1997 to 2013, prices were, in general, decreasing. Only in 1997, 1998, 2006, 2008, and 2013, were prices increasing. In 1998, however, they were increasing more slowly than the year before. In 2004, 2007 and 2012, price rates were stagnating at zero.

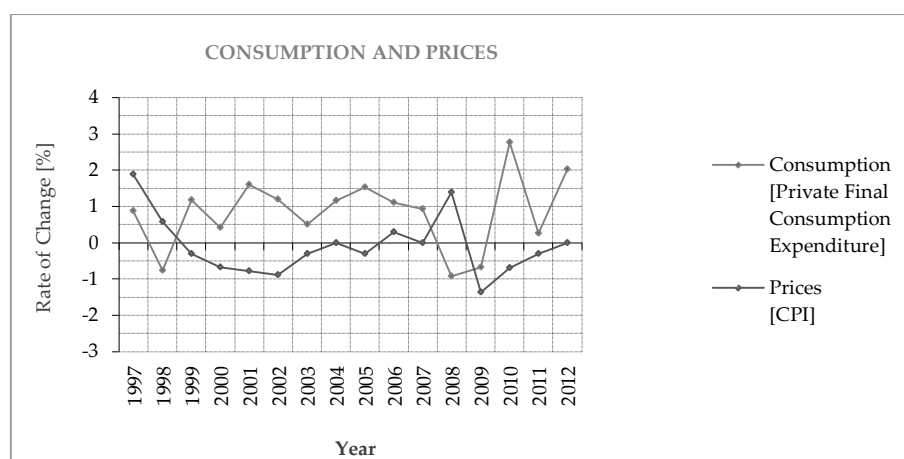


Figure 40 Japan: Consumption and Prices

Sources:

Private final consumption expenditure: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91

CPI: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014d:558; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2012:560

In detail, price rates decreased continuously from 1997 (1.9 %) to 2002 (-0.9 %). Thereby, price rates responded to the upward trend in consumption rates without following its roller coaster ride. The more consumption increased in the course of time the more prices decreased. Only in 1998 did rates digress from this trend, when price rates decreased with consumption rates. At that time, entrepreneurs seemed to be trying, by decreasing prices, to motivate people to

consume more even though they were earning less than the year before. It might also have been the only way they had to respond to the sudden decrease in consumption, and, therefore, an attempt to get rid of their surplus in output by “dumping prices” to cut losses. But, with the exception of 1998, price rates responded, in the long run, in the Keynesian manner, to the upward trend in consumption rates from 1997 to 2002, just as they responded to the decrease in consumption rates in 2003. From 2004 to 2008, rates changed, more in line with the way Keynes proposed than in the period from 1997 to 2002: when consumption rates increased, price rates responded either by decreasing or by retaining a level at or below zero (2005). And vice versa, when consumption rates decreased, price rates increased (2006, 2008). Only in 2004 and 2007, rates moved in the opposite way to Keynes’ theory: in 2004, they increased with one another with price rates reaching -0.7 %, and in 2007, price rates hit a low at the time consumption rates fell. Similar to 1998, entrepreneurs might have tried to motivate people to increase their consumption in that year by decreasing prices. And from 2010 to 2013, Keynes’ theory seems not to apply, or only partly, as prices in 2010 and in 2011 were generally decreasing, while consumption was increasing,

Consequently, Keynes’ theory seems to apply, in this respect, from 1998 to 2003, in 2005, 2006, and from 2008 to 2011, to Japan. Only in 2004, 2007, and 2012, did price rates absolutely not respond to changes in consumption rates. Therefore, for most of the period surveyed, Keynes’ theory applied.

Prices and Investments

From 1997 to 2012, investments were, just as prices, decreasing most of the time. Only in 2000, from 2003 to 2007, and in 2011 and 2012, were investments increasing. From 1997 to 2012, investment rates ranged from -10.8 % (2009) to 3.4 % (2012). Investment rates reached their minimum values in 2009 (-10.8 %), in 1998 (-7 %), and, surprisingly, in 2002 (-4.9 %). Therefore, in 1998 and 2000, declines in investment rates were not as severe as they had been in 2009. Only from 2011 on, did investment rates start to increase significantly again.

The composition of investments show that the public sector share of total investments accounted for 20 % to 30 % in the period from 1998 to 2012. In 1999, public share in investments increased. From 2000 to 2008, on the other hand, public share decreased. Only in 2009 and 2010, did public share increase again, supposedly, to make up for declines in the private sector at that time, before decreasing in 2011.

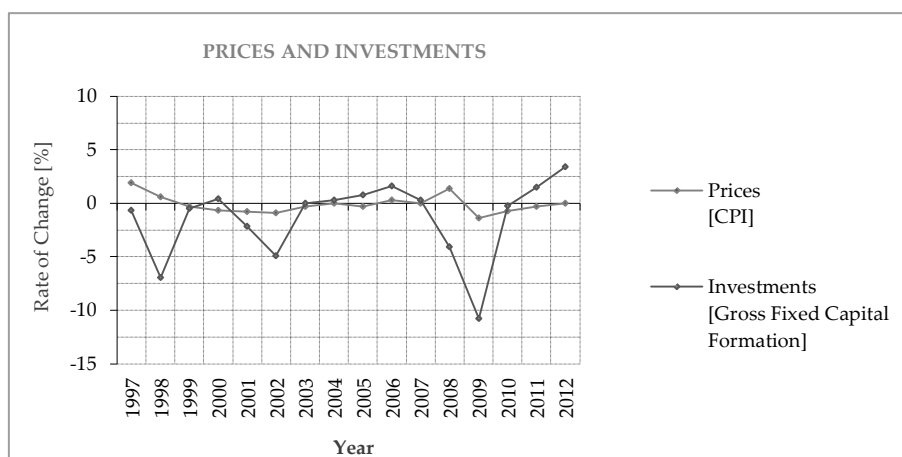


Figure 41 Japan: Prices and Investments

Sources:

CPI: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014d:558; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2012:560

Gross fixed capital formation: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and of Internal Affairs and Communications (eds) 2010:91

Therefore, in 1999, the increase in public investment might have been benign for the distinct increase and, therefore, the recovery of investment rates. In 2009, the increase in public investment share seemed to have not been sufficient for recovery of investment rates, as investment rates continued to decrease. Only in 2010, did the increase in public investment share seem to take effect, causing investment rates to increase significantly. In 2003, investment rates increased significantly, albeit there was no increase in public investment shares. As investment rates in 2002 were not as low as in 1999 and 2009, the increase in private investment share might have been sufficient to boost investment rates in 2003.

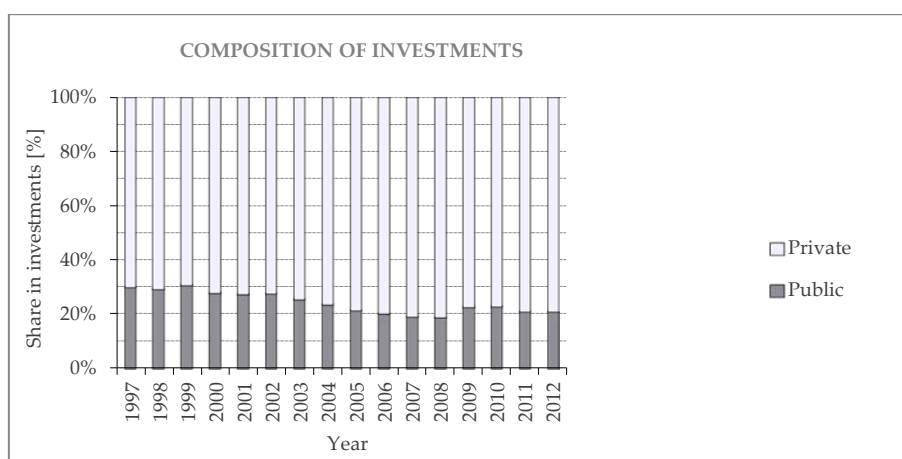


Figure 42 Japan: Composition of Investments

Sources:

Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau and Ministry of Internal Affairs and Communications 2013:#Gross capital formation (C)

However, in 1998, investment rates decreased with slightly decreasing price rates, indicating that people cut down on investments and preferred to save as much money as possible. In the subsequent years, investment rates increased to reach a level above zero in 2000, while price rates kept on decreasing in correspondence with Keynes' theory. Similar applies to 2002 and 2009 when investment rates fell sharply while price rates decreased slightly. It, therefore, seems as if people, again, did not spend their additional money on investment but rather to stock up their savings for bad times. From 2003 to 2006 and from 2010 on, investment rates exceeded price rates, with price rates almost levelling off at zero, indicating that people became, in the view of the stable price rates, more optimistic about future prospects and about making investments.

Therefore, it seems as if investment rates only increased when prices were either levelling off at or close to zero. Consequently, only in 1999, 2000, from 2003 to 2006, and from 2010 to 2012, that is in the years when price rates ranged from -0.7 % and 0.3 %, did investment rates distinctly increase to reach a level above zero. In all other years in which price rates rose above 0.3 % (1997, 1998, 2008), or fell below -0.7 % (2001, 2002, 2009), investment rates decreased sharply. It therefore seems that people regarded the price range from -0.7 % to 0.3 % as a safe level, and, therefore, became cautious when prices digressed from that level, causing them to cut down on investment.

All in all, Keynes' theory seems to apply, in this respect, in 1998, 1999, 2000, 2005, 2008, and 2011, to Japan when rates did move either in opposite directions or when one rate was above zero, while the other one was below zero. From 2001 to 2004, in 2006, 2007, 2009, 2010 and 2012, and, therefore, most of the time during the period surveyed, Keynes' theory did not apply in this respect to Japan.

Investments and Interest

From 1997 to 1999, rates of interest increased only marginally (from 1.8 % to 3.5 %). They plateaued the subsequent years at that level until 2008, presenting only a slight downward trend from 2004 on. In 2009, there was a decline in rates of interest, followed by an increase in 2010. From 2011 on, rates of interest were slightly decreasing again, reaching 1.9 % in 2013 and, therefore, the level they had in 1997. All in all, rates of interest ranged from 1.8 % (1997) to 3.9 % (2010) and, therefore, presented the smallest range but also the steadiest rates of interest compared to the other countries surveyed.

The most interesting aspect about this chart is the way rates of interest rates responded to changes in investment rates. In 1998, 2000, 2002, from 2004 to 2008, in 2011, and in 2012, rates of interest increased with decreasing investment rates, and decreased with increasing investment rates, just as Keynes proposed. In 1997, 1999, 2001, 2009 and 2010, investment rates were below zero, while rates of interest were above zero. Therefore, Keynes' theory applied also to those years. Only in 2003, were investment rates exactly at zero, while rates of interest rose slightly. As both rates were increasing in that year, and as investment rates were not below zero then, 2003 is the only year where Keynes' theory did not apply.

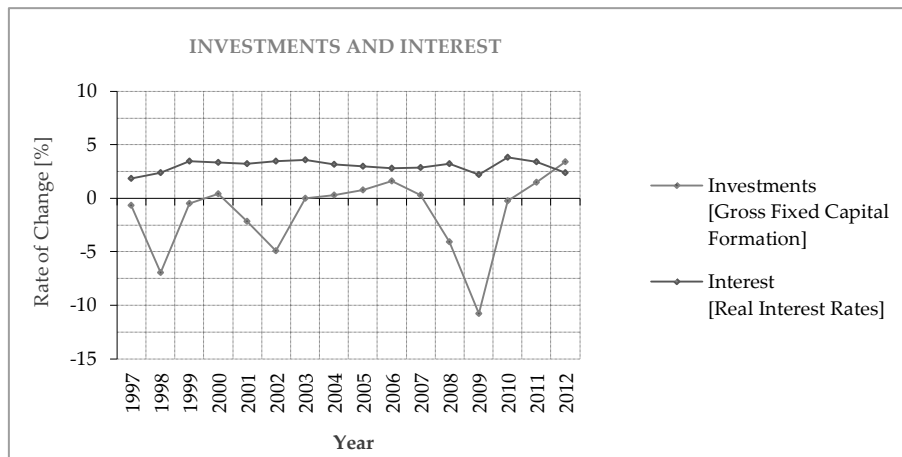


Figure 43 Japan: Investments and Interest

Sources:

Gross fixed capital formation: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91

Real interest rates: The World Bank 2015:#Real interest rate (%).FR.INR.RINR. Japan

Furthermore, it is interesting that in 1998, 2002 and 2009, rates of interest did not increase to the same degree as investment rates fluctuated: in 1999, rates of interest increased only slightly. In 2002, rates of interest increased even more slowly than in 1998. And, in 2009, rates of interest even dropped, although investment rates were falling sharply.

Therefore, even significant changes in investment rates seem to provoke only minor changes in rates of interest. As changes in rates of interest and in rates of investment are mutually dependent, this might signify that only slight changes in rates of interest might cause significant changes in investment rates. Either way, the upward trend in investment rates from 2011 on seems to be benign for the decreases in rates of interest.

Summary: Consumption and Investments

All in all, people consumed more even though they did not have much extra money compared to the year before. Price rates decreased only in some years in a way opposed to consumption rates. For most of the period surveyed, investment rates did not respond to changes in price rates at all. Only rates of interest fully responded to changes in investment rates the way Keynes proposed, even though they did so barely noticeably.

It was only in 1998 and 2005, however, that all parameters changed in the way Keynes' proposed: consumption increased or decreased with income, prices decreased with increasing consumption, or increased with decreasing consumption, investments decreased with increasing prices and, vice versa, investment rates increased with decreasing rates of interest, or decreased with increasing rates of interest. Therefore, in those years, the amount of investment should have increased or decreased in correspondence with the level of consumption.

Table 9 Japan: Rates of Interest (Parameters)

Parameter / Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Income and Consumption	x				x		x	x	x	x			x		
Consumption and Prices	x	x	x	x	x	x		x	x		x	x	x	x	
Prices and Investments	x	x	x					x			x			x	
Investments and Interest	x	x	x	x	x		x	x	x	x	x	x	x	x	x

In 1999, 2000, 2002, 2006, 2008, 2010 and 2011, there were only three parameters changing the way Keynes suggested. Therefore, in these years, the probability that the amount of investment increased or decreased with changes in consumption was 75 %. On the other hand, if digressions from Keynes' theory related only to those couple of years that have had the same parameter changing in a way opposed to Keynes' theory in common (i.e. 1999, 2000, 2008 and 2011 on the one hand, or 2002, 2006, and 2010 on the other hand), these digressions might have been caused by the respective parameter that did not change the way Keynes suggested (i.e. either by the deviations from Keynes' theory in income and consumption rates, or by deviations from Keynes' theory in price and investment rates).

In 2001, 2004, 2007 and 2009, only two parameters changed the way Keynes proposed. Therefore, the probability that the amount of investment increased or decreased with the amount of consumption the way Keynes suggested was 50 %. If Keynes' theory applied to 2001 and 2009, the fact that parameters in 2001 and 2009 (consumption and price rates, investment and interest rates) changed the way Keynes suggested might have caused investment rates to increase or decrease with consumption rates in those years. On the other hand, if Keynes' theory applied to 2004 and 2007, the two parameters changing in accordance with Keynes' theory (income and consumption rates, investment and interest rates) might have led to consumption and investment rates changing the way Keynes proposed.

In 2003 and 2012, only one parameter changed the way Keynes suggested. Therefore, the probability that investment rates increased or decreased with consumption rates was only 25 %.

Figure 44 presents that from 1997 to 2012, consumption increased in each year, except 1998, 2008 and 2009, while consumption rates ranged from -0.9 % (2008) to 2.8 % (2010). In contrast, only in 2000, from 2004 to 2007, in 2011, and 2012, did investment increase. Investment rates ranged from -10.8 % (2009) to 3.4 % (2012).

For 1998, 2004, 2005, 2007, 2008, and 2012, when both rates are above or below zero, and increasing or decreasing together, Keynes' theory seems to fully apply. Regarding 1999, 2002, and 2010, when consumption rates were above zero, but investment rates below zero, yet still increasing or decreasing together, Keynes' theory only partially applied. All in all, a slight downward trend in consumption rates seems to have had a significant impact on investment rates. When people consume a little bit less, they invest a lot less than the year before, so that

investment rates drop sharply (1998, 2002, and 2009). But when people consume a little bit more, investment rates seem to increase only a little bit (2004, 2005, and 2012), causing outliers below, but not above, the zero line.

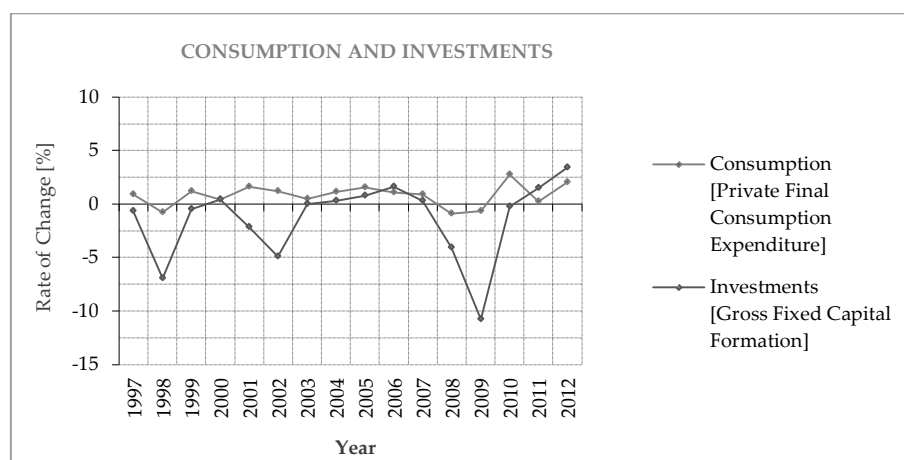


Figure 44 Japan: Consumption and Investments

Sources:

Private final consumption expenditure, Gross fixed capital formation: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91

Comparing Figure 44 with Table 9, shows that, indeed, in 1998 and 2005, when all four parameters changed the way Keynes proposed, consumption and investment rates increased or decreased in accordance with Keynes' theory. Furthermore, his theory applied also to consumption and investment in 2008, when all parameters except income and consumption changed the way Keynes suggested. In this context, it is most interesting that in 2004 as well as in 2007, when Keynes theory applied to consumption and investment, only two pairs of parameters fulfilled Keynes' pre-conditions. In other words, it seems as if it would not be amiss when consumption and prices, on the one hand, and prices and investments on the other hand, do not change the way Keynes proposed, as long as income and consumption, along with investment and interest, change in the Keynesian manner. Most surprising is the fact that in 2012 Keynes' theory applied to consumption and investments, albeit only one parameter changed the way Keynes suggested.

Regarding 1999, 2002, and 2010, when Keynes' theory applied to consumption and investments, only three of four parameters changed the way he suggested: in 2002 and 2010, prices and investments showed some deviation from Keynes' theory, while in 1998, it was income and consumption that did not change the way Keynes suggested. In contrast, in two other years where income and consumption rates also moved contrary to Keynes' theory (2000, 2011), consumption and investment rates did so as well. Consequently, the three parameters that 1999, 2000 and 2011 have in common do not seem to be fully determining changes in consumption and investments. Similar applies to 2006: in contrast to 2002, rates did not change the way Keynes proposed in 2006, albeit both years had the same parameters changing in the Keynesian manner in common.

Therefore, only when all four parameters are changing the way Keynes suggested, do consumption and investments seem certain to change in a Keynesian sense as well. Consumption and investments are also likely to change in accordance with Keynes' theory, when two certain parameters (income and consumption, on the one hand, and investment and interest on the other), but not the other ones (consumption and prices, on the one hand, and prices and investments on the other), move in line with Keynes' theory. For all other cases, there seems to be no guarantee that consumption and income will change the way Keynes proposed when certain parameters are fulfilled.

In those years when investments change with consumption in the Keynesian way, the level of investment responds to a significant extent to minor decreases in consumption, but to only a small extent to similarly small increases in the amount of consumption. Consequently, it might be necessary to increase consumption to an extent large enough to exceed the prospective increase in the volume of investments, in order to induce the amount of investment to rise significantly in Japan.

5.3 China

Income and Consumption

From 1997 to 2012, income was on the rise just as consumption was. Income rates were a little bit higher than consumption rates at that time, with the exception of the years from 1997 to 2000, 2004 and 2011. In 2009 and 2012, both rates decreased sharply, however. In 2009, the decline in rates was more severe than it had been in 1998.

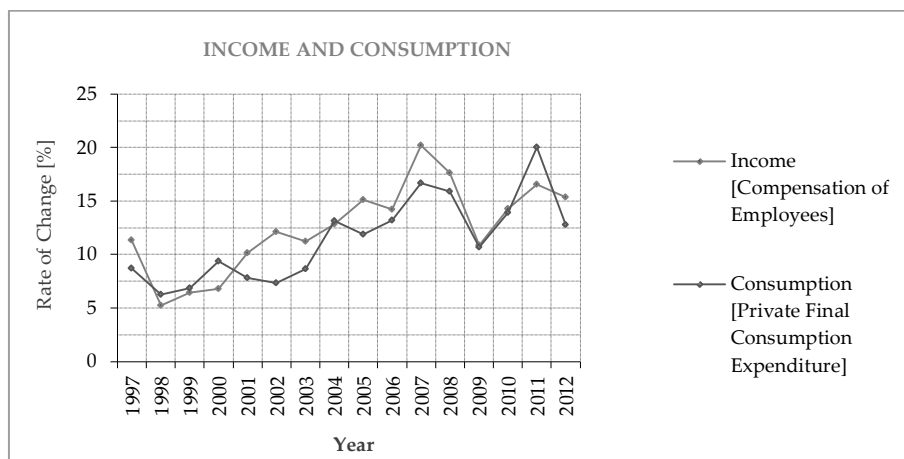


Figure 45 China: Income and Consumption

Sources:

Compensation of employees: Data adapted from National Bureau of Statistics of China (comp.) 214:75, 76; National Bureau of Statistics of China (comp.) 2013:80, 81; National Bureau of Statistics of China (comp.) 2012:80-89; National Bureau of Statistics of China (comp.) 2002:80, 81; National Bureau of Statistics of China (comp.) 2001:78, 79; National Bureau of Statistics of China (comp.) 2000:82, 83

Private final consumption expenditure: Data adapted from National Bureau of Statistics of China (comp.) 2014:69

A close up of the chart shows that from 1997 to 2002 income rates increased each year more than the year before (from 5.2 % in 1998 to 12.1 % in 2002). In 2003, there was a slowdown in growth (11.2 %), before rates continued to increase, to reach 15.1 % in 2005. After another slowdown in growth in 2006 (14.2 %), income rates reached a maximum in 2007 (20.2 %). But in 2008 and 2009, rates distinctly fell with the occurrence of the crisis (2009: 10.9 %). Although rates recovered in 2010 and 2011, increases in rates was followed by a decrease in 2012 (15.4 %).

Consumption rates increased from 1998 (6.3 %) to 2000 (9.4 %). By doing so, they were even higher than income rates. This means that people spent more extra money on consumption than extra money earned in those years. In 2001 and 2002, however, consumption rates decreased. At the same time, income rates increased significantly, causing a large discrepancy between the two rates compared to the other years during the period surveyed. It therefore seems that in 2001 and 2002 people saved more money than they had previously, by not spending their additional income on consumption. The same applies to the years 2005 and 2006: the gap between rates occurring in 2005 might mean that people had grown more cautious in that year, observing developments in incomes, and saving their money to spend it on consumption as soon as income rates increased further in the subsequent year.

Only in 2008 and 2009, did consumption rates decrease with income rates (from 16.6 % in 2007 to 10.7% in 2009). It is striking that, from 2008 to 2010, rates were the closest to each other compared to the other years during the period surveyed: people were increasing or decreasing their consumption levels in strong correspondence with their fluctuating incomes through that period. And then consumption rates increased further, exceeding income rates in 2011. Since people consumed to a greater extent more as they earned more money, they seemed to be more optimistic about economic prospects at that time. In 2012, optimism seemed to be dimming, though, causing a sharp decrease in consumption rates, albeit that decrease did not seem to be justified by the slight decrease in income rates at that time.

All in all, consumption rates responded to income rates just as Keynes proposed. In the period from 2001 to 2003, in 2005 and 2006, namely in those years in which rates moved in a contrary direction toward each other, people seemed to be reluctant to spend money on consumption, but rather preferred to save the money for a time of income rate increase. On the other hand, years where consumption rates distinctly exceeded income rates, such as in 2000 and 2012, seemed to be succeeded by decreases in consumption rates resulting in consumption rates that were lower than income rates.

Consumption and Prices

From 1997 to 2013, price rates decreased when consumption rates decreased, and increased when consumption rates increased, with the exceptions of 1999, 2001, 2006 and 2008. This is astonishing, as price rates did, for example, not increase, as Keynes suggested, when people expressed less demand by decreasing their extra consumptions, but rather decreased in correspondence with diminishing demand. Only in 1999 and 2006, did price rates decrease with increasing consumption rates, as Keynes would have it. And in 2001 and 2008, price rates increased with decreasing consumption rates.

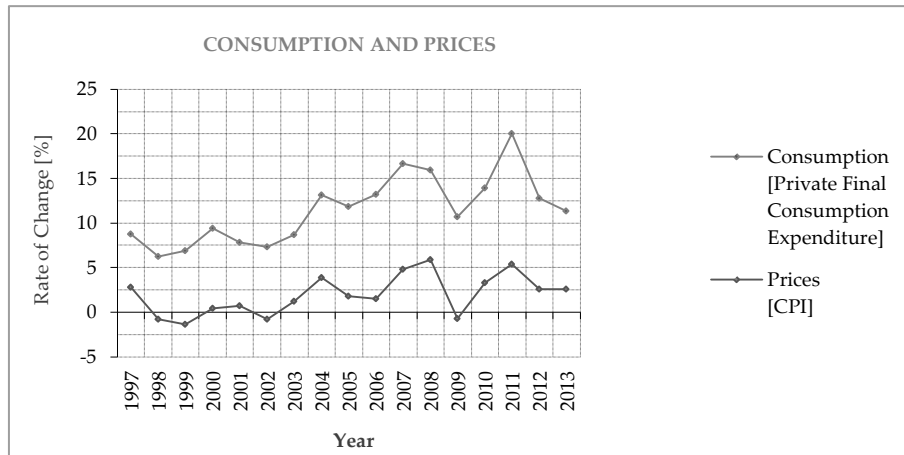


Figure 46 China: Consumption and Prices

Sources:

Private final consumption expenditure: Data adapted from National Bureau of Statistics of China (comp.) 2014:69

CPI: Data adapted from National Bureau of Statistics of China (comp.) 2014:123

Furthermore, from 1997 to 2013, prices were increasing in all years but 1998, 1999, 2002, and 2009. In 2009, price rates did not decrease to the minimum level they reached in 1999. They dropped from 2008 to 2009 more sharply than they did from 1998 to 1999, however.

It is also striking that, with the exceptions mentioned above (1998, 1999, 2002, 2009), price rates changed to the same degree as consumption rates. Only from 2011 to 2013, did increases or decreases not come close to changes in consumption rates, as price rates did not sharply increase in 2011, nor drop in a significant way in 2012 and 2013.

This means that in all years from 1997 to 2013, except 1998, 1999, 2002 and 2009, when prices were decreasing, people did not have additional money left for investing, since price rates did not drop with increasing consumption rates. Even though in years like those from 2011 to 2013, price rates increased (or decreased) to a lesser extent than consumption rates, the relatively parallel movement between both rates in the preceding years indicates that, in general, an increase in money is prevented by an increase in price rates. The next chart will show whether this conclusion is right or wrong.

Prices and Investments

Even though price rates increased or decreased with consumption rates in the period from 1997 to 2013 (with the exception of 1998, 1999, 2002 and 2009), indicating that people did not have money for investment left, investment increased significantly from 1997 to 2013. In 1998, 1999, 2002 and 2009, investment definitely increased while prices were decreasing. In 2004, 2006, 2007 and 2010, investment rates also increased with decreasing price rates, and decreased with increasing price rates, in the Keynesian manner. Only in 2000, 2001, 2003, 2005, 2008, 2011 and 2012, did investment rates increase or decrease with price rates, and therefore changed in a way contrary to Keynes' theory.

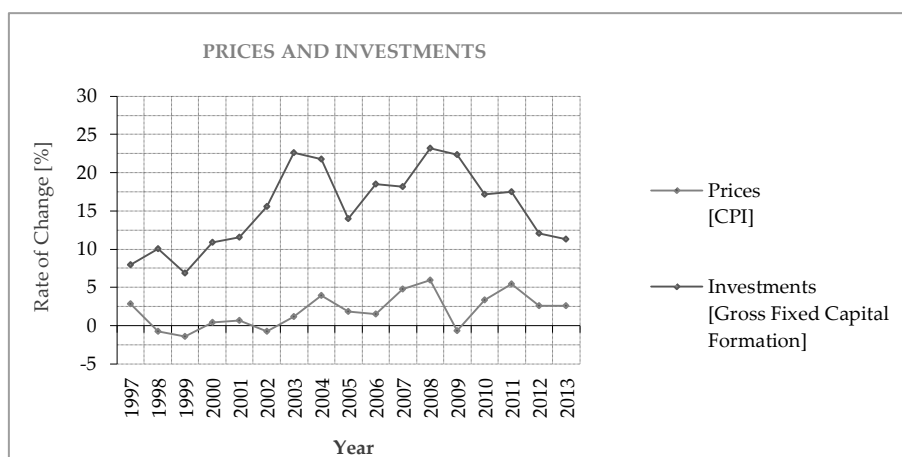


Figure 47 China: Prices and Investments

Sources:

CPI: Data adapted from National Bureau of Statistics of China (comp.) 2014:123

Gross Fixed Capital Formation: Data adapted from National Bureau of Statistics of China (comp.) 2014:69

From 1999 to 2003, investment rates increased more rapidly (from 6.9 % to 22.6 %) than price rates did (from -1.4 % to 1.2 %) to reach their maximum in 2003. Only in 2004, when price rates increased further, did growth in investment slow down before decreasing with falling price rates in 2005. In the subsequent years, both rates increased again to reach another peak in 2008. After declines in both rates in the aftermath of the crisis, price rates increased significantly from 2009 to 2011, before levelling off at 2.5 % in 2012 and 2013, whereas investment rates presented a downward trend during that time.

Therefore, it is difficult to tell whether there is a correlation between changes in price rates and changes in investment rates. Decreases in price rates seem to be benign for increases in investment rates. Yet again, investments increased over the whole period from 1997 to 2013. Only in 1998 and 2002, did investment rates increase significantly as price rates fell. On the other hand, in 1999 and 2009 investment rates fell, although price rates were decreasing in those years, as they had been in 1998 and 2002. And for the rest of the period, investment rates seemed to be relatively unaffected by changes in price rates. Even the relatively sharp increase in prices in 2004 and 2011 hardly slowed down growth in investments: investment rates decreased from 22.6 % in 2003 to 21.7 % in 2004, and increased from 17.2 % in 2010 to 17.5 % in 2011. Actually, investment rates reached their peak at the time when price rates reached theirs, i.e. in 2008. In contrast, the sharpest declines in investment rates occurred in 1999, 2005 and from 2009 to 2012, when price rates were also on their downturn. Only in 2010, did the increase in price rates cause a decrease in investment rates.

Therefore, except for 1998, 2002, 2004, 2006, 2007, 2009 and 2010, investment rates, and, therefore, people's investment behaviour, seem to be relatively independent of changes in prices. From 1999 to 2001, in 2003, 2005, and 2008 and from 2011 to 2013, investment rates rather seemed to increase or decrease with price rates. As changes in price rates did not seem to affect investment rates in the same and, therefore, predictable way each year, Keynes' theory seems to apply, in this respect, only to 1998, 1999, 2002, 2004, 2006, 2007, 2009, 2010, when rates

were moving in a contrary direction to each other, or when, in general, investments were increasing while prices were decreasing.

Investments and Interest

In contrast, changes in investment rates seem to affect rates of interest the way Keynes proposed, causing rates of interest to decrease with increasing investment rates, and vice versa. Admittedly, from 1997 to 1999, rates of interest did not seem to have a significant impact on the investment rate, as rates of interest approximately levelled off at 7 %, whereas investment rates increased in 1998, before decreasing in 1999. But from 1997 to 2003, investment rates presented an upward trend, reaching a maximum in 2003 (22.6 %), whereas rates of interest presented a downward trend, hitting their lowest point in 2004 (-1.3 %). In 2004, when investment rates sharply decreased, rates of interest increased and kept on increasing until 2006. From 2006 to 2008, both rates moved, again in a contrary direction to each other, to reach another maximum (investments: 23.2%), respectively minimum (rates of interest: -2.3 %) in 2008. Since investment rates only slightly decreased when rates of interest sharply increased in 2009, this increase in rates of interest seems not to have taken effect before 2010, causing investment rates to fall irrespective of the decrease in rates of interest at that time. And also from 2011 to 2013, rates moved in a contrary way to each other, with investment rates showing a downward trend while investment rates showed an upward trend.

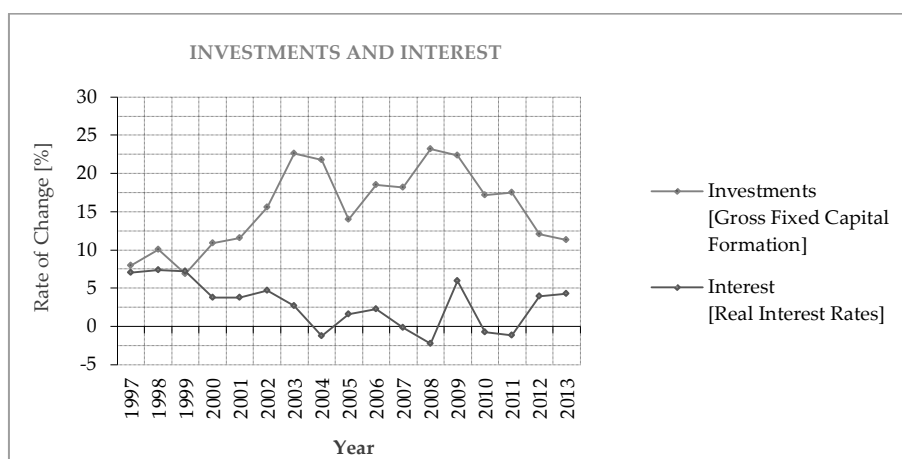


Figure 48 China: Investments and Interest

Sources:

Gross Fixed Capital Formation: Data adapted from National Bureau of Statistics of China (comp.) 2014:69

Real interest rates: The World Bank 2015:#Real interest rate (%).FR.INR.RINR. China

Therefore, in 2000, 2001, 2003, 2005, 2008, 2009 and from 2011 to 2013, rates of interest changed with investment rates the way Keynes proposed: rates of interest decreased when investment rates increased and increased when investment rates decreased. In 1998, 1999, 2002, 2004, 2006, 2007, and 2010, rates of interest seemed to be relatively unaffected by changes in rates of investment, since they rose and fell with investment rates. 2004, 2007 and 2010 seem to be

borderline cases, as rates of interest were decreasing below zero, while investment rates were also decreasing, but still above zero, indicating that people were investing to a lesser extent additionally than the year before, while rates of interest were declining, perhaps in order to encourage people to make investments. Therefore, Keynes' theory applies, regarding this parameter, to China in all years during the period surveyed, except for 2002, 2006 and 2010.

Summary: Consumption and Investments

All in all, Keynes' theory applied to all four parameters in 1998, 1999 and 2009. Therefore, in those years, the amount of investment should have increased or decreased with the amount of consumption. In 2004, 2007 and 2008, only three of four parameters changed the way Keynes' proposed. The probability that consumption rates and investment rates changed in the way Keynes suggested was, therefore, 75 %. A digression in consumption rates and investment rates from Keynes' theory in 2004 and 2007 might indicate that the parameter "consumption and prices" is crucial to make Keynes' theory "work". On the other hand, if consumptions and investments moved in a contrary way to Keynes' theory in 2008, the parameter "prices and investments" might be responsible for this deviation.

Table 10 China Rates of Interest (Parameters)

Parameter / Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Income and Consumption	x	x	x				x			x	x	x	x	x	x	—
Consumption and Prices	x	x		x	x				x		x	x				
Prices and Investments	x	x			x		x		x	x		x	x			
Investments and Interest	x	x	x	x		x	x	x		x	x	x		x	x	x

From 2000 to 2002, in 2005, and from 2010 to 2012, only two of four parameters changed the way Keynes' suggested, indicating that the probability for the investment rates to increase or decrease with consumption rates was only 50 %. And in 2003, 2005 and 2013, only one parameter changed in the Keynesian manner, making the increase or decrease of investment rates with consumption rates most unlikely (25 %). If the amount of investment changes with the amount of consumptions in 2003, 2005 and 2013, the parameter "investments and interests" might be the one necessary to cause this development, provided that in all other years, when this parameter changed in accordance with Keynes' theory (from 1998 to 2001, from 2007 to 2009, in 2011 and 2012), investment and consumption rates also changed the way Keynes proposed.

Indeed, in 2000, 2003, and from 2005 to 2013, investment rates increased or decreased with consumption rates.

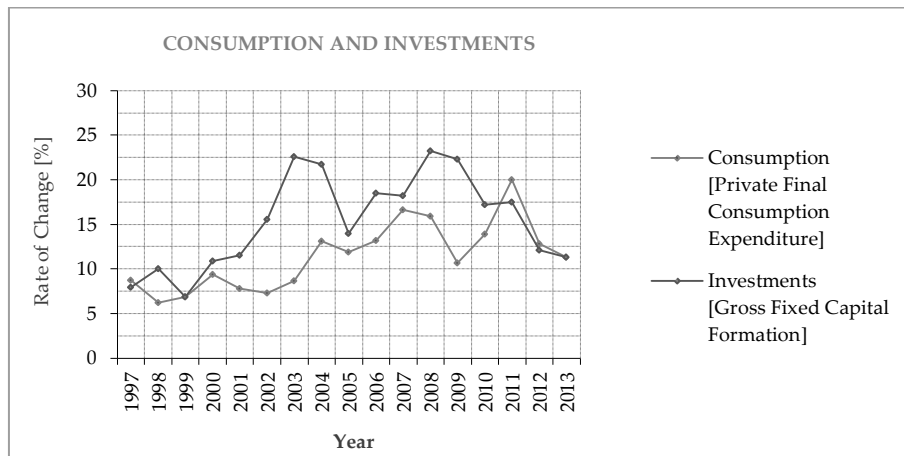


Figure 49 China: Consumption and Investments

Sources:

Private final consumption expenditure: Data adapted from National Bureau of Statistics of China (comp.) 2014:69

Gross Fixed Capital Formation: Data adapted from National Bureau of Statistics of China (comp.) 2014:69

In Figure 49, three gaps between rates can be identified: first, from 1997 to 1999, second, from 2000 to 2005, and third, from 2007 to 2011. In those years, additional investment was increasing although people were spending less money on extra consumption. In this context, it is all the more surprising that growth in investment rates slowed down in 2004, a time when people were sharply increasing their extra consumption in 2004. However, in 2005, the decrease in consumption rates affected investment rates in a severe way by causing a sharp drop in investment rates.

It is also very interesting that from 2008 to 2010, investment rates presented almost the same pattern as consumption rates did from 2007 to 2009: first, distinctly increasing, and then slightly decreasing before dropping sharply. It seems to be a particular case, though, as consumption rates and investment rates did not move in this very parallel way before or after this period. During the subsequent years, consumption rates increased to a greater extent than investment rates, but distinctly decreased together with the investment rate in 2012, and (to a lesser extent) in 2013.

Therefore, investment rates did not respond only directly in 2000, 2003, 2005, 2006, and from 2011 to 2013, to changes in consumption rates, but also indirectly with a time delay in the period from 2007 to 2010. In 1998, 1999, 2001, 2002, and 2004, investment rates did not seem to respond to changes in consumption rates the way Keynes proposed. Consequently, Keynes' theory applies, in this respect, to China for the period in 2000, 2003, and from 2005 to 2013.

Since all four parameters changed in 1998 and 1999 the way Keynes proposes, it is very surprising that investment rates were immune to changes in consumption rates in those years. By contrast, in 2009, when all four parameters changed, once more in accordance with Keynes' theory, investment and consumption rates did so as well. And in 2004, when Keynes' theory applied to three of four parameters, investment rates and consumption rates moved in

contrary directions, but in 2007, when the same three parameters changed in accordance with Keynes' theory, investment rates responded with a time delay of one year to changes in consumption rates.

It is also interesting that in 2002 and 2006, when Keynes' theory applied to the same parameters, the gap between rates increased. But since the gap increased in 2003 and 2009, to a greater extent, albeit both years did not have any parameters in common but the last one, a common rule cannot be drawn: Whether investment rates increase or decrease with consumption rates seems to be relatively independent from whether each parameter changes the way Keynes proposed or not.

On the other hand, the extent to which investment rates change when consumption rates change strongly varied over time (e.g. 2004, 2005, from 2007 to 2010). Consequently, it remains unsettled as to what amount of additional consumption might be necessary to cause a certain change in the volume of investment.

5.4 Vietnam

Income and Consumption

Unfortunately, statistical yearbooks for Vietnam only include income rates from 2009 on. These rates indicate that both rates increased significantly from 2009 to 2010 (income rates: from 28 % to 34.9 %, consumption rates: from 3.1 % to 8.2 %). In 2011, both rates decreased (income rates: 27.2 %, consumption rates: 4.1 %). Even though income rates decreased further in 2012 (17.9 %), consumption rates increased slightly at that time (4.9 %).

Therefore, in 2010 people were earning significantly more money than previously. However, in 2011 and 2012, this growth in income slowed. In contrast, consumption rates were affected only a little bit by the increase in income rates in 2010, increasing to a relatively smaller extent. On the other hand, in 2011 and 2012, the decline in income rates hardly affected consumption rates. After a slight decline in consumption rates, people consumed in 2012 more than they had the year before.

What makes this chart of particular interest is the fact that people in Vietnam did not seem to be consuming to an extent which reflected the increase in income they were enjoying: income rates ranged from 17.9 % to 34.9 %, whereas consumption rates ranged only from 3.1 % to 8.2 % during the period surveyed. Therefore, the discrepancy between income rates and consumption rates was enormous compared to the discrepancies between the rates in the other three countries.

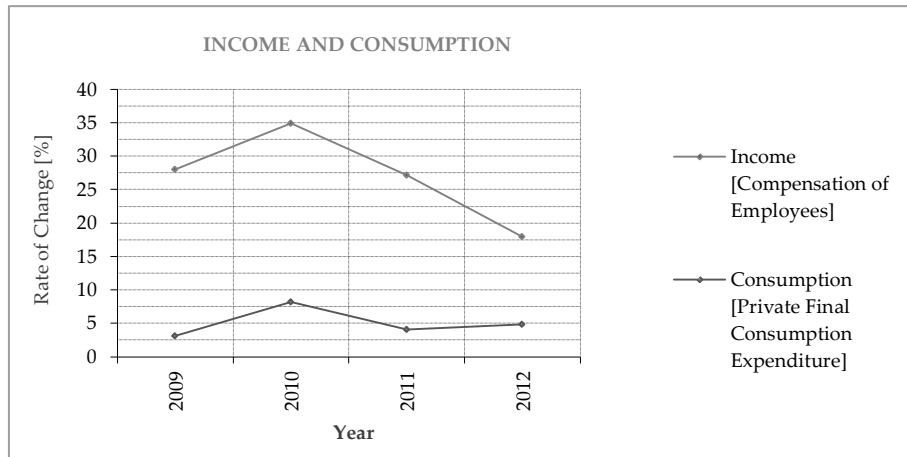


Figure 50 Vietnam: Income and Consumption

Sources:

Compensation of employees: Data adapted from General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141

Private final consumption expenditure: Data adapted from General Statistics Office of Vietnam 2014c:302; General Statistics Office of Vietnam 2013c:303

In other words, in Vietnam people seemed to earn a lot more money additionally each year, but spent only a little bit more money on consumption than in the preceding year. Consequently, people in Vietnam might have used their extra earnings to stock up their savings, or to spend directly on investment. The following charts will shed more light upon this question.

Consumption and Prices

From 2001 to 2007, consumption rates increased (with slight upward and downward swings) before reaching a maximum in 2007 of 10 %. From 2008 on, consumption rates decreased, however, reaching a minimum value in 2009 (3.1 %). Even though consumption rates recovered in 2010 (8.2 %), growth in consumption slowed down once more in the following year. Only from 2012 on, did rates seem to recover to a small degree, reaching 5.2 % in 2013.

On the other hand, price rates increased from 2001 (0.8 %) to 2004 (9.5 %). After 2004, price rates dropped in 2006 (6.6 %). From 2006 on, price rates changed in a most interesting manner, increasing most rapidly to reach a maximum of 19.9 % in 2008. In 2009, price rates dropped sharply (6.5 %), before rapidly increasing, to reach another peak in 2011 (18.1 %). This increase was, again, followed by a sharp decline in price rates in 2012 (6.8 %). In 2013, price rates decreased still further.

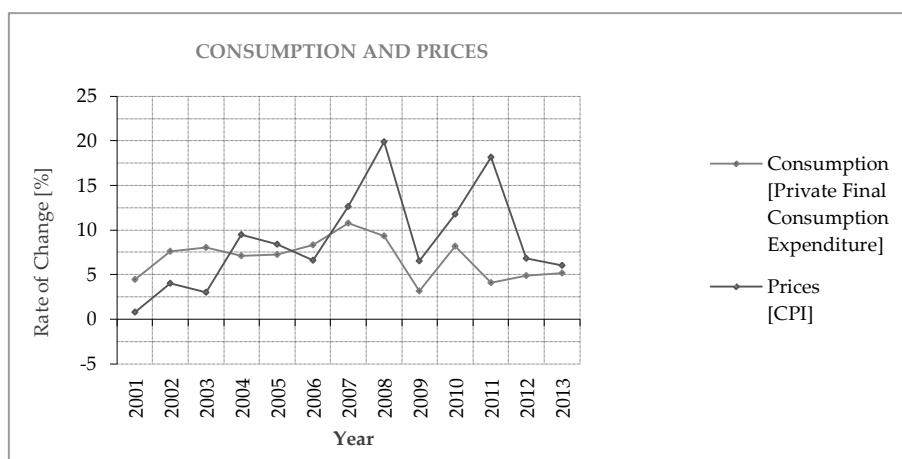


Figure 51 Vietnam: Consumption and Prices

Sources:

Private final consumption expenditure: Data adapted from General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83; General Statistics Office of Vietnam 2006b:71

CPI: Data adapted from General Statistics Office of Vietnam 2014e:565; General Statistics Office of Vietnam 2010b:471; General Statistics Office of Vietnam 2006c:440

It seems as if sharp increases in price rates (2004, in 2008 and 2011) occurred the year after consumption rates had reached their highest points for the time being (2003, 2007, 2010). Consequently, sharp increases in price rates occurred during a time when consumption rates were already on the downturn (2004, 2008, and 2011). In those years, price rates did not only reach their maximum value after a time of comparatively low price rates (2003, 2006 and 2009), but were also followed by sharp declines in rates in the subsequent years (2005, 2006, 2009, 2011). In 2006 and 2011, these minimum values in price rates were reached during a time when consumption rates were on the rise again. Only in 2009, did price rates decrease at the same time as consumption rates.

Another interesting aspect is that the minimum values in price rates all settled at a level of around 7 %. In contrast, the highest points in price rates did not present a similar regularity in the values they reached.

Therefore, although price rates increased and decreased with consumption rates in 2002, 2007, and 2009, only 2002 can be regarded as a deviation from Keynes' theory. As for 2007 and 2009, price rates responded with a time delay of one year to changes in consumption rates in 2007 and 2009, by moving the way Keynes' postulated in 2008 and 2010. Consequently, price rates in Vietnam seem to be very influenced by changes in consumption rates, even though perhaps not in all years exactly in the way Keynes' proposed. On the other hand, in 2002 rates seem to present only a slight digression from this pattern, as the simultaneous increase in price and consumption rates did not occur when consumption rates reached their current maximum (2003).

All in all, price rates increased significantly when consumption rates steadily, or at least clearly, increased, before dropping in the subsequent year to a level of around 7 %. Since 2007, price rates were higher than consumption rates. Therefore, since 2007, people do not seem to have extra money left for investment, since a part of their extra money seems to have rather

been consumed by the excess of price increases over increases in consumption. In general, price rates increased between 2001 and 2013.

Prices and Investments

In contrast to price rates, investment rates decreased from 2001 to 2013. While doing so, investment rates presented striking peaks in 2007 (24.2 %), 2010 (10.9 %) and 2013 (5.3 %). Therefore, every maximum in investment rates for the time being reached a lower level than the high point the years before. These increases in investment rates were followed by similar sharp declines in rates in 2008 (3.8 %) and in 2011 (-7.8 %).

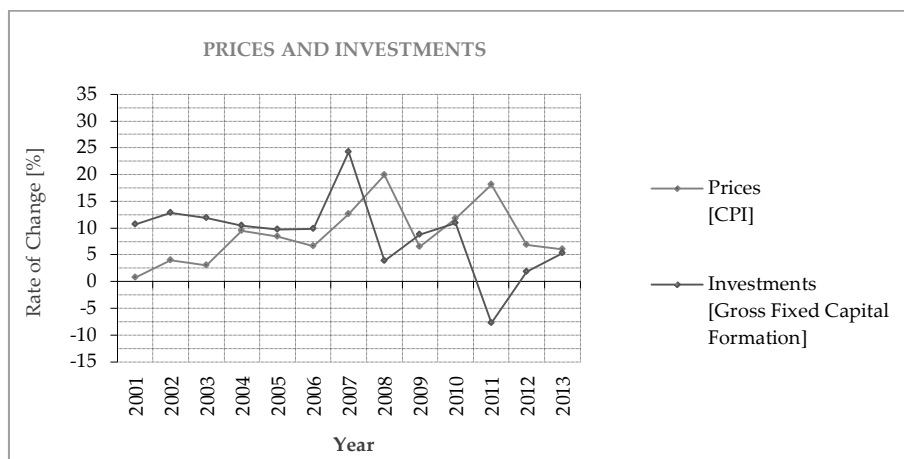


Figure 52 Vietnam: Prices and Investments

Sources:

CPI: Data adapted from General Statistics Office of Vietnam 2014e:565; General Statistics Office of Vietnam 2010b:471; General Statistics Office of Vietnam 2006c:440

Gross fixed capital formation: Data adapted from General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83; General Statistics Office of Vietnam 2006b:71

On the other hand, in 2007 and 2008, investment rates reached their maximum values a year before price rates reached their highest level. Therefore, the highest points in investment rates occurred simultaneously with highest points in consumption rates. This raises the question of whether the 2013 value for consumption rates might be the highest value in consumption rates for that part of the time period. If consumption rates reached their maximum value for the time being in 2013, and if investment rates reached their peak for that period in 2013 as well, there might be sharp decline in investment rates to come in 2014. As declines in investment rates caused rates to reach their minimum value in 2008 and, even more so, in 2011, a new drop in investment rates might cause rates to reach a new minimum value after 2013. If rates follow their previous years' pattern, this minimum value might be more severe than the one in 2011, just as the value in 2011 was distinctly below the value in 2008.

Interestingly, in the period from 2001 to 2006, investment rates presented a small peak in 2002. Increases in rates were relatively small then (from 2001 to 2002: increase of 2 %)

compared to increases in rates during the later years (from 2006 to 2007: increase of 14.7 %, from 2008 to 2010: increase of 7 %, from 2011 to 2013: increase of 13.1 %). In the subsequent year, the drop in investment rates was also not as steep as it was in 2008 and 2011, but rather falling smoothly over a longer period of time (decrease from 12.9 % in 2002 to 9.9 % in 2006).

All in all, the largest gaps between investment rates and price rates occurred in those years in which price rates reached their highest points for that part of the period studied (2008, 2011, 2002 and 2004). Therefore, in 2008 and 2011, investment rates severely decreased when price rates increased significantly, to reach their highest value at that time. By contrast, minimum values in price rates hardly seemed to affect investment rates: investment rates did not achieve their highest points when price rates were at their minimum level, but rather at the time when price rates were increasing, but had not reached their maximum level yet. Consequently, when price rates were increasing from 2001 to 2004, investment rates reached their maximum value during that upward trend in 2002 and 2003. The same applies to 2007, when investment rates reached their maximum value for that time in the middle of an upward trend in price rates (24.2 %). In 2010, this pattern repeated itself when investment rates reached their highest level just after price rates were at their lowest since 2006, and just before price rates reached their maximum level in 2001. Only in 2013, did peaks in investment rates occur, at a time when price rates were decreasing.

Therefore, from 2006 to 2013, investment rates were at their lowest when price rates were at their highest, just as Keynes indicated. On the other hand, investment rates did not reach their highest level when price rates were at their lowest level, but, to the contrary, when they were increasing. Therefore, Keynes' theory doesn't seem to fully apply in this respect to Vietnam, but only to the period from 2006 to 2013, when investment rates were at their lowest at the time price rates are at their highest.

Investments and Interest

From 2001 to 2008, the rates of interest were on the downturn, reaching their minimum value in 2008 at -5.6 %. From 2008 on, rates presented a roller coaster ride with a maximum in 2009 (3.6 %) and another minimum in 2011 (-3.6 %) before finally reaching, in 2013, the level that they had had in 2001 (2013: 5.4 %).

It is most striking that rates of interest reached their maximum values in those years when investment rates were also at their lowest, and thereby changed in a way contrary to Keynes' theory. Since investment rates were above zero in 2008 while rates of interest were in the negative range, indicating a decrease in rates of interest, Keynes' theory applied only partly in that year. But in 2011, investments were definitely decreasing and should have, therefore, caused rates of interest to increase. It is also interesting that rates of interest were lower in 2008 (-5.6 %) than they were in 2011 (-3.6 %), although investment rates were distinctly lower in 2011 (-7.8 %) than they were in 2008 (-3.8 %).

From 2002 to 2004, rates of interest also decreased with investment rates as they had done in 2008 and 2011. From 2004 to 2006 rates of interest increased a little when investment rates were levelling off at 10 %. And when investment rates were at their highest in 2007 and 2010, rates of interest were on their downturn, reaching together with investment rates, minimum

values in the subsequent years (in 2008 and 2011). Another striking aspect is that in 2012 and 2013 investment rates increased with rates of interest at almost the same pace.

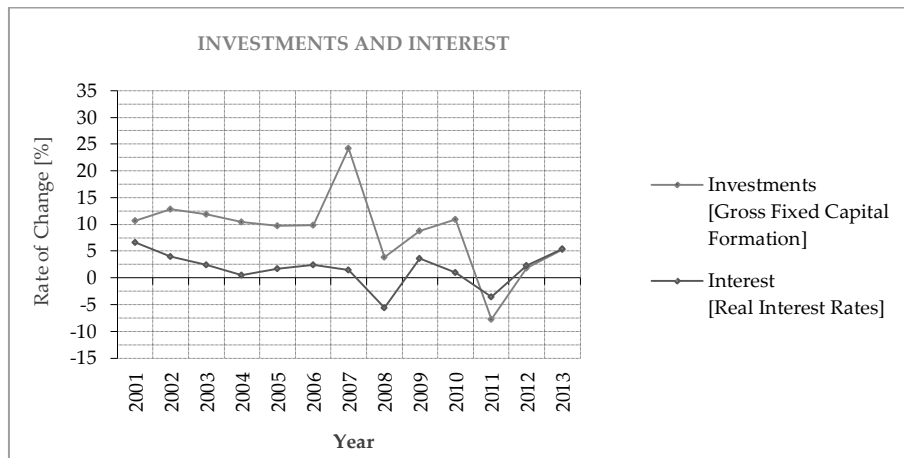


Figure 53 Vietnam: Investments and Interest

Sources:

Gross fixed capital formation: Data adapted from General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83; General Statistics Office of Vietnam 2006b:71

Real interest rates: The World Bank 2015: #Real interest rate (%).FR.INR.RINR. Vietnam]

Therefore, it seems as if rates of interest in Vietnam decreased when investment rates increased significantly (in 2002, 2007, and 2010), in line with Keynes. In 2005, rates of interest increased with decreasing investment rates, also in accordance with Keynes' theory. In all other years (2003, 2004, 2006, 2008, and 2009, from 2011 to 2013), Keynes' theory does not broadly apply to Vietnam.

Summary: Consumption and Investments

Given the data for the first parameter is restricted to the years 2009 to 2012, it is difficult to compare this table directly with the ones for the other countries. For most of the period surveyed, there are only three parameters that can move in accordance with Keynes' theory. It is therefore notable that, even though I calculated the probability that Keynes' theory applied to the years surveyed by the same means as in Figure 8, 9 and 10, care needs to be taken while comparing Figure 11 with the ones mentioned above. The lack of data for the first parameter might cause from 2002 to 2008 a slightly distorted picture in the probabilities that Keynes' theory applies.

However, only in 2010, three of four parameters move in accordance with Keynes theory, the probability that investments and consumption changed the way Keynes' proposed was therefore 75 %. In 2002 and 2007, there were only two of three parameters changing in the Keynesian manner, giving investment and consumption rates a probability of 66.6 % of changing in accordance with Keynes theory. In 2009, 2011 and 2012, when only two of four possible parameters change in line with Keynes, the probability that investment rates increased

or decreased with consumption rates was 50 %. And in 2004, 2005, 2008 and 2013, when only one of three possible parameters changes the way Keynes proposes, the probability of investments changing with consumption in accordance with Keynes' theory was 33.3 %. In 2003 and 2006, when all three possible parameters changed in a manner contrary to Keynes' theory, it seemed to be very unlikely that investments would change with consumption.

Table 11 Vietnam: Rates of Interest (Parameters)

Parameter / Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Income and Consumption	-	-	-	-	-	-	-	-	x	x		-
Consumption and Prices	x					x		x	x		x	
Prices and Investments			x				x	x		x	x	x
Investments and Interest	x			x		x			x			

Indeed, in 2003, when none of the parameters changed the way Keynes proposed, Keynes' theory did not apply to investment and consumption rates. In contrast, in 2006, consumption and investment rates increased with one another in the Keynesian manner. Therefore, parameters changing in a way that Keynes did not propose do not seem to be a regular hindrance for investment rates changing with consumption rates in the Keynesian way.

In 2005 and 2009, when Keynes' theory did not apply to consumption and investment rates either, one or two parameters changed in accordance with Keynes' theory. Therefore, there cannot be a general rule drawn concerning which parameter needs to fulfil Keynes' theory in order to cause investment rates to increase or decrease with consumption rates, or which parameter would cause investment rates to move in the opposite way to consumption rates. In all other years, investment directly corresponded to changes in consumption the way Keynes proposed, albeit those years do not seem to have any parameters fulfilling Keynes' theory in common. Only the years 2002 and 2007 on the one hand, and 2004, 2008, and 2013 on the other, have the same parameters in common. Since the parameter that fulfils Keynes' theory in 2004, 2008 and 2013 is the only one moving in a contrary way to his theory in 2002 and 2007, a general rule cannot be drawn.

As for investment and consumption rates, investment rates were decreasing slightly, while consumption rates were slightly increasing from 2002 to 2006. In 2007, both rates increased (with consumption rates rising to a much smaller degree than investment rates) reaching a maximum (consumption: 10.8 %, investment: 24.2 %). In the subsequent years, both rates decreased reaching minimum values in 2008 (investment: 3.8 %) and in 2009 (consumption: 3.1 %). After rising significantly in 2010 again, both rates fell once more in 2011, reaching another minimum (investment: -7.8 %, consumption: 4.1 %). At that time, consumption rates fell, as in in 2008, only slightly compared to a far greater fall in investment

rates. From 2012 on, both rates returned to positive growth, with a sharper rise for investment rates than consumption rates.

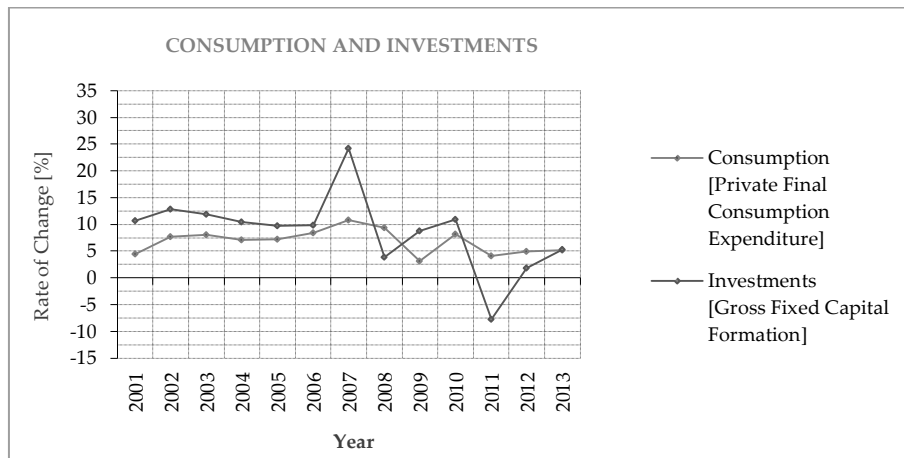


Figure 54 Vietnam: Consumption and Investments

Sources:

Private final consumption expenditure: Data adapted from General Statistics Office of Vietnam 2014c:302; General Statistics Office of Vietnam 2013c:303

Gross fixed capital formation: Data adapted from General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83; General Statistics Office of Vietnam 2006b:71

Consequently, a clear difference between the two rates might be that consumption rates appear to be more moderate with fewer outliers. For example, in 2007, investment rates increased with consumption rates, but they did so far more rapidly than consumption rates. And in 2008 and 2011, investment rates decreased with consumption rates – again, they did so to a far greater extent than consumption rates did. The only time when rates moved in a contrary way to Keynes' theory was in 2003, 2005 and in 2009.

Consequently, the relationship between investment rates and consumption rates remains very unpredictable for two reasons: firstly, these years (2003, 2005, 2009), but also the ones where Keynes' theory applied to consumption and investment rates, do not seem to have sufficient parameters fulfilling his theory to draw a general rule. And secondly, changes in consumption were influencing price rates in the Keynesian way, although people did not increase spending in correspondence with the increase in incomes, while rates of interest seemed to be relatively immune to changes in investment rates even though investment and price rates moved the way Keynes proposed from 2006 to 2013.

6 Employment Function

6.1 South Korea

Elasticity of Output

Increase in demand in terms of volume of investment will lead, according to Keynes, to increases in the amount of output produced (i.e. gross domestic product, GDP), just as decreases in the amount of investment will cause the amount of output produced to decrease.

Indeed, in South Korea rates of output produced seem to increase and decrease with investment rates, with the exceptions of 2004, 2005, 2009 and 2012, when both rates moved in the opposite direction. Rates of output produced were higher than investment rates, indicating that there was more additional output than additional demand. In 1998, both rates reached their minimum value (investment rates: -22.9 %, rates of output produced: -1.1 %) before reaching their maximum (investment rates: 12.2 %, rates of output produced: 10.1 %). From 2001 to 2005, both rates followed a downward trend, with the exception of 2004 when rates of output consumed increased before continuing on their downturn in the subsequent year. Consequently, although the increase in investment was less than in the previous year, the amount of additional output produced nevertheless increased in 2004. Similar applies to 1998, 2001 and 2008, when investment rates decreased more steeply than rates of output produced, increasing the gap between the two rates: although there was far less demand than the year before, the amount of additional output produced decreased only slightly. In contrast, in 2005, entrepreneurs seemed to be trying to make up for the sharp increase in output produced the year before by reducing output levels. Although rates recovered in the aftermath of the crisis in 2010, from 2011, both rates showed a downward trend.

All in all, rates of output produced increased or decreased with investment rates, and, therefore, with demand. In 2004, 2005, 2009, and 2013, rates moved in contrary directions. The reason might be a surplus in output the previous year. In 2004 and 2008, there may have been enough output produced remaining to satisfy a part of the increasing demand in 2005 and 2009.

This does not explain why large discrepancies between investment rates and rates of output produced occurred in the first place, in 2004 and 2008, and in 1998 and 2001. Nor does it explain why in some years rates narrowed the gap between them by increasing or decreasing with one another (1999, 2003), and in other years by moving in contrary directions (2005, 2009).

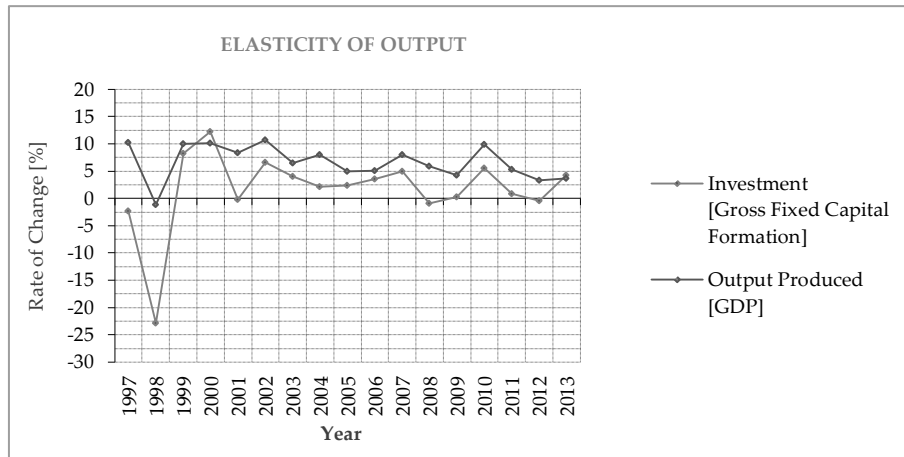


Figure 55 South Korea: Elasticity of Output

Sources:

Gross Fixed Capital Formation: Data adapted from Statistics Korea (comp.) 2015:774, 775; National Statistical Office (comp.) 2007:722, 723; National Statistical Office (comp.) 2005:654, 655

GDP: Data adapted from Statistics Korea (comp.) 2015:774, 775; National Statistical Office (comp.) 2007:722, 723

It therefore seems as if previous years' surpluses in output produced have been consumed by increases in demand in 1999 and 2001. In these years, increases in demand seem to have been sufficient to prevent a decrease in rates of output consumed. And vice versa, in 2005 and 2009, increases in investment rates seem to have been not sufficient to consume the previous years' surplus in output produced. Therefore, rates of output produced had to decrease in 2005 and 2009, to narrow the gap between rates. It is all the more surprising that investment rates sharply decreased in 2013, even though there was no corresponding sharp decrease in investment rates the year before.

It remains to be seen whether rates of output produced will exceed interest rates again from 2014 on. It appears to be likely as rates of output produced have always exceeded investment rates, with the exception of 2000 and 2013. Consequently, investment rates would have to decrease, while rates of output produced kept their level at 3.7 %.

Output Produced and Output Consumed

Regarding Keynes, the amount of output produced has to meet, in the long run, the amount of output consumed in order to establish an equilibrium, and therefore full employment in the economy. Therefore, the closer the two rates are to one another, the closer the economy might be to equilibrium.

In South Korea, from 1997 to 2013, rates of output produced were higher than rates of output consumed, indicating that people did not consume all output produced additionally. Rates were increasing and decreasing with one another, with the exceptions of 2000, 2005, and 2006, when rates moved in the opposite direction toward each other.

With the sharp decrease in output produced and, therefore, with the cut in working hours or employment, income most probably declined too, causing a decrease in consumption in

1998. In the following year, both rates increased steeply. As both rates were very close to one another, equilibrium seems to have been reached at that time. From 2000 to 2005, rates of output produced were on the downturn, with the exception of 2002 and 2009, before levelling off in 2006.

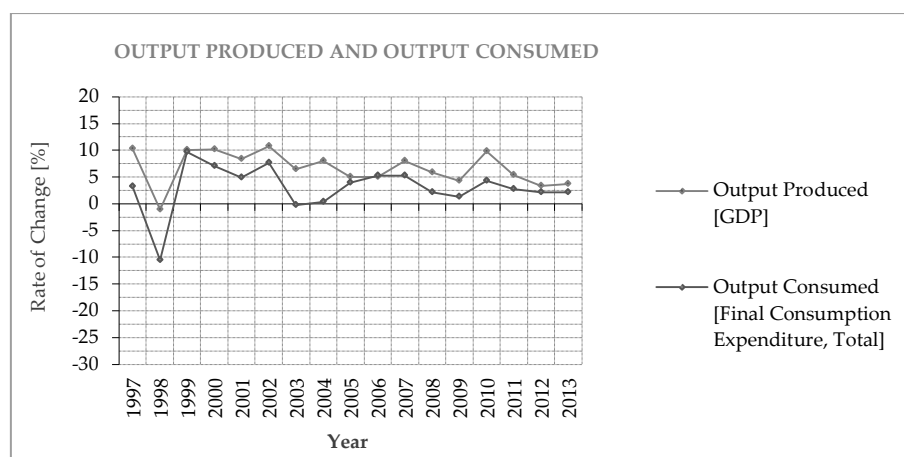


Figure 56 South Korea: Output Produced and Output Consumed

Sources:

GDP: Data adapted from Statistics Korea (comp.) 2015:774, 775; National Statistical Office (comp.) 2007:722, 723

Final Consumption Expenditure: Data adapted from Statistics Korea (comp.) 2015:774, 775; National Statistical Office (comp.) 2007:722, 723; National Statistical Office (comp.) 2005:654, 655

On the other hand, rates of output consumed decreased more steeply than rates of output produced from 2000 to 2003, causing the greatest discrepancy between rates during the period surveyed, to rise in subsequent years and meet rates of output produced in 2006 (5 %). Another equilibrium might have been reached in that year. From 2008 to 2013, both rates moved in a relatively parallel way.

In those years when there was a large discrepancy between rates, such as in 2003 and 2004, it seems that people did not spend the additional income they had earned while producing additional output on consumption, but rather saved it, and waited to see how the economy would develop. In contrast, in 2005 and 2006 when rates were relatively close to one another, people made up for this lack of consumption in 2003 and 2004, by consuming distinctly more than the years before. And in 2011, when rates of output produced decreased, people did not get too nervous, consuming only marginally less than the year before.

As governmental consumption slightly increased with an upward swing from 19 % in 1997 to 21 % in 2013, there do not seem to be any sharp changes in the relation between private and governmental consumption causing distinct changes in rates of output consumed.

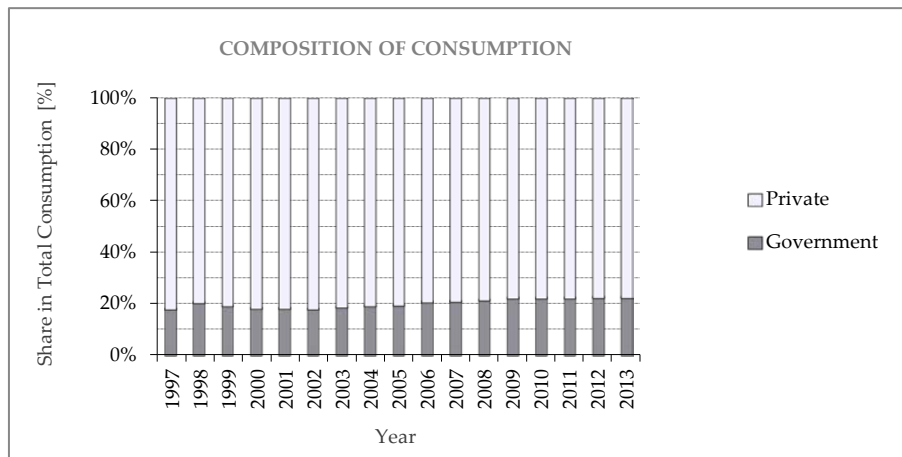


Figure 57 South Korea: Composition of Consumption (II)

Sources:

Statistics Korea (comp.) 2015:776, 777; National Statistical Office (comp.) 2007:724, 725

All in all, from 1997 to 2013, rates of output consumed presented themselves as very responsive to changes in rates of output produced. They did so especially from 2007 to 2013, when rates changed at almost the same pace, leading to the question of whether this parallel movement may be another form of equilibrium in Keynesian terms.

Elasticity of Employment, Female

When rates of output consumed increase, rates of additional employees will, according to Keynes' theory, increase as well. Indeed, between 1998 and 2003, both rates reached their highest points, and in 1998 and 2003 both rates reached their minimum values, indicating that when there was less output consumed additionally, employers employed fewer people additionally than the year before. It is interesting that rates of female additionally employed dropped to a lesser extent than rates of output consumed in 2003. And in this context it is all the more interesting that employers employed to a greater extent more female employees additionally than the degree to which output consumed increased in 2004. From 2004 to 2008, rates of additional female employees generally decreased before increasing from 2009 to 2012. In contrast, from 2004 to 2007, and in 2010, rates of output consumed increased to a peak before falling in the subsequent years.

Therefore, while rates of output consumed increased, but also decreased from 2009 to 2012 to a lesser extent than they did in the period from 2003 to 2009, or from 1997 to 2003, rates of additional female employees did also. It is difficult to explain why rates of additional female employees responded to rates of output consumed by increasing and decreasing with rates of output consumed for most of the period from 1997 to 2004 (namely in 1998, 1999, 2001, 2003, 2004), but not from 2005 to 2012 (only in 2006, 2008 and 2010).

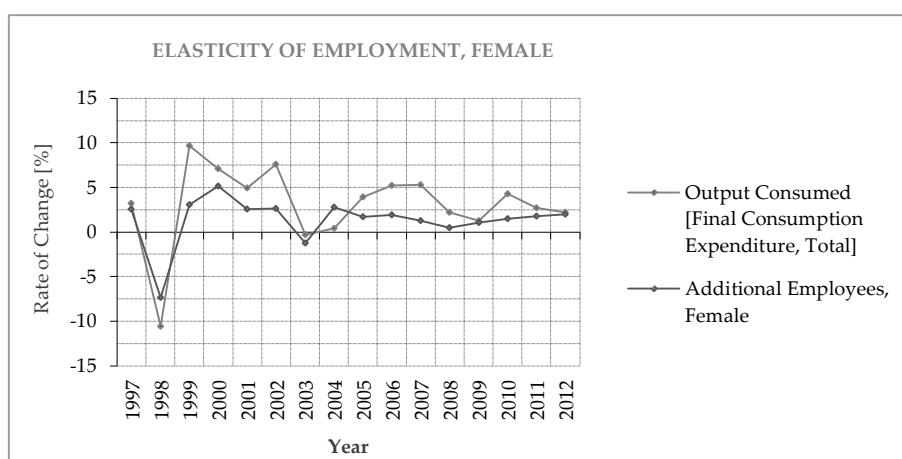


Figure 58 South Korea: Elasticity of Employment, Female

Sources:

Final Consumption Expenditure: Data adapted from Statistics Korea (comp.) 2015:774, 775; National Statistical Office (comp.) 2007:722, 723; National Statistical Office (comp.) 2005:654, 655

Additional Employment: Data adapted from Statistics Korea (comp.) 2015:237; Statistics Korea (comp.) 2013:235; Statistics Korea (comp.) 2009:217, National Statistical Office (comp.) 2005:215

It is also not clear what caused the steady decrease in rates of additional female employees from 2004 to 2008, or the increase in these same rates from 2009 to 2012. Perhaps rates of output consumed had to reach a certain level (for example, a level above 5 % or 7.5 % when increasing), to cause rates of additional female employers to respond to them, and, therefore, to enable the elasticity of employment. Consequently, from 2005 to 2012, rates of additional female employed might not have responded to rates of output consumed because those rates were below that certain level (e.g. 5 %).

Elasticity of Employment, Male

The rates of additional male employees present a relatively similar development to rates of additional female employees. From 1998 to 2003, rates of additional male employees increased or decreased with rates of output consumed. By doing so, they increased (1999, 2002) or decreased (2000, 2001, and 2005) to a greater extent than rates of output consumed. Only in 2004, did both rates change to almost the same extent.

Differences to rates of additional female employee appeared in the period from 2005 to 2007, when rates of additional male employees did not steadily decrease as rates of additional female employees did at that time, but rather levelled off before decreasing in 2008 and 2009. It is also interesting that rates of additional male employees increased only in 2010 and 2011, before levelling off in 2012, whereas rates of additional female employees steadily increased from 2009 to 2012.

Therefore, rates of male additional employees present a more levelled curve than rates of female additional employees, with lower peaks but also shallower troughs. It is, however, not clear why there were fewer men additionally employed than women from 1998 to 2003. It is

also unsettled why rates of additional female employees were slowly increasing from 2009 to 2012, whereas rates of male employees increased only in 2010 and 2011, to level off in 2012.

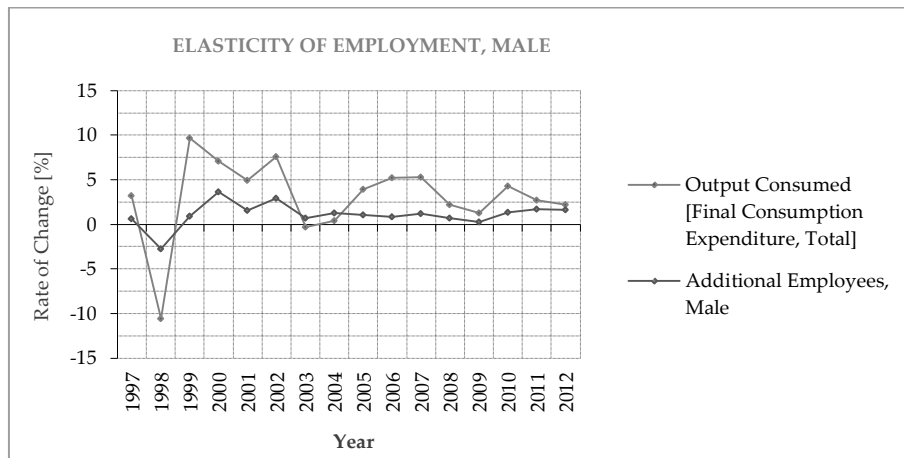


Figure 59 South Korea: Elasticity of Employment, Male

Sources:

Final Consumption Expenditure: Data adapted from Statistics Korea (comp.) 2015:774, 775; National Statistical Office (comp.) 2007:722, 723; National Statistical Office (comp.) 2005:654, 655

Additional Employment: Data adapted from Statistics Korea (comp.) 2015:237; Statistics Korea (comp.) 2013:235; Statistics Korea (comp.) 2009:217, National Statistical Office (comp.) 2005:215

Only one thing is certain: from 1998 to 2004, rates of additional female employees seemed to be more responsive to the increase in rates of output consumed than rates of additional male employees were, as rates of additional male employees presented lower peaks at that time, and, therefore, seemed to be less affected by changes in rates of output consumed. From 2005 to 2012, rates of additional male employees seemed to be even less responsive to changes in rates of output consumed than rates of additional female employees were. Therefore, elasticity of male employment seems to be lower than elasticity of female employment. If full employment is reached, it will be reached in female employment first.

Summary: Demand and Female Employment

In 1999, 2001, 2003, 2008 and 2010, three of three parameters changed the way Keynes suggested. Therefore, in these years female employment should have increased or decreased with demand in the form of investment. In 2002, 2004, 2006, 2007, 2011 and 2012, the probability was still 66.6 % that female employment increased or decreased with demand, since two of three parameters change the way Keynes suggested. And in 2000 and 2009, the probability was only 33.3 % that female employment changed with demand in accordance with Keynes theory, as only one of three parameters corresponded to Keynes' theory. Only in 2005, did it seem to be very unlikely that female employment increased or decreased with demand, as none of the three parameters changed the way Keynes suggested.

Table 12 South Korea: Demand and Female Employment

Parameter / Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Elasticity of Output	x	x	x	x	x			x	x	x		x	x	x
Output Produced and Output Consumed	x		x	x	x	x			x	x	x	x	x	x
Elasticity of Employment, Female	x		x		x	x		x		x		x		

Indeed, in those years when all three parameters changed the way Keynes suggested (1999, 2001, 2003, 2008, 2010), female employment rates increased or decreased with changes in investment rates, and, therefore, with demand. In 2000, 2006 and 2009, female employment rates also changed with demand in accordance with Keynes' theory, although only one or two parameters had changed the way Keynes' proposed. On the other hand, in 2002, 2007, 2011 and 2012 female employment rates did not change with investment rates, while Keynes' theory applied to the same parameters in all these years. Therefore, it seems as if, in general, female employment rates do not change with investment rates, when Keynes' theory does not apply to the elasticity of employment.

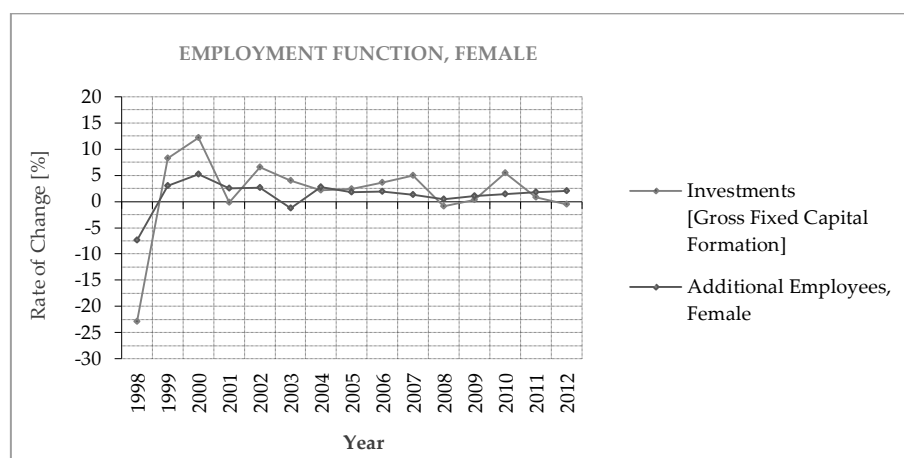


Figure 60 South Korea: Employment Function, Female

Sources:

Gross Fixed Capital Formation: Data adapted from Statistics Korea (comp.) 2015:774, 775; National Statistical Office (comp.) 2007:722, 723; National Statistical Office (comp.) 2005:654, 655

Additional Employment: Data adapted from Statistics Korea (comp.) 2015:237; Statistics Korea (comp.) 2013:235; Statistics Korea (comp.) 2009:217, National Statistical Office (comp.) 2005:215

All in all, when Keynes' theory applies to three of three parameters, it seems to be certain that in that year female employment rates will increase or decrease with investment rates. And

when only elasticity of employment moves contrary to Keynes' theory, while the other two parameters change in accordance with Keynes' theory, female employment rates seem destined to change contrary to Keynes' theory.

In addition, from 1998 to 2012, investment rates were higher than employment rates, with the exceptions of 2001, 2004, 2008, 2009, 2011 and 2012. In 1998, when both rates were negative, investment rates were lower than female employment rates. This means that large changes in investment rates caused comparatively small changes in employment rates, since female employment rates did not increase or decrease as rapidly as investment rates did. In other words, it seems to take a comparatively large amount of investment to cause significant changes in female employment.

Summary: Demand and Male Employment

Regarding male employment, in 1999, from 2001 to 2003, 2007, 2008 and 2010, all three parameters changed the way Keynes proposed, so that the male employment rate had to increase or decrease with demand in the form of investment rates in those years. In 2004, 2009, 2011 and 2012, the probability that male employment rates increased or decreased with investment rates was only 66.6 %, and in 2000 and 2006, the probability was 33.3 %. In 2005, it seemed to be very unlikely that male employment rates responded to investment rates the way Keynes suggested, seeing as none of the three parameters changed the way Keynes proposed.

Table 13 South Korea: Demand and Male Employment

Parameter / Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Elasticity of Output	x	x	x	x	x			x	x	x		x	x	x
Output Produced and Output Consumed	x		x	x	x	x			x	x	x	x	x	x
Elasticity of Employment, Male	x		x	x	x	x			x	x	x	x		

Indeed, in all the years in which all three parameters changed in accordance with Keynes' theory, male employment rates increased or decreased with investment rates. In 2000, male employment rates also responded to changes in investment rates the way Keynes supposed, although his theory applied only to elasticity of employment then. In contrast, in 2006, when Keynes' theory applied to the same parameter, male employment rate did not change the way he suggested. Therefore, the year 2000 might be an exceptional case. On the other hand, only when all three parameters changed the way Keynes suggested, did male employment rates

seem to change with demand in accordance with Keynes' theory. The other years have too few parameters in common to draw a general rule.

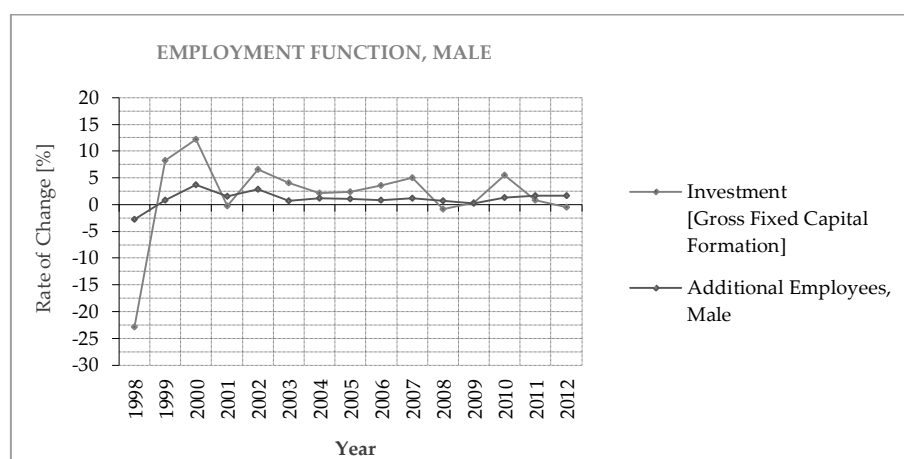


Figure 61 South Korea: Employment Function, Male

Sources:

Gross Fixed Capital Formation: Data adapted from Statistics Korea (comp.) 2015:774, 775; National Statistical Office (comp.) 2007:722, 723; National Statistical Office (comp.) 2005:654, 655

Additional Employment: Data adapted from Statistics Korea (comp.) 2015:237; Statistics Korea (comp.) 2013:235; Statistics Korea (comp.) 2009:217, National Statistical Office (comp.) 2005:215

Furthermore, in all years but 2001, 2008, 2011 and 2012, investment rates were higher than employment rates. In 1998, when both rates were below zero, investment rates were lower than employment rates.

Therefore, in general, changes in investment rates caused male employment rates to change to a lesser extent than investment rates. By doing so, male investment rates changed to an even lesser extent than female employment rates, indicating less elasticity in male employment than in female employment. Consequently, full employment might be reached earlier in female employment than in male employment, since female employment rates responded to a greater extent to changes in investment rates than male employment rates did.

6.2 Japan

Elasticity of Output

From 1997 to 2012, investment rates and rates of output reached a low-point together on three occasions (1998, 2002, 2009). In 2011, only rates of output reached a further minimum value. From 1998 to 2009, both rates were below 1.6 %.

On the other hand, rates did not rise above 4 %: rates of output produced ranged from -6 % (2009) to 2.4 % (2010), while investment rates ranged from -10.8 % (2009) to 3.4 % (2012). With the exceptions of 1999, 2003, 2005, 2006, 2011 and 2012, rates of output produced were in

all years higher than investment rates, indicating that additional production outstripped additional demand by a small margin.

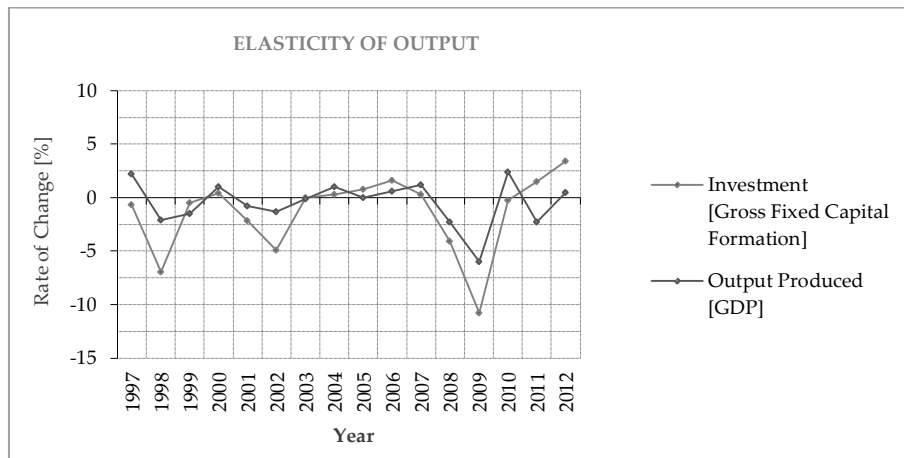


Figure 62 Japan: Elasticity of Output

Sources:

Gross Fixed Capital Formation, GDP: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91

Therefore, from 1997 to 2003, and from 2007 to 2010, the decrease in rates of investments, and, therefore, in demand, caused a decrease in rates of output produced. The decrease in rates of output produced was not as severe as the decrease in investment rates. On the other hand, when investment rates increased during that time, rates of output produced did also. They increased more reluctantly than rates of output produced, however, probably because employers were uncertain about future prospects, and, therefore, increased their output produced only hesitantly. Only when investment rates increased further (2000, 2004), did employers also increase their amount of additional output further. But in 2011, rates of output produced dropped although investment rates were still increasing. This development is to some extent similar to the one in 2005 and 2006, when investment rates were increasing while rates of output produced dropped in 2005, only to increase in 2006 and 2007 further. At that time, additional investment rates exceeded the amount of additional output consumed.

However, it is not entirely clear what caused the fall in rates of output produced in 2005 and 2011. Maybe employers expected for some reason demand, and therefore, investment rates, to decline in 2005 and 2011. Perhaps the previous years' increase of output produced was for some reason enough to satisfy demand in 2005 and 2011. Consequently, in 2005 and 2006, rates of output produced might have slowed to prevent an excess of supply. Only when investment rates increased further, did the amount of output produced also increase in 2006 and 2012.

All in all, increases in investment rates and, therefore, in demand, seem to be no guarantee for increases in rates of output produced (e.g. 2005, 2007, and 2011). Increases in investment rates seem rather to cause increases in rates of output produced (e.g. 2004, 2010), quickly followed by decreases (e.g. 2005, 2011), and then again increases (e.g. 2006, 2012). In

contrast, decreases in investment rates seem to be a guarantee for decreases in rates of output produced (1998, 2002, and 2009). Decreasing rates of output produced do not fall as sharply as investment rates though.

Output Produced and Output Consumed

When rates of output produced increase, rates of output consumed should also increase. But only in half the period surveyed (1998, 1999, 2002, 2004, 2008, 2010 and 2011) did rates of output consumed increase or decrease with rates of output produced. In the other half of the period surveyed (2000, 2001, 2003, 2005 to 2007, 2009 and 2012), the two rates moved in opposite directions, indicating that the amount of output consumed was relatively unaffected by changes in rates of output produced in those years. Furthermore, in 1999, 2002, and 2011, the amount of output produced was decreasing while the amount of output consumed was increasing, only partially supporting Keynes' theory.

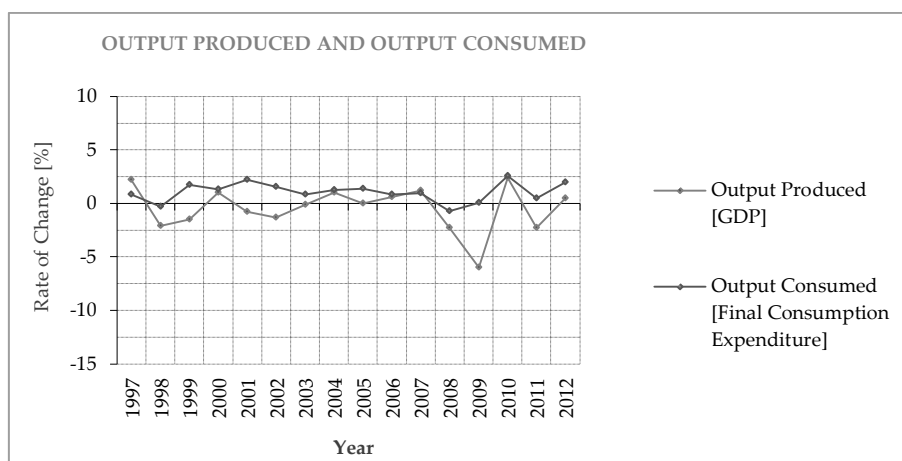


Figure 63 Japan: Output Produced and Output Consumed

Sources:

GDP: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91

From 1997 to 2012, share of governmental consumption in total consumption steadily increased from 21 % to 24 %, with a barely noticeable downward swing from 2006 to 2008. Therefore, there were no turbulences in the relationship between public and governmental consumption that might have disturbed changes in total consumption rates.

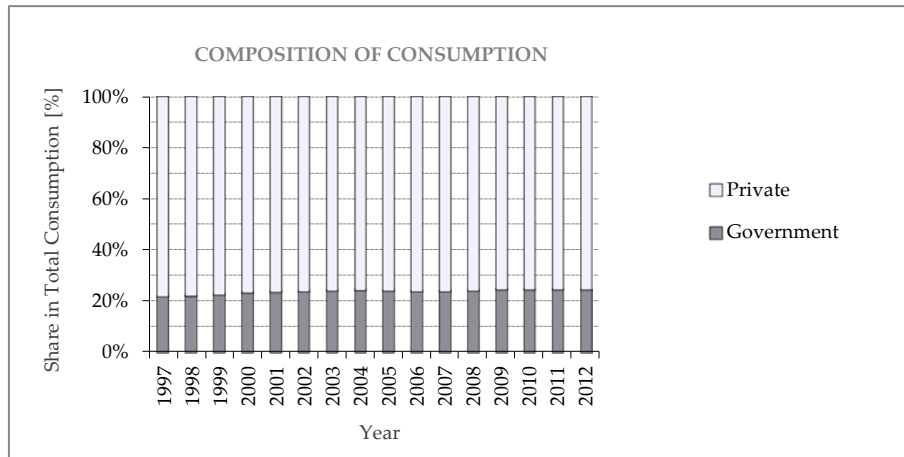


Figure 64 Japan: Composition of Consumption (II)

Sources:

Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2012:94

In 1998, investments and, therefore, demand, declined, causing employers to cut the amount of output produced and, therefore, the working time of their employees or employment. Therefore, in that year people had less money to spend on consumption than in the year before. In 1999, both rates recovered. People might have been more optimistic about future prospects at that time using their savings to satisfy their demand. Rates of output produced were below zero though. As people showed trust in the economy by consuming to a greater extent more than there was additional output produced, employers had all reason to increase the amount of output produced in 2000, to meet the greater demand than in the previous years. As both rates were at the same level, equilibrium seems to have been achieved in that year.

In 2001 and 2002, people seem to have been regularly paid and kept in employment even though there was less output produced than the year before. By this means, in 2001 and 2002, people might have been able to afford spending more money on consumption than the year before, although there was less output produced, and, therefore, less work than the previous year. Only in 2004, did the gap between rates close when rates of output produced increased while rates of output consumed steadily decreased to a small degree, to reach the level of rates of output consumed, and, therefore, another equilibrium for the time being.

Between 2004 and 2007, between 2007 and 2010, and between 2010 and 2012, a gap between rates occurred when rates of output produced decreased to a greater extent than rates of output consumed. Therefore, it seems that the gap between the two rates will close in the following years, before recurring, with rates of output produced first decreasing and then increasing more rapidly than rates of output consumed.

As stated above, the smaller decrease in rates of output consumed seems to be due to the possibility of people in Japan consuming to a greater extent more than the year before, even when rates of output produced and, therefore, demand, decreases. All in all, rates of output consumed are relatively unaffected by changes in rates of output produced.

Elasticity of Employment, Female

Rates of additional female employees should increase or decrease with rates of output consumed. In Japan, however, only in 2001, 2004, 2008, and from 2010 to 2012, did rates of additional female employees increase or decrease with rates of output consumed. And in 2002 and 2011, rates of additional female employees were below zero, whereas rates of output consumed were above zero, demonstrating Keynes' theory to be partially right.

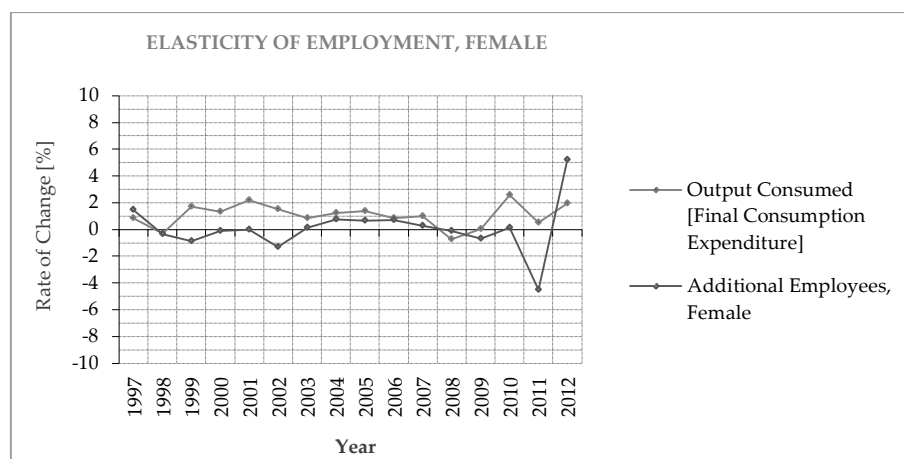


Figure 65 Japan: Elasticity of Employment, Female

Sources:

Final Consumption Expenditure: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91

Additional Employment: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014c:492, 493

Therefore, even though the amount of additional consumption increased, there were fewer women additionally employed in 1999, 2000 and 2002. The gap between the rates only narrowed in 2003, when the two rates moved in the opposite direction. Possibly these developments occurred because employers had downsized staff too much so that the lower number of female employees could not meet demand in 2002, and had, therefore, to increase in 2003. Generally speaking, from 1999 to 2003, when the amount of output consumed was on the increase, there were fewer women or just as many women than in the previous year's additionally employed. From 2003 to 2007, rates of additional female women employees increased while rates of output consumed almost levelled off. And from 2008 to 2011, there was, again, each year fewer or just as many women additionally employed than the year before, although the amount of output consumed was rising. Only in 2012, were there distinctly more women additionally employed than in the previous years.

All in all, decreases in additional female employment seem to have been caused by declines of rates of output consumed to a level below zero in 1998 and in 2008. These decreases might have entailed recession in the number of additional female employees in subsequent years. In this context, it is not clear what made rates of additional employees increase in 2004 and especially in 2012. In 2004 and 2012, rates of output consumed were above zero, as they

were also in 1999, 2001, 2010. In those years, however, they did not cause rates of additional female employees to increase above zero. Consequently, rates of additional female employees did not seem to be very responsive so changes in rates of output consumed: elasticity of female employment is to be regarded as weak.

Elasticity of Employment, Male

The gap between rates of output consumed and rates of additional male employees was greater than it was between rates of output consumed and rates of additional female employees. From 1998 to 2004, and from 2008 to 2011, rates of additional male employees were below zero. Therefore, only from 2005 to 2007 and in 2012, were there more men additionally employed than the year before. In all other years, there were fewer men additionally employed than in the previous year.

It is also interesting that the greatest discrepancy between rates occurred from 1998 to 2003 and from 2008 to 2012 and, therefore, at the same time when rates of additional female employees and rates of output consumed had their greatest discrepancies. And just like rates of additional female employees, rates of additional male employees reached their minimum value in 2011 before reaching their highest point in 2012.

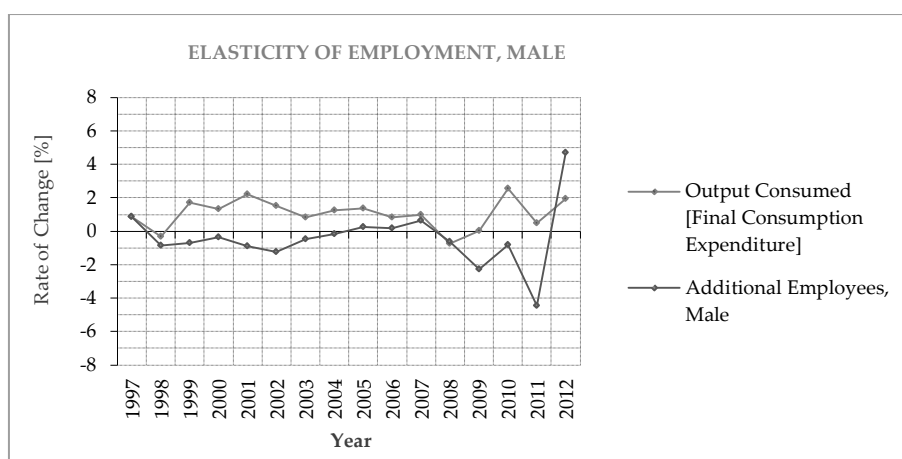


Figure 66 Japan: Elasticity of Employment, Male

Sources:

Final Consumption Expenditure: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91

Additional Employment: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014c:492, 493

What makes the chart on elasticity of male employment very different from the one on female employment is that rates of additional male employees moved more often in a parallel manner to the rates of output consumed: in 1999, 2002, from 2004 to 2008, and from 2010 to 2012, rates of additional male employees increased and decreased with rates of output consumed.

Therefore, with exceptions of 1998, 2000, 2001, 2003 and 2009, rates of additional male employees were more responsive to changes in rates of output consumed, than rates of

additional female employees were, indicating a higher elasticity of male employment than of female employment. At the same time, rates of additional male employees were distinctly below rates of additional female employees. From 2008 to 2011, decreases in rates of additional male employment were also steeper than decreases in rates of additional female employees, indicating that men might have been hit more severely by the crisis than women at that time. On the other hand, full employment might be reached earlier in male employment than in female employment, as there seems to be more elasticity in female employment than male employment.

Summary: Demand and Female Employment

In 2002, 2004, 2008 and 2010, all three parameters fully or partially changed in accordance with Keynes' theory. In those years, female employment rates should have, therefore, increased or decreased with demand. In 1999, 2011 and 2012, the probability that female employment rates increased or decreased with demand was only 66.6 %, since two of three parameters changed fully or partially the way Keynes proposed. And in 2000, 2001, 2003, 2006 and 2009, only one of three parameters changed in accordance with Keynes' theory, so that the probability that employment rates changed with demand the way Keynes' suggested was only 33.3 %. In 2005 and 2007, it was relatively unlikely that employment rates changed with investment rates because none of the three parameters changed the way Keynes suggested.

Table 14 Japan: Demand and Female Employment

Parameter / Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Elasticity of Output	x	x	x	x	x	x		x		x	x	x		x
Output Produced and Output Consumed	x			x		x				x		x	x	
Elasticity of Employment, Female			x	x		x				x		x	x	x

But, surprisingly, female employment rates increased and decreased in 1999, 2000, from 2002 to 2004, from 2007 to 2010 and in 2012, with investment rates. In 2000 and 2010, they did so partially though, as one rate was above zero while the other one was below zero at that time.

Therefore in all years where all three parameters changed the way Keynes proposed, employment rates increased or decreased in accordance with Keynes' theory. But they did so also in years where only two (1999, 2012) or one (2000, 2009) or even none of the parameters (2007) met Keynes' theory. Therefore, it does not seem to be an indispensable requirement for all three parameters to change the way Keynes suggested in order to cause female employment

rates to increase or decrease with investment rates. On the other hand, three parameters changing in line with Keynes' theory seems to be a guarantee for employment rates to change with investment rates in accordance with Keynes' theory.

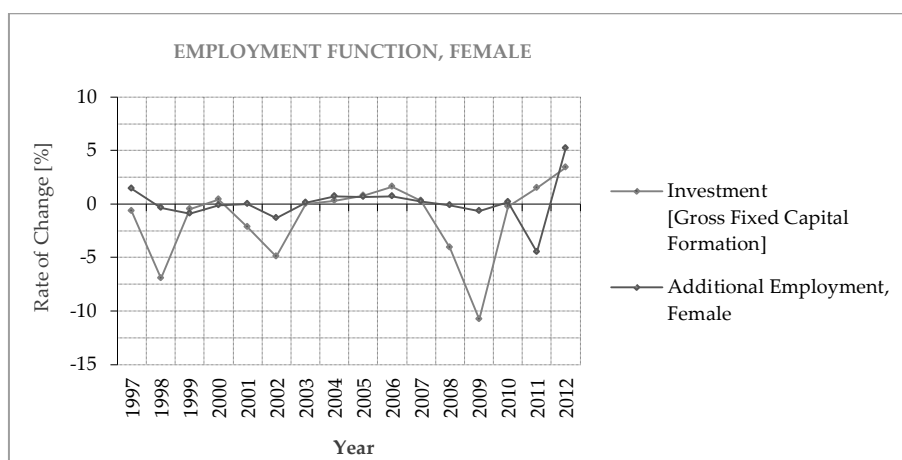


Figure 67 Japan: Employment Function, Female

Sources:

Gross Fixed Capital Formation: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91
 Additional Employment: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014c:492, 493

Furthermore, when both rates were below zero, investment rates were, with the exception of 1999, lower than female employment rates, indicating that decreases in investment rates caused comparably small decreases in female employment rates. From 2004 to 2007, when both rates were above zero, employment rates and investment rates exchanged places. In these years, investment rates might have had more influence on changes in female employment rates than in the years when both rates were below zero, as both rates were closer to one another from 2004 to 2008, than they were when both rates were below zero. Investment rates might have had almost no influence on female employment at all, as rates were moving in opposite directions in 2005 and 2006.

All in all, female employment rates seem to respond only to a small extent to changes in investment rates and, therefore, to changes in demand, especially when demand decreases. When both rates are above zero, elasticity of female employment might be higher though than it is when both rates are below zero. Small changes in the amount of investment might, therefore, be sufficient to cause full female employment.

Summary: Demand and Male Employment

In 1999, 2002, 2004, 2008, and 2010, all three parameters fully or partially changed in accordance with Keynes' theory. In 2006, 2011 and 2012, two of parameters did so. And in all other years (2000, 2001, 2003, 2005, 2007, and 2009), only one of three parameters changes the way Keynes proposed.

Table 15 Japan: Demand and Male Employment

Parameter / Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Elasticity of Output	x	x	x	x	x	x		x		x	x	x		x
Output Produced and Output Consumed	x			x		x				x		x	x	
Elasticity of Employment, Male	x			x		x	x	x	x	x		x	x	x

In contrast, male employment rates and investment rates changed from 1999 to 2005, from 2008 to 2010 and in 2012 in accordance with Keynes' theory. In 2000, 2003 and 2004, they did so partially, as investment was increasing (i.e. with investment rates above zero), but male employment decreasing (i.e. with rates of additional male employment below zero). Consequently, just as in the case of female employment, the application of Keynes' theory to all three parameters seems to be a guarantee for employment rates to increase or decrease with investment rates, and, therefore, with demand. When some parameters do not change the way Keynes suggested, it does not seem to be a hindrance for employment rates to still change with investment rates in line with Keynes' theory, as they did so in 2000, 2001, 2003, 2005, 2009 and 2012.

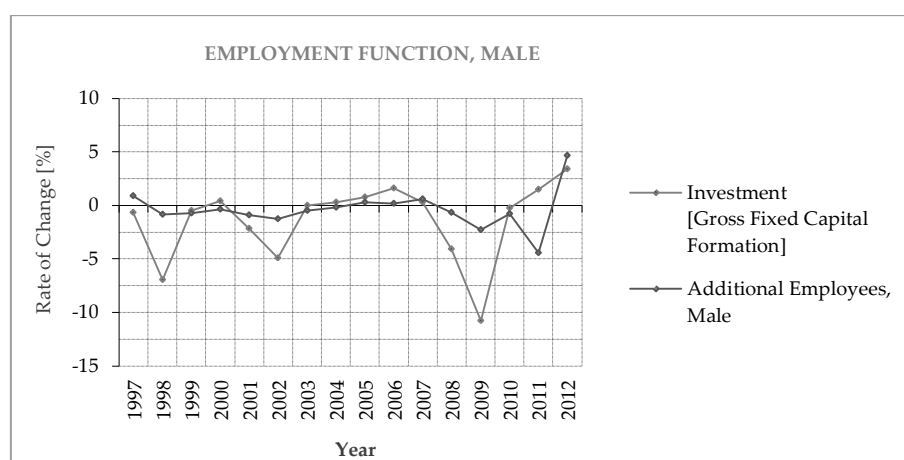


Figure 68 Japan: Employment Function, Male

Sources:

Gross Fixed Capital Formation: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014a:93; Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds) 2010:91
 Additional Employment: Data adapted from Statistics Bureau and Ministry of Internal Affairs and Communications 2014c:492, 493

Furthermore, as male employment rates ranged from -4.5 % (2011) to 4.7 % (2012), while female employment ranged from -4.5 % (2011) to 5.2 % (2012), changes in investment rates

seemed to have a stronger influence on female employment than male employment. On the other hand, male employment changed in 11 of 14 years with demand the way Keynes' proposed, whereas female employment did so in 10 of 14 years. Therefore, even if changes in demand might cause to a lesser extent changes in male employment than in female employment, changes in male employment might occur more often with changes in demand.

Consequently, there might be a similarly high level of investment required to reach full female and male employment, as female employment might not respond as often as male employment to changes in demand, while male employment will respond to a lesser extent to changes in demand than female employment.

6.3 China

Elasticity of Output

After a decrease in 1998, rates of output produced increased steadily from 1999 to 2007, reaching a maximum in 2007 (14.2 %). However, in 2008, rates of output produced significantly decreased, and a little more in 2009. After recovery in 2010, rates of output produced decreased further in 2011 and 2012, before levelling off in 2013 at a level similar to 1998 and 1999 (8 %).

On the other hand, investment rates increased steeply from 2000 on, after an up and down in 1998 and in 1999, to reach their highest point in 2003 (22.6 %). In 2004, investment rates slightly declined before sharply falling in 2005. From 2006 on, investment rates increased again to reach another maximum value in 2008, similar to the one in 2003. Just as in 2004, investment rates decreased a little bit after reaching a maximum value in the subsequent year, before dropping sharply in 2010. After a slight recovery in 2011, rates dropped sharply to reach 11.3 % in 2013.

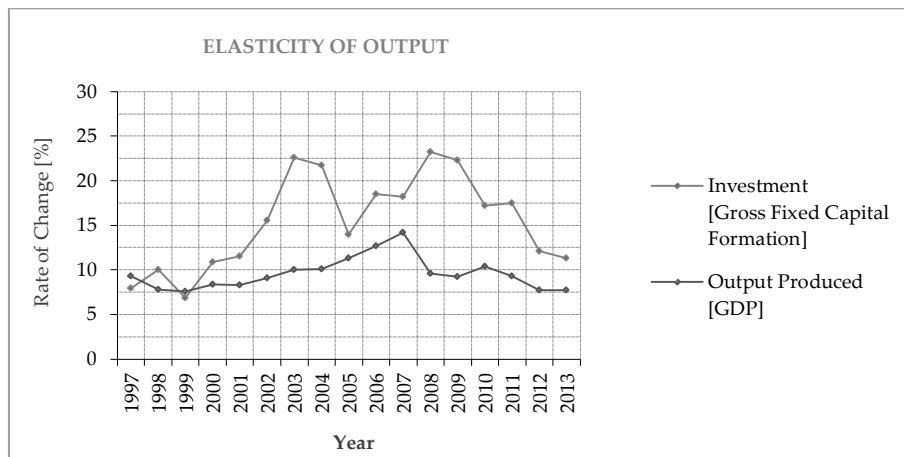


Figure 69 China: Elasticity of Output

Sources:

Gross Fixed Capital Formation: Data adapted from National Bureau of Statistics of China (comp.) 2014:69

GDP: Data adapted from National Bureau of Statistics of China (comp.) 2014:53

Therefore, only in half of the period surveyed, did Keynes' theory apply (1999, 2000, 2002, 2003, 2006, 2009 and 2012). In those years, rates of output produced increased or decreased with investment rates. In the other half of the period (1997, 1998, 2001, 2004, 2005, 2007, 2008, 2010, 2011 and 2013), rates moved in opposite directions or one rate levelled off when the other rate was changing.

But also in some years where rates of output produced and investment rates increased or decreased together, they did so at very different paces (e.g. 2000, 2002, 2003, 2006, 2012). For example, in 2003, rates of output produced increased only a little bit when investment rates sharply increased to reach a peak. At that time, rates of output produced did not present any maximum value, nor were they close to any maximum value. They were rather steadily increasing to reach a peak only in 2007. But in 2007, investment rates slightly declined before increasing with falling rates of output consumed in the subsequent year. Therefore, rates of output produced were relatively unaffected by the increase in investment rates in 2003, rising at their own pace to reach a maximum in 2007.

In other words, from 1998 to 2007, changes in rates of output consumed seemed to be relatively unaffected by changes in investment rates: in 2008, the sharp increase in investment rates and, therefore, peak in investment rates, could not prevent the sharp drop in rates of output produced. Only from 2011 to 2013, did rates of output produced seem to respond to the downward trend in investment rates in the Keynesian way, before levelling off in 2013.

All in all, from 1998 to 2007, rates of output produced seemed to be more driven by government than by changes in rates of investment. However, after disturbances in 2008, rates decreased with one another in 2009, just as Keynes suggested. Elasticity of output seems to be, therefore, in 2000 and from 2011 to 2013, higher than it was in the other years of the period surveyed.

It is difficult to make guesses about future prospects, though, because those years when rates changed in line with Keynes' theory, and those years when they moved contrary to his theory, continuously alternate throughout the period surveyed. Consequently, in 2014, an opposing trend in rates seems to be as possible as a trend, with rates of output produced being responsive to changes in investment rates, as they have been since 2011. It also seems to be only a matter of time before investment rates reach another maximum at 23 %. On the other hand, and as stated above, there has been no precedence where rates of output produced responded to a peak in investment rates by reaching a maximum by themselves.

Output Produced and Output Consumed

Compared to the chart above, rates of output produced and output consumed were relatively close one to the other. They increased and decreased also more often with one another than rates on elasticity of output did. Therefore, in 10 of 17 years (1998, 2000, 2003, from 2005 to 2010 and 2012), rates of output consumed increased or decreased with rates of output produced. In all other years (1997, 1999, 2001, 2002, 2004, 2011 and 2013), rates moved in opposite directions, or one rate was levelling off while the other was changing.

It is also interesting that in all years except 1998, 2002 and 2003, rates of output consumed exceeded rates of output produced, indicating that people consumed to a greater extent more

than extra output was produced. Consequently, imports might have satisfied their demand for consumption at that time. In 2011, the gap between rates was at its greatest when rates of output consumed reached their maximum value, while rates of output produced decreased slightly.

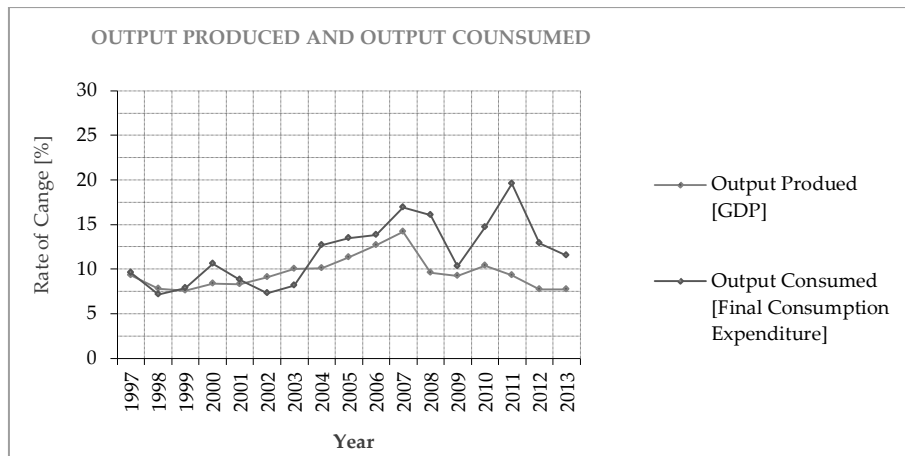


Figure 70 China: Output Produced and Output Consumed

Sources:

GDP, Final Consumption Expenditure: Data adapted from National Bureau of Statistics of China (comp.) 2014:68

As for the composition of total consumption, from 1997 to 2013, share of governmental consumption in total consumption steadily increased from 22 % to 28 %. Only in 2003 and 2004, did governmental share slightly decrease before increasing again in the subsequent year. As changes in the relationship between rates occurred relatively smoothly, these changes do not seem to have caused significant disturbances in rates of output consumed.

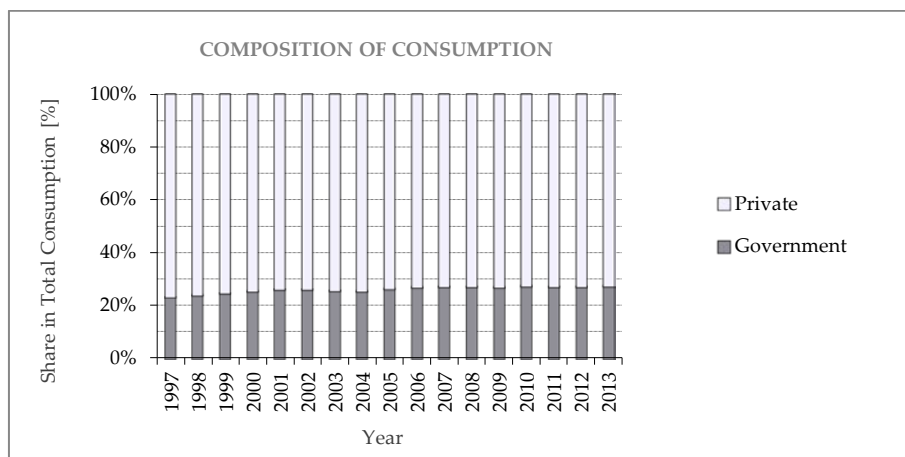


Figure 71 China: Composition of Consumption (II)

Sources:

National Bureau of Statistics of China (comp.) 2014:69

Consequently, from 1997 to 2007, both rates presented an upward trend, with some ups and downs. In 1998, 2002 and 2003, when rates of output consumed were below rates of output produced, people seemed to expect rates of output produced to be lower than they actually were, and, therefore, were for some reason less optimistic about the future prospects.

From 2005 to 2010, both rates moved relatively parallel to one another, however, increasing but also decreasing to a similar extent. Only in 2008, did rates of output produced fall far more rapidly than rates of output consumed. In 2009, rates of output consumed followed suit by sharply dropping when rates of output produced only slightly decreased. It, therefore, seems as if it took people some time to adjust their consumer behaviour to the new amount of additional output produced at that time. It is also interesting that in 2011, a peak in rates of output consumed occurred at a time when rates of output produced were on the downturn. In contrast, in 2007, a peak in rates of output consumed occurred when rates of output produced were at their highest.

Therefore, it is not clear whether rates of output produced need necessarily to be decreasing like in 2011, or rather need to reach another maximum, like in 2007, to cause a peak in rates of output consumed. It is also not clear to which extent changes in rates of output produced will influence rates of output consumed. Even though rates increased and decreased with one another during most of the period surveyed, in 2013 they seem to be further from equilibrium than in the period from 1997 to 1999, as the gap between rates was distinctly wider in 2013 than it was from 1997 to 1999.

Elasticity of Employment, Female

From 2001 to 2012, rates of output consumed ranged from 7.3 % (2002) to 19.6 % (2011). At the same time, rates of additional female employees ranged from 0.1 % to 2 %. In half of the period (2005, from 2007 to 2010, 2012), rates moved in opposite directions. In all other years (from 2001 to 2004, 2006, 2011), rates of additional female employees increased or decreased with rates of output consumed even though they did so at very different paces.

For example, in 2004, rates of additional female employees increased from 1.05 % (2003) to 1.14 % (2004), whereas rates of output consumed increased more sharply from 8.1 % (2003) to 12.7 % (2004). The same applies to 2011 when rates of additional female employees increased from 0 % (2010) to 0.3 % (2011), whereas rates of output consumed increased from 14.7 % (2010) to almost 19.6 % (2011). In 2006, the reverse occurred: rates of additional female employees increased significantly although rates of output consumed were levelling off.

Possibly, in 2006, but also in those years when rates of additional female employees were increasing (2008, 2009, 2011, and 2012), employers increased female employment to meet the additional consumption that had occurred in the previous years (2004 and 2005, 2007, 2010, 2011). In other words, employers tried to make up for previous years' changes in rates of additional female employees that they perceived as an unfit response to changes in rates of output produced by increasing rates of additional female employees in 2006, 2008, 2009, 2011 and 2012, albeit rates of output consumed were on their downturn (e.g. 2008, 2009, 2012). All in all, 2002 seems to be the only year in which both rates changed not only in a parallel way, but also at almost the same pace.

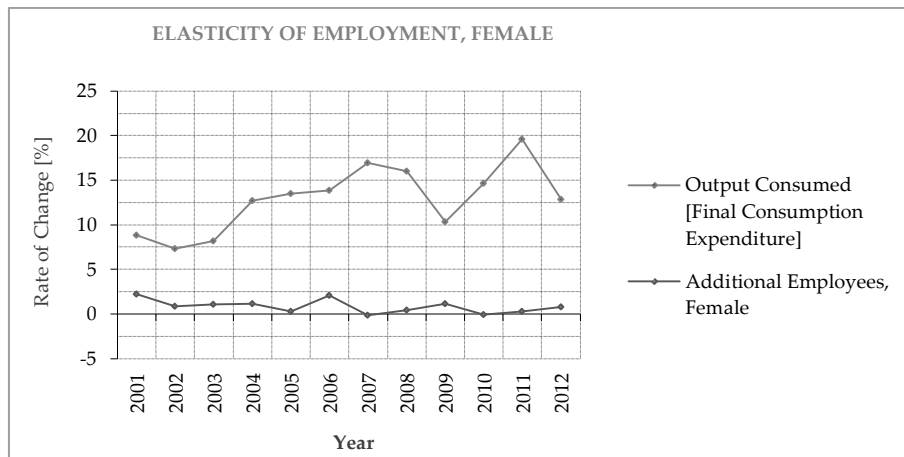


Figure 72 China: Elasticity of Employment, Female

Sources:

Final Consumption Expenditure: Data adapted from National Bureau of Statistics of China (comp.) 2014:68

Additional Employment: Data adapted from ILO 2015b:#China

The most striking aspect about this chart is the size of the gap between rates of additionally female employment and rates of output consumed. From 2001 to 2012, employers employed only between 0 % and 2.2 % more additional female employees than the year before, although the rate of output consumed was not below 7 % from 2001 to 2003. From 2004 on, rates of output consumed were even above 10 %. Even large changes in rates of output consumed, like peaks in rates of output consumed in 2007 and 2011, did not cause rates of additional female employment to rise above 2.1 %. On the other hand, sharp declines in rates of output consumed did not cause rates of additional female employees to drop below -0.1 %. Consequently, for most of the period surveyed, Keynes' theory did not apply in this respect to China.

Another interesting aspect is that from 2001 to 2012, rates of additional female employees were relatively close to zero, indicating that there is almost full employment attained in China. That might explain why rates of additional female employees had very little response to changes in rates of output consumed. In other words, perhaps almost every woman who wants employment has employment in China.

Elasticity of Employment, Male

In contrast, only in 2005, 2009, 2010 and 2012, did rates of additional male employees and rates of output consumed move in opposite directions. During the rest of the period, rates of additional male employees increased or decreased with rates of output consumed. But, as in the chart on elasticity of female employment (Figure 72), changes in rates occurred at very different paces. And, as in Figure 72, rates of additional male employees moved within a certain range (from 0 % in 2010 to 2.2 % in 2001) and, thereby, within a range far below the range of rates of output consumed (from 7.3 % in 2002 to 14.7 % in 2011).



Figure 73 China: Elasticity of Employment, Male

Sources:

Final Consumption Expenditure: Data adapted from National Bureau of Statistics of China (comp.) 2014:68

Additional Employment: Data adapted from ILO 2015b:#China

Furthermore, rates of additional male employees seem to be more levelled than rates of additional female employees. From 2001 to 2005, rates of additional male employees changed in a similar way to rates of additional female employees. From 2001 to 2004, they were increasing but also decreasing with rates of output consumed, and in 2005, they moved in the opposite direction to the rates of output consumed. They did so at almost the same pace as rates of additional female employees. In contrast, in 2006, rates of additional male employees increased to a lesser extent than rates of additional female employees, and, therefore, did not reach any peak. And in 2007, rates of additional male employees did not fall but kept their level to decrease only in 2008. From 2009 on, rates of additional male and female employment moved in a similar way again.

Therefore, it seems as if there were every year approximately as many men additionally employed as the year before. Changes in rates of additional male employment occurred to a lesser extent than in rates of additional female employees.

While presenting fewer outliers, the rates of additional male employees were however more responsive to changes in rates of output consumed than rates of additional female employment. Since rates of additional male employees almost did not change and were, by showing fewer outliers than rates of additional female employees, on average closer to zero than rates of additional female employment, male employment might be closer to full employment than female employment.

Summary: Demand and Female Employment

In 2003 and 2006, all three parameters changed the way Keynes proposed. Consequently, in those years, female employment rates should have increased or decreased with investment rates. In 2002, 2009 and 2012, only two of three parameters changed in accordance with

Keynes' theory, so that the probability that female employment changed in line with Keynes' theory was only 66.6 %. And in all other years, only one parameter changed the way Keynes suggested, so that the probability that female employment changes with investments in the Keynesian way was only 33.3 %.

Table 16 China: Demand and Female Employment

Parameter / Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Elasticity of Output	x	x			x			x			x
Output Produced and Output Consumed		x		x	x	x	x	x	x		x
Elasticity of Employment, Female	x	x	x		x					x	

But while all three parameters changing in accordance with Keynes' theory seemed to be a guarantee for female employment rates and investment rates to change in accordance with Keynes' theory (2003, 2006), in 2005, 2007, 2008, and 2010, female employment rates increased or decreased with investment rates as well. In these years, output produced and output consumed changed the way Keynes suggested, but not the other two parameters. Therefore, it seems as if female employment and investment rates also change in accordance with Keynes' theory when only this parameter, but no other ones, changes the way Keynes' suggested.

In contrast, in 2011, demand and employment (in form of investments) changed the way Keynes suggested, albeit only one parameter (i.e. elasticity of female employment) changed in accordance with Keynes' theory, but not the other two parameters. In 2004 when Keynes' theory applied to the same parameter, demand and employment did not change in line with Keynes' theory though. Consequently, an elasticity of employment changing in the Keynesian way does not seem to be a reliable indicator for demand and employment changing the way Keynes suggested. However, in 2002, 2009 and 2012, when two of three parameters changed in accordance with Keynes' theory, employment rates and investment rates moved in opposite directions and, therefore, not in accordance with Keynes' theory.

It is also interesting that female employment rates ranged from 0 % to 2.2 %, whereas investment rates ranged from 11.6 % to 23.2 %. The big gap between rates indicates that changes in investment rates had, in general, only little effect on employment rates: on average employment rates did not increase as rapidly, but also did not fall as rapidly, as investment rates did. As mentioned above, in 2002, 2004, 2009 and 2012, investment rates did not have any influence on employment rates at all.

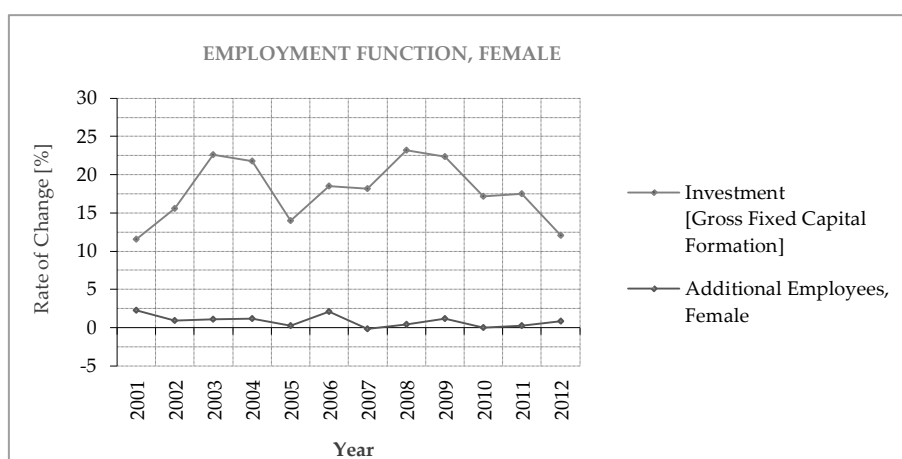


Figure 74 China: Employment Function, Female

Sources:

Gross Fixed Capital Formation: Data adapted from National Bureau of Statistics of China (comp.) 2014:69

Additional Employment: Data adapted from ILO 2015b:#China

Even considerable changes in the amount of investment will, therefore, cause only relatively small changes in the amount of female employment. This could foster the assumption that female employment might be close to equilibrium (see above: Elasticity of Employment, Female), because the closer employment gets to full employment the more difficult it might be to attain full employment.

Summary: Demand and Male Employment

Regarding male employment (see Table 17 below), in 2003 and 2006, all three parameters changed in accordance with Keynes' theory so that employment rates should have increased or decreased with investment rates in these years. In 2002, from 2007 to 2009 and in 2012, two of three parameters changed in accordance with Keynes' theory, so that the probability that employment rates increased or decreased with investment rates was 66.6 % in these years. In all other years (2004, 2005, 2010, 2011), only one parameter changed the way Keynes suggested. The probability that employment rates changed in the Keynesian way with investment rates was, therefore, only 33.3 % in these years.

Indeed, in 2003 and 2006, when employment rates increased or decreased with investment rates, all three parameters changed in accordance with Keynes' theory. Consequently, the application of Keynes' theory to all three parameters seems to be a guarantee for employment and demand to change in line with Keynes' theory. In 2005 and 2010, when only output produced and output consumed increased or decreased with one another, but not the other parameters, Keynes' theory also applied to employment and demand in the form of investment in China. But for the other years when Keynes' theory applied (2007, 2011), a general rule cannot be drawn from the table, as these years do not appear to show the same characteristics (see Figure 75 below).

Table 17 China: Demand and Male Employment

Parameter / Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Elasticity of Output	x	x			x			x			x
Output Produced and Output Consumed		x		x	x	x	x	x	x		x
Elasticity of Employment, Female	x	x	x		x	x	x			x	

While male employment rates ranged from 0 % to 2.2 %, investment rates ranged from 11.6 % to 23.2 %. Therefore, similar to that said above regarding female employment applies to male employment: in 2003, from 2005 to 2007, in 2010 and 2011, changes in investment rates had comparatively little influence on employment rates. In 2002, 2004, 2008, 2009 and 2012, they seem to have had no influence on male employment rates at all.

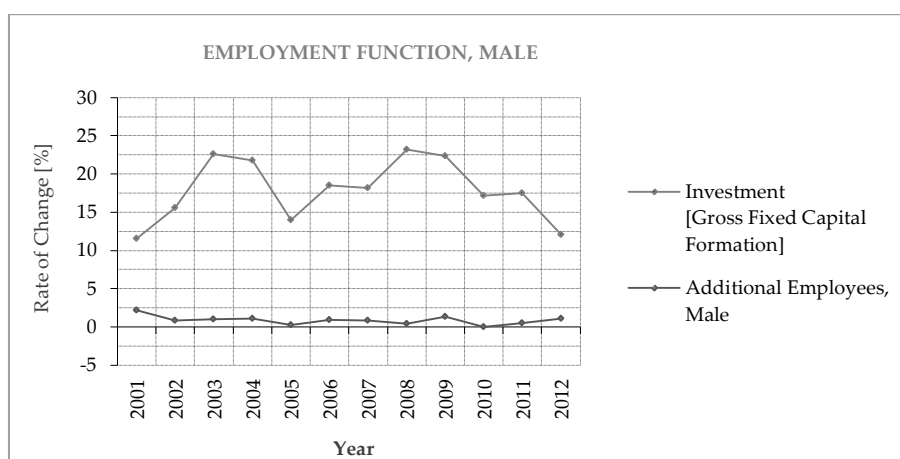


Figure 75 China: Employment Function, Male

Sources:

Gross Fixed Capital Formation: Data adapted from National Bureau of Statistics of China (comp.) 2014:69

Additional Employment: Data adapted from ILO 2015b:#China

Changes in employment rates seemed to have slightly more influence on female employment than on male employment, as male employment rates appeared to be more levelled, while female employment rates showed more fluctuations, and, thereby, a higher response to changes in investment rates than rates of male employment. Because of this, and because female employment and demand changed more often in accordance with Keynes' theory, full employment might be reached in female employment before it is attained in male employment. On the other hand, male employment might be closer to full employment as rates

of additional male employees were on average closer to zero than female employment rates. Consequently, all in all, an even greater amount of investment than in male employment will be necessary to reach full female employment.

6.4 Vietnam

Elasticity of Output

From 2001 to 2013, there was, with exceptions of 2001, 2002 and 2006, more output additionally produced than there was additional demand in Vietnam. Consequently, the additional output seems to have been produced for demand abroad and, therefore, for export.

Investment rates ranged from -7.8 % (2011) to 24.2 % (2007), while rates of output produced ranged from 9 % (2001) to 28.8 % (2011). From 2002 to 2006, investment rates showed a slight but steady downward trend (from 11.9 % in 2002 to 9.9 % in 2006). But after a steep rise in 2007, investment rates sharply decreased, with distinct ups and downs, from 24.2 % in 2007 to 5.3 % in 2013. Peaks in investment rates (2007: 24.2 %, 2010: 8.7 %, 2013: 5.3 %), but also minimums (2008: 3.8 %, 2011: -7.8 %), were every time they occurred lower than the time previously. Therefore, the increase in investment rates in 2013 might be followed by a minimum value that is lower than the one in 2011.

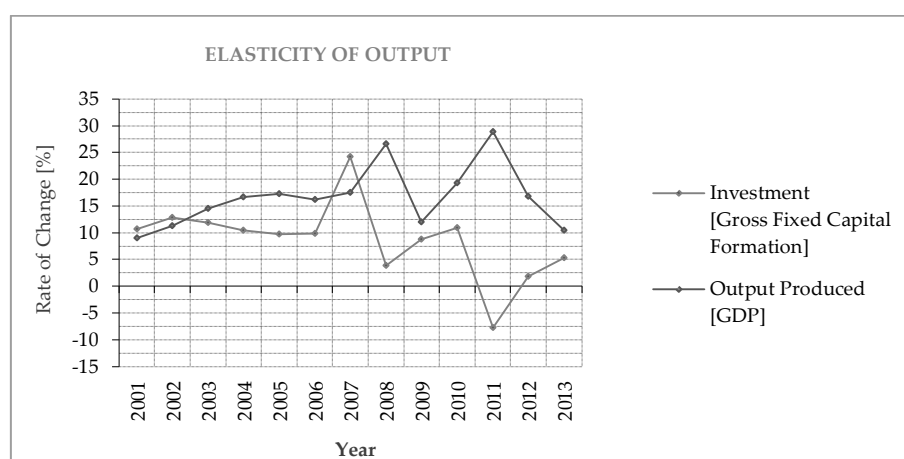


Figure 76 Vietnam: Elasticity of Output

Sources:

Gross Fixed Capital Formation: Data adapted from General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83; General Statistics Office of Vietnam 2006b:71

GDP: Data adapted from General Statistics Office of Vietnam 2014b:158; General Statistics Office of Vietnam 2009b:84

On the other hand, from 2001 to 2008, rates of output produced showed an upward trend with a distinct increase in 2008 when reaching the maximum value (26.6 %). After a sharp fall in 2009 (12 %), rates of output produced reached another peak in 2011 (28.8 %). In the subsequent

years, they sharply declined and reached another low-point (2013: 10.4 %). It is interesting that peaks in rates of output produced were in each case (2008, 2011) above 25 %, while minimum values were around 10 %. If this pattern reoccurs, in the subsequent years, rates of output produced will again reach a peak above 25 % before declining to a level of around 10 %.

All in all, only in 2002, 2007 and 2010, did the amount of additional output produced change (i.e. in these cases increase) with additional demand in accordance with Keynes' theory. In all other years, the two rates moved in opposite directions. The gap between rates was significantly larger in 2008 and 2011, when demand sharply decreased while additional output produced reached its maximum value. It is not clear why this pattern occurred though. Possibly, employers had received some financial relief money from the government to keep their employees in employment, not only to maintain the amount of output produced, but even to increase it, and to meet the decrease in demand in 2008 and 2011. Even if this is the case, the question remains why output produced decreased in 2012 and 2013 when demand recovered.

As the case may be, except 2002, 2007 and 2010, output produced did not present itself as elastic to changes in demand.

Output Produced and Output Consumed

It is all the more surprising that the rates of output produced and output consumed seemed to go along with each another to some extent. From 2001 to 2003, in 2005, 2007, 2009 and 2010, rates of output consumed increased or decreased with rates of output produced. Only in six years (2004, 2006, 2008, 2011 to 2013), did the two rates move in opposite directions.

During that time, governmental consumption hardly increased or decreased (from 2000 to 2013: around 9 %). Therefore, changes in rates of output consumed were most likely not attributable to any distinct changes in the relation between private and governmental consumption.

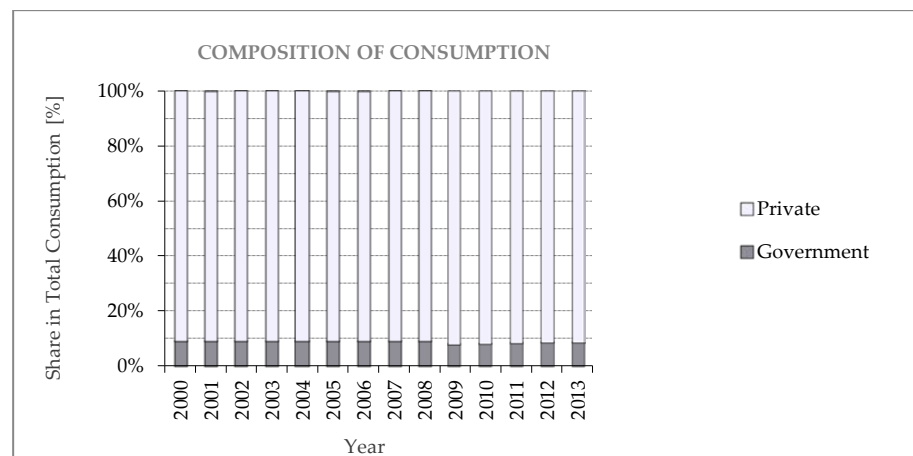


Figure 77 Vietnam: Composition of Consumption (II)

Sources (Figure 78, see below, p.123):

Sources:

General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83; General Statistics Office of Vietnam 2006b:71

It is also interesting that, from 2001 to 2007, both rates changed more smoothly than in the years from 2008 on, when changes in the two rates became steeper, causing more volatility in both rates. Therefore, when rates of output produced increased from 2001 to 2005 and in 2007, they did so more slowly and steadily than in the years from 2008 on. And when they decreased in 2006, they decreased only slightly compared to the sharp drops in 2009 or 2012 and 2013. The same applies to the rates of output consumed. When rates of output produced increased from 2001 to 2003 and from 2005 to 2007, they did so slightly by not more than 2.5 % at a time. And in 2004, when they decreased, they did so by a barely noticeable 0.8 %. Consequently, even though discrepancy between the two rates swelled from 2001 to 2007, reaching their largest discrepancy in 2004 and 2005, which then ebbed away by 2007, the gaps between the two rates appeared gradually but not suddenly in those years.

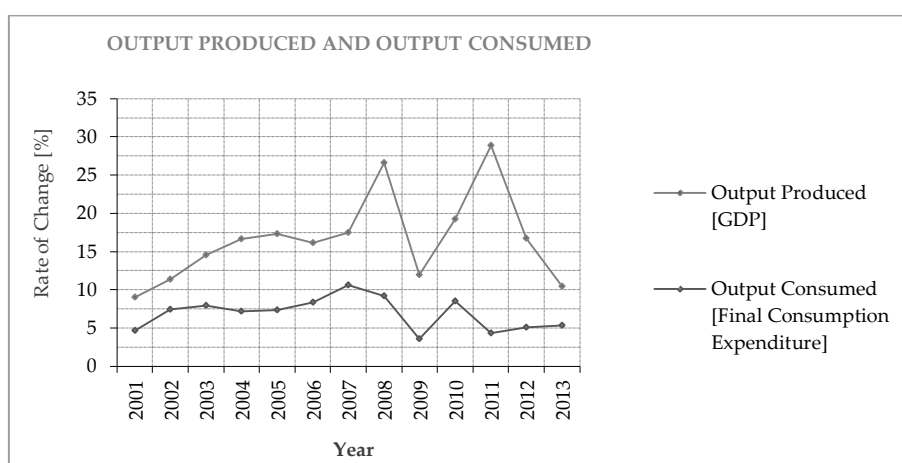


Figure 78 Vietnam: Output Produced and Output Consumed

Sources:

GDP: Data adapted from General Statistics Office of Vietnam 2014b:158; General Statistics Office of Vietnam 2009b:84

Final Consumption Expenditure: Data adapted from General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83; General Statistics Office of Vietnam 2006b:71

By contrast, from 2008 on, rates of output produced increased or decreased by more than 8 %. Consequently, rates of output produced reached their maximum level of 26.6 % in 2008 and 28.8 % in 2011, and hit their minimum values in 2009 (12 %) and 2013 (10.4 %). These patterns seem to be reflected to some degree in the rates of output consumed. Hereby, it is interesting that peaks in rates of output consumed occurred both times a year before rates of output produced reached their maximum, namely in 2007 and 2010. Consequently, in the subsequent years (2008, 2011), when rates of output produced reached their highest levels, rates of output consumed were both times on the downturn. In 2009, rates of output consumed dropped further when rates of output produced fell sharply. But in 2012 and 2013, when rates of output produced decreased further, rates of output consumed rose only slightly. Thereby, both rates

achieved in 2013 a level that was only slightly above the level they had in 2001, but still lower than the level in 2002, or in 2007 before the crisis (rates of output produced: 10.4 %, rates of output consumed: 5.4 %).

Consequently, from 2001 to 2007, additional output produced the amount of additional output consumed. In 2008, people might have presumed that the increase in output produced wouldn't last forever, and, therefore, did not spend their extra earnings on consumption, but rather on private savings. This may have caused prophecy to come true in the following year, with rates of output produced falling significantly. At that time, people decreased the amount of additional consumption to a lesser extent than additional output decreased, just as they increased additional consumption to a lesser extent than additional output increased, before becoming hesitant in their consumption behaviour again in 2011. Consequently, it seems that in 2010 and 2011, people had lost their trust in any stability of the economy, due to the outbursts in output produced (2008, 2011), consuming to a lesser extent more than there was additional output produced, and, thereby, causing only little response in the amount of output consumed to changes in the amount of output produced.

Therefore, except 2009 and 2010, the amount of additional consumption did not seem to be significantly affected by changes in the amount of additional productions: great changes in rates of output produced like in 2008 and 2011 even seemed to have been detrimental to the growth of the rates of output consumed, as they might have caused people to become more cautious and to level their consumer behaviour off in those years. But whether people in subsequent years adjusted, as a consequence, their level of consumption to the pace at which rates of output produced decreased and increased (2009, 2010), or whether they slightly increased the amount of consumption compared to the year before, even though rates in output produced were decreasing (2012, 2013), is something that cannot be predicted by Figure 78. As rates moved towards each other in 2012 and 2013, the recurrence of a pattern like from 2001 to 2007, when rates of output produced increased more rapidly than rates of output consumed, and yet more slowly and more steadily than in the years from 2008 on, seems to be possible. The chart, however, does not give any concrete ideas of possible developments in the years to come.

All that can be said, therefore, is that the economy in Vietnam seems to have been closer to equilibrium from 2001 to 2007, in 2009, and in 2013, than it had been in 2008, and from 2010 to 2012, because rates were closer to each another in those years than they were in 2008, or from 2010 to 2012.

Elasticity of Employment, Female

From 2006 to 2011, rates of additional female employees increased and decreased with rates of output consumed, with the exceptions of 2009, 2012 and 2013. In 2006, there was a great discrepancy between rates when rates of output consumed were at a relatively high level, and rates of additional female employees were below zero, in 2006 (-1 %). The gap between rates narrowed when rates of additional female employment increased significantly, whereas rates of output consumed increased only marginally in 2007. By contrast, in 2008, rates of additional female employees dropped to hit another minimum value (1.3 %), although rates of output

consumed decreased only slightly, before dropping sharply, in 2009 when additional female employment slightly increased. In 2010 and 2011, both rates moved in a more parallel way than in the preceding years, with rates of output consumed showing greater fluctuations than rates of additional female employees. And from 2012 on, rates of output consumed showed an upward trend, while the rates of additional female employees were on the downturn.



Figure 79 Vietnam: Elasticity of Employment, Female

Sources:

Final Consumption Expenditure: Data adapted from General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83; General Statistics Office of Vietnam 2006b:71

Additional Employment: Data adapted from General Statistics Office of Vietnam 2014a:114

Therefore, it is not clear why such large variations in additional female employment were triggered by such relatively small fluctuations in the amount of output consumed from 2006 to 2008. On the other hand, it is similarly unsettled why rates of additional female employment responded to relatively large changes in rates of output consumed by changing to a distinctly lesser extent compared to the changes in rates of output consumed in 2010 and 2011, or by even slightly moving in the opposite direction than rates of output consumed in 2008. Another unsettled question is why female employment and output consumed changed in a way contrary to Keynes' theory in 2012 and 2013. Even if we were to assume that rates of output consumed had to be above a certain level (e.g. 8 %) to cause a significant impact on the rates of additional female employment, this assumption would still not explain why rates moved in the opposite direction in 2012 and 2013, or why changes in output consumed had such a low impact on female employment in 2010 and 2011, but a high impact in 2007 and 2008.

However, in 2007 and 2008, but also on 2010 and 2011, employers responded to relatively small changes in output consumed by employing significantly more women than in the preceding year, 2007, or by employing a distinctly lower number of women additionally compared to the previous year. In contrast, in 2009, 2012 and 2013, employers did not respond to the decline in rates of output consumed in the Keynesian way, but rather employed even more additional women than in the preceding year, 2009, when the amount of additional output consumed significantly diminished, or employed less women additionally, in 2012 and

2013, even though rates of output consumed were on the rise in those years. Possibly, rates move in contrary directions to each other when rates of output consumed are below 5 %. The years to come might prove or disprove this conjecture.

However, since 2009, there has been no (e.g. 2009, 2012, 2013) or only a small degree of, responsiveness of additional female employment to changes in the amount of output consumed. Elasticity of female employment is therefore lower in the period from 2009 to 2013 than it had been from 2006 to 2008.

Elasticity of Employment, Male

What makes the chart on elasticity of male employment (Figure 80) in many ways interesting is that in some way it appears to be, to some extent, the opposite of the chart on elasticity of female employment (Figure 79). On the other hand, it inherits the same dynamics as the chart above.

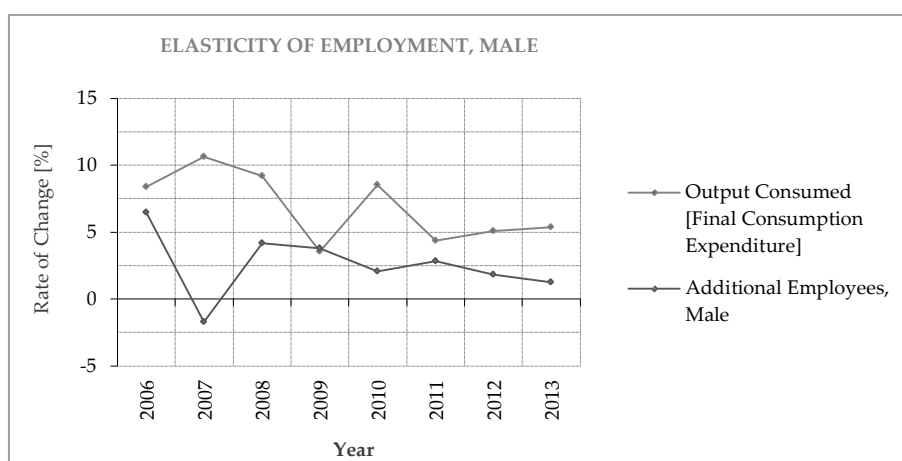


Figure 80 Vietnam: Elasticity of Employment, Male

Sources:

Final Consumption Expenditure: Data adapted from General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83; General Statistics Office of Vietnam 2006b:71

Additional Employment: Data adapted from General Statistics Office of Vietnam 2014a:114

Figure 80 appears to be the reverse of Figure 79 because rates of output consumed and rates of additional male employment moved in opposite directions, with the exception of 2009. Thereby, they opened up three gaps: one occurring from 2006 to 2009, the next one from 2009 to 2011 and the third one began in 2011, which might have reached its largest divergence in 2013, so that it might close again in 2014, when both rates approach each other as they did in 2009 and 2011.

A similar pattern to that in Figure 79 is repeated here, by which rates of output consumed increased and decreased only slightly by not more than 2 % on average in 2007 and 2008, whereas the rate of additional male employment decreased and increased in a relatively sharp way by around 5 % each time. And, just like in Figure 79, in 2009, rates of output consumed

sharply fell, while the rate of additional male employment declined to a barely noticeable extent. In 2010, when rates of output consumed significantly changed, rates of additional male employment responded only sluggishly. And in 2012 and 2013, surprisingly, both rates moved very closely to those in the chart on elasticity of female employment: rates of output consumed increased in 2012 and 2013, while rates of additional male employment were on the downturn.

What makes this chart even more difficult to explain than Figure 79 is that the time when rates of output increased, rates of additional male employees decreased, and vice versa. This comes along with the fact that, like in Figure 79, rates of output consumed changed in 2007 and 2008 more slowly than rates of additional male employees. In 2010 and 2011, however, they changed significantly more rapidly than rates of additional male employees.

These developments suggest an inverse responsiveness of rates of additional male employees to changes in rates of output consumed: each time the rates of output consumed increased, the rates of additional male employees decreased, and vice versa, when the rates of output consumed decreased, the rates of additional male employees increased. At least, this is what happened the years from 2006 to 2013, except 2009.

Possibly, changes in rates of additional male employees have less to do with the amount of consumption than with changes in rates of female employment. Since rates of additional male employees appear to be to some degree a mirror image of rates of additional female employees, it might be suggested that Vietnam's economy is only able to employ a certain rate of additional employees each year. Consequently, when they employ distinctly more female employees in one year, as in 2007, they might have to employ distinctly fewer male employees than in the previous year. And if they employ fewer women than the year before, they can afford to employ more men than in the preceding year. This approach would also work for 2011, and even for 2009, when rates of additional male employees slightly decreased while rates of female employment slightly increased.

This assumption does not explain though why rates of additional female employees as well as rates of additional male employees both decreased in 2012 and 2013. The question remains whether there was generally less employment available in these years compared to the preceding years, indicating a shrinkage of the market. This would be surprising, however, since output consumed increased further in 2012 and 2013.

However, for the reasons stated above, the elasticity of male employment seems to have been as high as elasticity of female employment, even though male employment presented a inverse responsiveness to changes in the amount of output consumed.

Summary: Demand and Female Employment

In 2007 and 2010, all three parameters changed in accordance with Keynes' theory. Consequently, in these two years, employment rates and investment rates should have changed in line with Keynes' theory. In 2008, 2009 and 2011, only one parameter changed the way Keynes suggested, minimizing the probability that employment rates increased or decreased with investment rates to only one third. And in 2012 and 2013, none of the three parameters changed in the Keynesian way, so that it was very unlikely that employment rates and investment rates carried in accordance with Keynes' theory in those years.

Table 18 Vietnam: Demand and Female Employment

Parameter / Year	2007	2008	2009	2010	2011	2012	2013
Elasticity of Output	x			x			
Output Produced and Output Consumed	x		x	x			
Elasticity of Employment, Female	x	x		x	x		

Indeed, from 2007 to 2011, employment rates increased and decreased with investment rates. Therefore, in 2007 and 2010, the three parameters changing in accordance with Keynes' theory was a guarantee for employment rates to change with investment rates the way Keynes suggested. But in 2008, 2009, 2011, when only one parameter changes in Keynesian manner, the respective parameters seem to have been sufficient to cause employment rates to change in accordance with Keynes' theory. Only in 2012 and 2013, when Keynes theory did not apply to any of the three parameters, did employment rates move in the opposite direction to investment rates.

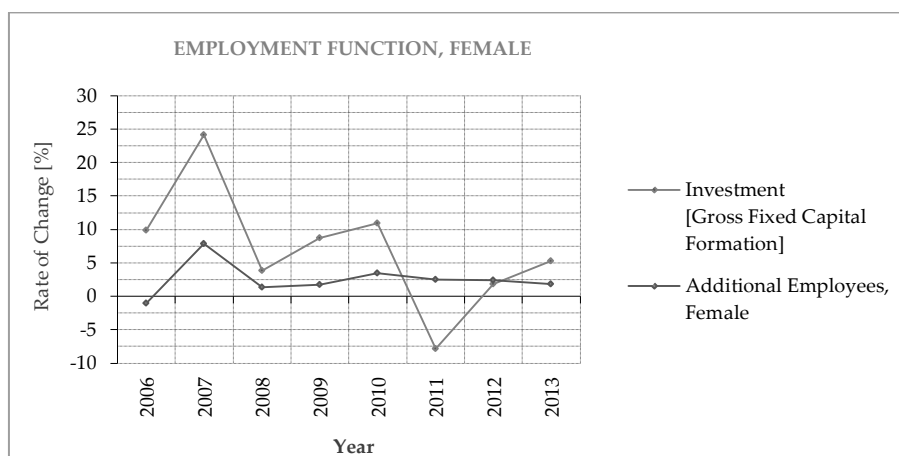


Figure 81 Vietnam: Employment Function, Female

Sources:

Gross Fixed Capital Formation: Data adapted from General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83; General Statistics Office of Vietnam 2006b:71

Additional Employment: Data adapted from General Statistics Office of Vietnam 2014a:114

During that time, employment rates ranged from -1 % to 7.9 %, while investment rates ranged from -7.8 % to 24.2 %, indicating that significant changes in investment rates had relatively little impact on employment rates. Since rates were from 2006 to 2011 closer to one another than rates in China were during that time, employment rates in Vietnam can be regarded as more responsive to changes in investment rates than employment rates in China, even though

employment rates, in general, changed to a lesser extent than investment rates. In 2012 and 2013, however, employment rates did not respond to changes in investment rates.

Therefore, there seems to be a lesser level of investment necessary to reach full female employment in Vietnam than in China. This also might mean that Vietnam is further from full female employment than China is, since female employment rates were further from zero than female employment rates in China.

Summary: Demand and Male Employment

Regarding male employment, in 2007 and 2010, only two of three parameters changed in accordance with Keynes' theory. In 2009, there was only one parameter changing the way Keynes suggested. And in 2008, and from 2011 to 2013, Keynes' theory did not apply to any of the three parameters. Therefore, the probability that employment rates increased or decreased with investment rates was 66.6 % in 2007 and 2010, 33.3 % in 2009, and almost zero in 2008 and from 2011 to 2013.

Table 19 Vietnam: Demand and Male Employment

Parameter / Year	2007	2008	2009	2010	2011	2012	2013
Elasticity of Output	x			x			
Output Produced and Output Consumed	x		x	x			
Elasticity of Employment, Female							

But male employment moved in the opposite direction to investment rates during the whole period surveyed (see Figure 82 below). Thereby, male employment rates ranged from -1.7 % to 6.5 % (2006), while investment rates ranged from -7.8 % to 24.2 % (2007).

As male employment rates seemed to be a kind of mirror image of female employment rates, changes in investment rates might have a similar influence on employment rates, but in an inverse way. When investment rates increased, male employment rates decreased to a similar extent as female employment rates increased at that time, and vice versa, when investment rates decreased, male investment rates increased to a similar extent as female employment rates decreased at that time. But even if that was the case, male employment function still seemed to be somewhat unaffected by changes in the three parameters.

Therefore, all in all, female employment rates appear to be far more responsive to changes in investment rates than the male employment rate. This means that full employment might be reached in female employment before it is achieved in male employment.

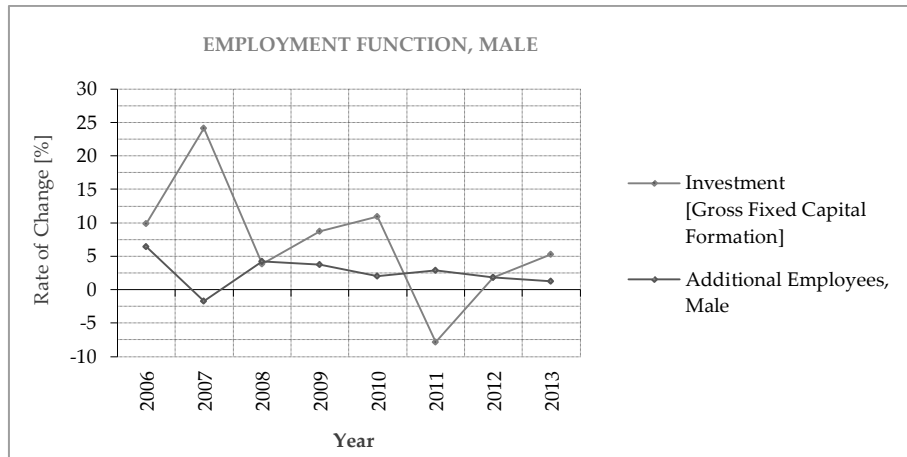


Figure 82 Vietnam: Employment Function, Male

Sources:

Gross Fixed Capital Formation: Data adapted from General Statistics Office of Vietnam 2014b:157; General Statistics Office of Vietnam 2013b:153; General Statistics Office of Vietnam 2011b:141; General Statistics Office of Vietnam 2009b:83; General Statistics Office of Vietnam 2006b:71

Additional Employment: Data adapted from General Statistics Office of Vietnam 2014a:114

7 Extension: Unemployment Rates

Supplementary to the explanation in the previous chapters, I want to revisit the unemployment rates I introduced in section 4.3 (Unemployment Rates), in the light of Phelps' theory. This time I want to highlight the years in which both rates showed relatively small changes compared to the years before, since small changes might mean equilibrium in Phelps' sense.

7.1 South Korea

After the sharp increase in both rates in 1998, and similar sharp declines in both rates in the subsequent years, from 2002 to 2012, both rates levelled off at a level between 2.4 % and 4.3 %. At that time, rates of female unemployment were lower than rates of male employment, ranging from 2.5 % to 3.5 %, whereas rates of male unemployment ranged from 3.5 % to 4.3 %.



Figure 83 South Korea: Unemployment Rates (II)

Sources:

Statistics Korea (comp.) 2015:237; Statistics Korea (comp.) 2009:217, National Statistical Office (comp.) 2005:215

From 2003 to 2005, both rates were relatively steady, almost unchanging in their level. Rates of male unemployment kept their level a little bit longer, with only a slight slide by 2008. In contrast, the rate of female unemployment showed more fluctuation as early as 2005. It was not until 2012 that both rates appear to return to retaining the previous year's level. It is interesting that this level appears to be at a similar level as that of 2003 to 2005.

This might mean that, if the natural rate were around 3.4 % for female unemployment, and 3.9 % for male unemployment, from 2003 to 2005, this natural rate might almost been

reattained in 2014 (female: 3.5 %, male: 3.6 %). But if the natural rate promising the best outcome in long-term prospects was achieved from 2012 on, male unemployment might have tried during the past years to swing into that natural rate, being in 2003 to 2005 above it, in 2007 and 2008 below it, in 2010 again above it, before finally levelling off in 2012. This would strengthen Phelps' suggestion that optimum rates can principally be adjusted.

Regarding female unemployment rates, this would mean that from 2005 on, rates were always slightly above the natural rate of 2012, and only level down into it from 2011 on. Either way, South Korea seems to be regarding both unemployment rates since 2012 relatively close to equilibrium, because rates did not change at that time very much, just as they almost did not change from 2003 to 2005.

7.2 Japan

As for Japan, it is hard to tell at which level a natural unemployment rate may be, because both rates took a roller coaster ride, steeply increasing from 1997 to 2002 or 2003. Then they sharply dropped until 2007, before increasing a little bit in 2008, and, again distinctly rising in 2009. From 2010 to 2013, unemployment rates fell again. However, they did not regain the level of the pre-crisis years 2007 or 1997.

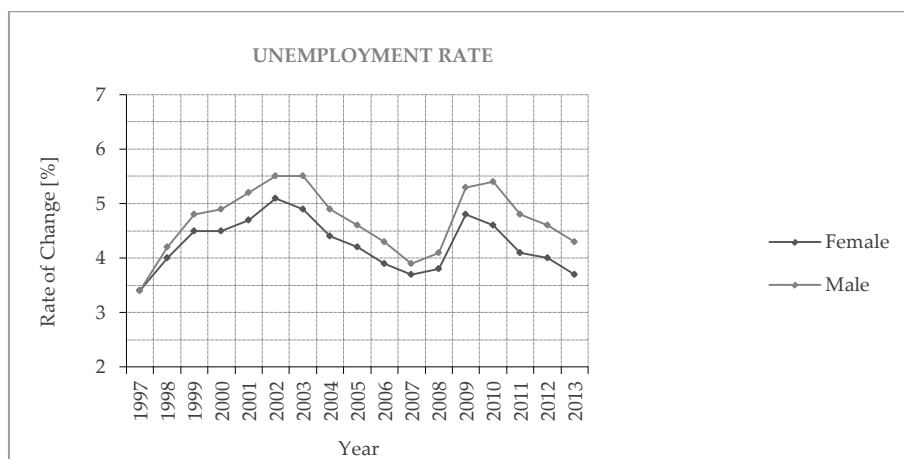


Figure 84 Japan: Unemployment Rates (II)

Sources:

Statistics Bureau and Ministry of Internal Affairs and Communications 2014c:492, 493

Therefore, both of the crises seem to have driven up unemployment rates in 1998 and 1999, and, in contrast to South Korea, also in 2008 and 2009. It is hard to explain why rates kept on increasing at the turn of the century though. Nor is it clear what caused unemployment rates to drop only from 2003 on after the Asian Financial Crisis, but already from 2010, or from 2011 on, after the Global Financial Crisis. It is even less understandable at which level the natural rate might be, as there was no year when unemployment rates rested at any specific level. Only in 2000, did female unemployment rates seem to almost level off at around 4.6 %, before

increasing further in 2001. Therefore, it is also difficult to tell whether this value was only an anomaly, or whether it indicated a natural rate in 2000 for female unemployment.

In contrast, male unemployment was higher than female unemployment rates. In 2003, there was a similar movement in male unemployment rates to female unemployment rates, when male unemployment rates almost levelled off at 5.5 %. But, again, since this happened only for the year mentioned, and since rates reached with this value their maximum point, this value seems rather to be an exception than the natural rate.

Other clues cannot be gleaned from this chart. In 2013, rates of male unemployment were as high as in 2006, while rates of female unemployment were as high as in 2007. At the same time, unemployment rates were falling, just as they were in 2006 and 2007, to reach another minimum value. Therefore, the question arises whether rates will increase from 2014 or 2015 on, after dropping in 2013, and perhaps in 2014. In either case, Phelps' theory fails to explain developments in Japan any further.

7.3 China

China is also very interesting regarding Phelps' theory. As unemployment rates (almost) levelled off for a couple of years before sharply increasing, and then levelled off again, we can identify three possible natural rates of unemployment here:

The first one occurred from 1997 to 2000, and accounted for 3.1 %. After increases in the unemployment rate from 2001 to 2003, rates kept their level from 2003 to 2007 at around 4.2 % (i.e. the second natural rate), with a small downward trend. Another increase in unemployment rates in 2008 and 2009 was followed by a decrease, leaving unemployment rates, and, therefore, the natural rate, at a level of 4.1 %.

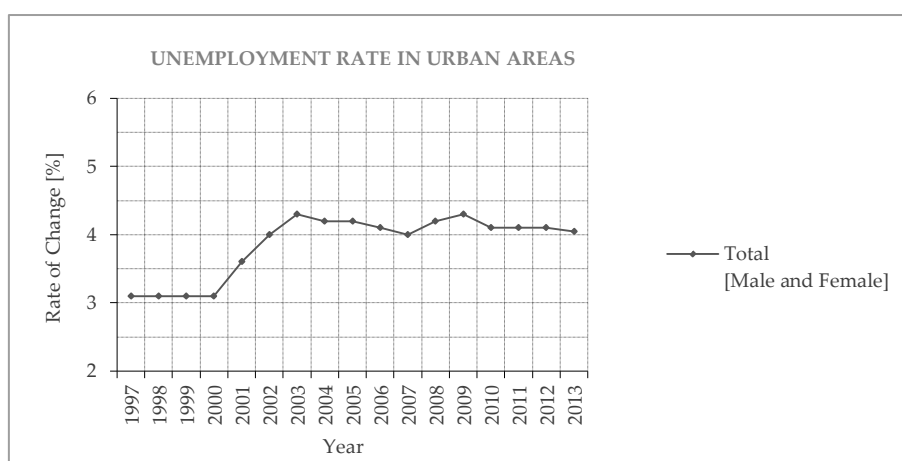


Figure 85 China: Unemployment Rates (II)

Sources:

National Bureau of Statistics of China (comp.) 2014:89; National Bureau of Statistics of China (comp.) 2008:109; National Bureau of Statistics of China (comp.) 2003:123; National Bureau of Statistics of China (comp.) 2000:115

In this context, it is very interesting that the Asian Financial Crisis did not seem to have an impact on unemployment rates, and, therefore, did not seem to boost the natural rate. On the other hand, something from 2001 on to 2003 certainly did shed some influence on the level of the natural rate, making it higher than in the period from 1997 to 2000, or from 2003 to 2007. It is also interesting that in the midst of the crisis, 2008 and 2009, unemployment rates did not increase as sharply as they had from 2000 to 2003. On the other hand, it is striking that even after rates increased in the aforementioned years they levelled down in 2010 to their pre-crisis level and remained there.

All in all, the natural rate for the new millennium seems to be, accordingly to Phelps' theory, at around 4.15 %, whereas from 1997 to 2000 it seems to have been 3.1 %.

7.4 Vietnam

Regarding Vietnam, it seems to be as difficult as in the case of Japan to tell at which level the natural rate of unemployment might be. This is because unemployment rates decreased constantly every year. Only in 2008 and 2009, did rates almost level off at 4.6 %, before decreasing again. Because of the short period they levelled off, and because this period was during the time of the crisis, it is doubtful that value is indicative of the natural rate for that time. It rather seems to be a slowdown in the downward trend in unemployment rates caused by the crisis. More surprising is the fact that in 2013 unemployment rates increased again, and, by doing so, increased for the first time within the investigated period.

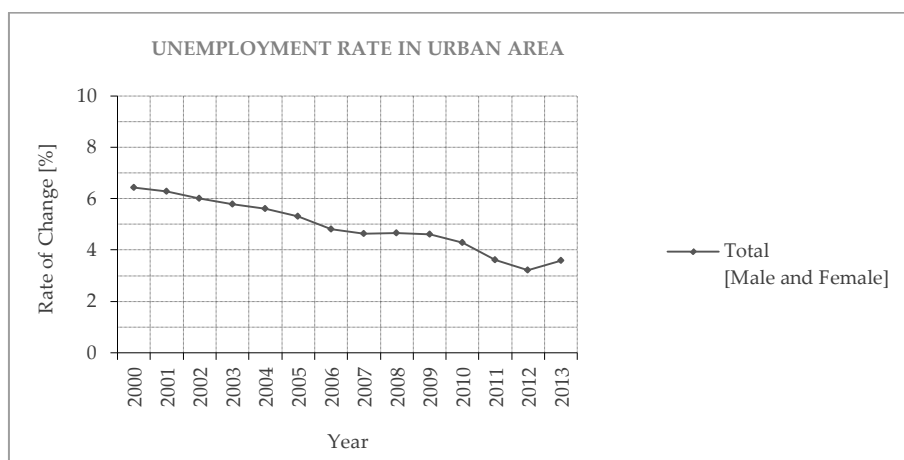


Figure 86 Vietnam: Unemployment Rates (II)

Sources:

General Statistics Office of Vietnam 2014a:133; General Statistics Office of Vietnam 2011a:119; General Statistics Office of Vietnam 2009a:61; General Statistics Office of Vietnam 2006a:49

All in all, it is hard to tell what caused the decreases in unemployment rates, and why decreases occurred during all these years, but not in 2013. And it is even harder to tell whether 2013 was just an anomaly before unemployment rates decreased further, or whether it marks

the beginning of an upward trend in unemployment rates. In either case, a natural rate in Phelps' sense cannot be identified for the moment.

7.5 Summary

In summary, a natural rate of unemployment could only be identified for South Korea (male: 3.9 %, female: 3.4 %) and for China (from 1997 to 2000: 3.1 %, from 2003 to 2013: 4.15 %), since unemployment rates were relatively levelled off for most of the period studied in those two countries. In contrast, neither for Japan where unemployment rates were severely fluctuating over time, nor for Vietnam where unemployment rates were steadily decreasing, could a natural rate be identified, since rates did not retain a certain level for a representative period of time.

Consequently, the question remains about how to apply this part of Phelps' theory to unemployment rates with strong fluctuations. Since this part of Phelps' theory fails Japan and Vietnam, conclusions on whether changes in female and male employment might be accompanied by changes in the natural rate of female and male unemployment rate can currently not be drawn. Further investigations are necessary that would, however, go beyond the scope of this thesis.

8 Conclusion

The preceding chapters 3, 4, 5, and 6 introduced possible methods and examples for applying Keynes' theory to today's economies and, consequently, for determining the impact of the crisis on male and female employment as well as a possible way out of the crisis. In conclusion, I present in this section the results.

8.1 Multiplier

South Korea

South Korea's multiplier was for two of six parameters (unemployment rates, unemployed receiving benefits) the weakest of the four countries studied. For three of six parameters (share of investments in GNI, openness of the country, and wealth of the country) it was the second weakest. Only the multiplier for additional employees was strong. Consequently, investment had its weakest impact on employment in South Korea.

As for the gender perspective, rates of women additionally employed were higher than rates of men additionally employed, indicating a greater impact of investments on female employment. On the other hand, male unemployment rates were higher than female unemployment rates, indicating a greater impact of investments on male employment than on female employment. Consequently, the impact of investment on male and female employment might have levelled off in South Korea.

The number of female unemployed receiving benefits increasing in direct proportion to the number of male unemployed receiving benefits supports the assumption that the impact of changes in economy on female and male employment (and unemployment) might have levelled off in South Korea.

Japan

On the other hand, Japan's multiplier was for three of six parameters (additional employees, share of investments in GNI, and wealth of the country) the weakest one. The multiplier for unemployed receiving benefits was the second weakest. Only for the openness of the country and for unemployment rates was the multiplier strong. Consequently, a comparative amount of investment had the second weakest impact on female and male employment in Japan.

Since rates of men additionally employed were lower than rates of women additionally employed, indicating a stronger multiplier for female employment on the one hand, while male unemployment rates were higher than female unemployment rates, indicating a weaker

multiplier for female employment on the other hand, impacts of investments on employment might have levelled off for female and male employment.

China

The multiplier in China was only for the investment share of GDP the highest of the four countries. With regards to three of six parameters, China's multiplier was the second strongest (unemployed receiving benefits, openness of the country, wealth of the country). Only the multiplier for additional employment and for unemployment rates was weak, with rates of male additional employment exceeding the rates of female additional employment.

Consequently, investment had its second largest impact in China. It had a little greater impact on male employment than on female employment provided that male unemployment rates were higher or equal to female unemployment rates. If female unemployment rates exceeded male unemployment rates, the impact of investment on male and female employment rates might have levelled off in China. Unfortunately, the data only provide total unemployment rates for China (but also for Vietnam), without segregating them into female and male categories unemployment rates, leaving this question unsettled.

Vietnam

The multiplier in Vietnam was the strongest for four of six parameters (rates of additional employment, unemployment rates, unemployed receiving benefits, wealth of the country). The share of investment in GNI was the second strongest one. Only with regards to the openness of the country did Vietnam present a weak multiplier, although the trade deficit indicates that the country was more closed than the other countries surveyed.

Consequently, investment had its greatest impact on employment in Vietnam. Since rates of additional male employment exceeded rates of additional female employment, investment had a stronger impact on male employment, provided that male unemployment rates were higher or equal to female unemployment rates. If female unemployment rates were higher than male unemployment rates, impact of investment on female and male employment might have levelled off.

8.2 Rates of Interest

South Korea

Additional investment increased in some years, despite the people appearing to have less money, considering the increase in both prices and consumption. Consequently, in those years, people seem to have drawn on their savings to meet their desire for consumption and

investment. By so doing, they confirm Keynes' theory about the propensity to consume not changing as rapidly as income.

In summary, investments changed in 11 of 16 years of the period surveyed in accordance with Keynes' theory, regardless of the number of parameters changing in the Keynesian way. Only the application of Keynes' theory to all four parameters seemed to be a guarantee for investment rates increasing or decreasing with consumption rates in the way Keynes suggested. As for the amount of investment, investment became with consumption more levelled in the course of time surveyed, indicating that growth in the volume of investment was on the downturn in South Korea.

Rates were relatively close to one another compared with the ones in the other three countries studied, with the volume of investment changing to a similar extent as consumption. Consequently, in order to increase the volume of investment it might be necessary to increase additional consumption to that extent desired to have in the volume of investment.

Japan

In contrast to the other three countries surveyed, incomes, prices and investments were negative for most of the period surveyed, indicating deflation, declines in extra money to spend on consumption or investment, as well as declines in investment. Since consumption was increasing regardless the shortfalls in incomes, people might have used their savings to satisfy their demand for consumption in those years.

In 9 of 15 years the amount of investment changed with consumption in line with Keynes' theory. Thereby, the application of Keynes' theory to all four parameters was, like in South Korea, a guarantee for investment and consumption to change in accordance with Keynes' theory. Additionally, it seemed not to be amiss when consumption and prices on the one hand, and prices and investments on the other, did not change in the Keynesian way, as long as income and consumption, as well as investment and interest, changed in the Keynesian manner. In those cases too, investment increased and decreased the way Keynes suggested.

The volume of investment responded with significant changes in rates to slight decreases in consumption rates, but with only slight changes to distinct increases in consumption rates. Consequently, in order to significantly increase the volume of investment in Japan, it might be necessary to increase the amount of additional consumption to an extent that significantly exceeds the expected increase in the volume of investment. On the other hand, it seems to be crucial to maintain a stable level in consumption rates, since slight decreases in additional consumption are likely to cause severe decreases in the volume of investment.

China

As in South Korea, an increase in additional money for investment seems to have been prevented by an increase in prices in some years in China. Nevertheless, investment rates increased significantly and relatively independently from changes in price rates.

In summary, in 11 of 16 years the volume of investment increased or decreased in line with Keynes' theory, by either changing at the same time with consumption, or after a one year's delay. Thereby, investment rates increased or decreased with consumption rates independent from whether each parameter changed in the Keynesian way or not.

The volume of investment distinctly exceeded the amount of additional consumption in most years from 2000 to 2011. Like in the period surveyed, future investment might respond with a time delay to changes in the amount of consumption. However, it remains unsettled as to what extent the volume of investment will generally change when the amount of additional consumption changes, since the impact of fluctuations in consumption on the volume of investment strongly varied over time.

Vietnam

In clear contrast to the other three countries surveyed, people in Vietnam did not seem to spend their extra earnings on consumption, but rather used it to stock up their savings or to spend it on investment. On the other hand, since 2007, a part of these additional earnings seem to have been consumed by the increase in prices, but not by the increase in investment, since investment rates fell with the increase in price rates at that time.

In 9 of 12 years of the period studied Keynes' theory applied to consumption and investment rates. Since those years did not have any representative number of parameters moving in line with Keynes' theory, investment and consumption seemed to change the way Keynes suggested, regardless of whether each parameter changed in the Keynesian way or not.

As for the level of investment, slight changes in the amount of additional consumption caused significant changes in the level of investment from 2006 on. In the years preceding 2006, investment rates responded smoothly to changes in additional consumption. Consequently, the level of investment increases significantly as additional consumption increases, just as it will significantly diminish when additional consumption decreases.

8.3 Employment function

South Korea

In 8 of 14 years female and male employment increased or decreased with demand in terms of investment the way Keynes suggested. Thereby, the application of Keynes' theory to all parameters was a guarantee for female and male employment to change with demand in the Keynesian way. However, the years when Keynes' theory applied differed for female and male employment.

As for the amount of investment necessary to attain full female employment, employment responded to significant changes in investment, and, therefore, demand by changing to a relatively small extent. Consequently, a comparatively large volume of investment might be necessary to reach full female employment.

Since male employment rates responded to a lesser extent to changes in demand than female employment rates, an even larger level of investment might be necessary to attain full male employment. Consequently, full employment might be reached in female employment first.

Japan

In 10 of 14 years female employment rates changed with demand in accordance with Keynes' theory. On the other hand, in 11 of 15 years male employment and demand went in line with Keynes' theory. Similar to South Korea, the application of Keynes' theory to all three parameters was a guarantee for female and male rates to change with demand in the Keynesian way.

As for the necessary amount of investment to attain full female employment, female and male employment in Japan responded to a small extent to significant changes in the level of investment when investment decreased, i.e. were negative. In contrast, when the volume of investment was increasing, i.e. with rates above zero, elasticity of female and male employment seemed to be higher. Consequently, small changes in the amount of investment might, therefore, be sufficient to cause full female and male employment. On the other hand, decreases in investment will have a small impact on female and male employment.

Since male employment rates were lower than female employment rates, a certain amount of investment seemed to have a stronger influence on female employment than on male employment. On the other hand, male employment changed more often with demand in accordance with Keynes' theory than female employment. Consequently, full employment might be attained with a similarly high level of investment at a similar time in both, female and male, employment.

China

In 11 of 17 years female employment changed with demand in the way Keynes' suggested. On the other hand, in 6 of 11 years male employment changed in line with Keynes' theory. Only the application of Keynes' theory to all three parameters was a guarantee for female and male employment to change in accordance with Keynes' theory. Like in South Korea and Japan, a general rule for the other years when employment and demand changed in the Keynesian way, could not be drawn due to a lack of common characteristics in those years.

On the one hand, since rates of additional male and female employment were significantly closer to zero than rates were in the other three countries surveyed, and on the other hand, since the gap between investment and employment rates was distinctly larger than in the other three countries, responding only slightly to significant changes in investment rates, employment in China seems to be quite close to full employment.

Female employment rates showed stronger fluctuations in response to changes in demand than male employment, and changed also more often with demand in the Keynesian way, indicating a stronger responsiveness to changes in demand than male employment rates. On the other hand, male employment seemed to be closer to full employment, as rates of male

employment were on average closer to zero than female employment rates, and less responsive to changes in demand. Consequently, full employment might be attained in male employment first.

Since full employment might be more difficult to attain the closer employment gets to full employment, an even greater amount of investment might be necessary to reach full female employment.

Vietnam

In 5 of 7 years, female employment and demand changed in accordance with Keynes theory. In contrast, male employment and demand moved in all seven years in a way opposed to Keynes' theory. As in the other countries surveyed, the application of Keynes' theory to all three parameters was a guarantee for employment and demand to change in line with Keynes.

As for the necessary amount of investment to attain full female employment, significant changes in the volume of investment had relatively little impact on female employment. Since female employment rates in Vietnam were more responsive to changes in investment rates than employment rates in China, a high level of investment, though slightly smaller than in China, might be necessary to attain full employment in Vietnam. On the other hand, the closer female employment gets to full employment the less responsive might female employment become to demand, making an increasingly higher level of investment necessary to attain full employment.

In contrast, male employment responded in an inverse way to changes in demand, making it, on the one hand, difficult to estimate the amount of investment necessary compared to the amount of investment for female employment to reach full male employment, and indicating, on the other hand, that full employment might be attained in female employment first.

8.4 Extension: Unemployment Rates

Unfortunately, Phelps' theory did not contribute with any comparable information about changes in the natural rate of unemployment during the Global Financial Crisis, since it only applied to South Korea and China, not to Japan and Vietnam.

8.5 Closing Remarks on the Gender Perspective

In summary, the Global Financial Crisis seems to have had a levelling impact on Female Labour Force Participation in East and Southeast Asia.

In Vietnam, slight changes in the amount of additional consumption caused significant changes in the level of investment. The multiplier indicated either possibly stronger influence

of investment on male employment than on female employment, or a levelling effect on male and female employment. Nevertheless, there seemed to be a relatively large volume of investment necessary to attain full employment. The employment function showed that full employment might be attained in female employment first, before being reached in male employment. All in all, Vietnam might be the second country, after China, to reach full employment.

In China, the influence of changes in consumption on the volume of investment varies too strongly to draw a general rule. However, there will be a large amount of investment necessary to reach full employment. Nevertheless, China seem to be the country closest to full employment compared to the other three countries surveyed, attaining, consequently, full employment first. The multiplier indicated that the influence of investment might be either stronger on male employment than on female employment, or have a levelling effect on male and female employment. The employment function, however, showed that full employment might be reached a little earlier in male employment than in female employment.

In Japan, the volume of investment increased only slightly when additional consumption distinctly increased, but decreased significantly when additional consumption fell. Consequently, only large changes in consumption will have a significant impact on the volume of investment. On the other hand, small changes in the amount of investment might be sufficient for attaining full employment. The multiplier indicated that investment might have a levelling effect on female and male employment. Indeed, according to the indications from the employment function, full female and male employment might be attained at the same time. Japan might be the third country of the countries studied to reach full employment, since the gap between investment and employment rates was larger than the gap between rates in South Korea.

And in South Korea, changes in consumption caused similar changes in the level of investment. However, a high level of investment might be necessary to reach full employment. The multiplier indicated that investment might have had the same impact on female and male employment. Nevertheless, according to South Korea's employment function, full employment might be attained a little earlier in female employment. All in all, South Korea might be the last country of the three surveyed to attain full employment.

In this context, it is interesting that full employment might be attained in the communistic and, therefore, in the middle-income countries, first (China, Vietnam), before being reached in the democratic and high-income economies (Japan, South Korea). However, female employment does not seem to have been impacted at this level by the Global Financial Crisis any more male employment. The impact of the Global Financial Crisis seems rather to be relatively similar for female as well as male labour force participation.

Bibliography

Antonopoulos, Rania

- 2009 *The Current Economic and Financial Crisis: A Gender Perspective*.
www.levyinstitute.org/pubs/wp_562.pdf (23.11.2015).

Bhattacharyya, Nikhilesh

- 2011 *Monetary policy and employment in developing Asia*. ILO Asia-Pacific Working Paper Series. www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_174924.pdf (23.11.2015).

Cazes, Sandrine, Sher Verick and Caroline Heuer

- 2009 *Labour market policies in times of crisis*. Employment Sector. Employment Working Paper No. 35.
www.ilo.org/wcmsp5/groups/public/@ed_emp/@emp_policy/documents/publication/wcms_114973.pdf (23.11.2015).

General Statistics Office of Vietnam

- [2014a?] "Population and Employment".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=17066 (13.11.2015).
- [2014b?] "National Accounts and State Budget".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=17067 (13.11.2015).
- [2014c?] "Enterprise and individual business establishment".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=17069 (13.11.2015).
- [2014d?] "Trade and Tourism". www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=17072 (13.11.2015).
- [2014e?] "Price Index". www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=17073 (13.11.2015).
- [2013a?] "Population and Employment".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=18851 (13.11.2015).
- [2013b?] "National Accounts and State Budget".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=18853 (13.11.2015).
- [2013c?] "Enterprise and individual business establishment".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=18855 (13.11.2015).
- [2012?] "Population and Employment".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=15361 (13.11.2015).
- [2011a?] "Population and Employment".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=14409 (13.11.2015).
- [2011b?] "National Accounts and State Budget".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=14410 (13.11.2015).
- [2010a?] "Population and Employment".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=12197 (13.11.2015).
- [2010b?] "Trade, Price and Tourism".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=12190 (13.11.2015).
- [2009a?] "Population and Employment".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=10305 (13.11.2015).

- [2009b?] "National Accounts and State Budget".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=10306 (13.11.2015).
- [2009c?] "Trade, Price and Tourism".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=10311 (13.11.2015).
- [2006a?] "Population and Employment".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=6047 (13.11.2015).
- [2006b?] "National Accounts and State Budget".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=6048 (13.11.2015).
- [2006c?] "Trade, Price and Tourism".
www.gso.gov.vn/Modules/Doc_Download.aspx?DocID=6055 (13.11.2015).
- ILO International Labour Organization
- [2015a?] "China", *ILO International Labour Organization. Promoting Jobs, Protecting People*.
www.ilo.org/dyn/ilossi/ssipop.viewPopulation?p_lang=en&p_geoaid=156
 (13.11.2015).
- [2015b?] "China", *ILO International Labour Organization. Promoting Jobs, Protecting People*.
www.ilo.org/dyn/ilossi/ssipop.viewEmployment?p_lang=en&p_geoaid=156
 (13.11.2015).
- [2015c?] "Japan", *ILO International Labour Organization. Promoting Jobs, Protecting People*.
www.ilo.org/dyn/ilossi/ssipop.viewPopulation?p_lang=en&p_geoaid=392
 (13.11.2015).
- [2015d?] "Viet Nam", *ILO International Labour Organization. Promoting Jobs, Protecting People*.
www.ilo.org/dyn/ilossi/ssipop.viewPopulation?p_lang=en&p_geoaid=704
 (13.11.2015).
- [2015e?] "Viet Nam", *ILO International Labour Organization. Promoting Jobs, Protecting People*.
www.ilo.org/dyn/ilossi/ssipop.viewEmployment?p_lang=en&p_geoaid=704
 (13.11.2015).
- [2014?] "Table B.3 Unemployment: indicators of effective coverage. Unemployed who actually receive benefits (percentages)", *ILO Social Protection. Building social protection floors and comprehensive social security systems*.
www.socialsecurityextension.org/gimi/gess/RessourceDownload.action?ressource.ressourceId=37697 (13.11.2015).
- [2013a?] "Viet Nam. Schemes. 1.3 SSS - Unemployment insurance", *ILO International Labour Organization. Promoting Jobs, Protecting People*.
www.ilo.org/dyn/ilossi/ssimain.viewScheme?p_lang=en&p_scheme_id=3037&p_geoaid=704 (13.11.2015).
- [2013b?] "1.3 SSS - Unemployment insurance - Unemployment benefit", ILO International Labour Organization. Promoting Jobs, Protecting People.
www.ilo.org/dyn/ilossi/ssimain.viewBenefit?p_lang=en&p_scheme_id=3037&p_scheme_benefit_id=6869&p_geoaid=704 (13.11.2015).
- [2011?] "Viet Nam - 01 Jan 2010 - 31 Dec 2010. 1.3 SSS - Unemployment insurance", ILO International Labour Organization. Promoting Jobs, Protecting People.
www.ilo.org/dyn/ilossi/ssimain.updSchemeAffiliation?p_lang=en&p_geoaid=704&p_scheme_id=3037&p_social_id=2457 (13.11.2015).
- [2010?] "Viet Nam - 01 Jan 2009 - 31 Dec 2009. 1.3 SSS - Unemployment insurance", ILO International Labour Organization. Promoting Jobs, Protecting People.
www.ilo.org/dyn/ilossi/ssimain.updSchemeAffiliation?p_lang=en&p_geoaid=704&p_scheme_id=3037&p_social_id=2237 (13.11.2015).

Keynes, John Maynard

2011 *The General Theory of Employment Interest and Money*. New York: Martino Publishing.

Krugman, Paul

2006 *Introduction by Paul Krugman to The General Theory of Employment, Interest, and Money, by John Maynard Keynes*.
www.pkarchive.org/economy/GeneralTheoryKeynesIntro.html (23.11.2015).

National Bureau of Statistics of China (comp.)

2014 *China Statistical Yearbook 2014*. Beijing: China Statistics Press.
 2013 *China Statistical Yearbook 2013*. Beijing: China Statistics Press.
 2012 *China Statistical Yearbook 2012*. Beijing: China Statistics Press.
 2008 *China Statistical Yearbook 2008*. Beijing: China Statistics Press.
 2003 *China Statistical Yearbook 2003*. Beijing: China Statistics Press.
 2002 *China Statistical Yearbook 2002*. Beijing: China Statistics Press.
 2001 *China Statistical Yearbook 2001*. Beijing: China Statistics Press.
 2000 *China Statistical Yearbook 2000*. Beijing: China Statistics Press.
 1999 *China Statistical Yearbook 1999*. Beijing: China Statistics Press.

National Statistical Office (comp.)

2008 *Korea Statistical Yearbook. The 55th Edition*. Daejeon: National Statistical Office (PDF).
 [2007?] *Korea Statistical Yearbook. The 54th Edition*. [Daejeon?]: National Statistical Office (PDF).
 [2006?] *Korea Statistical Yearbook. The 53th Edition*. [Daejeon?]: National Statistical Office (PDF).
 2005 *Korea Statistical Yearbook. The 51th Edition*. Daejeon: National Statistical Office.
 2002 *Korea Statistical Yearbook. The 49th Edition(2002)*. Daejeon: National Statistical Office.
 2001 *Korea Statistical Yearbook. The 48th Edition(2001)*. Daejeon: National Statistical Office.

Phelps, Edmund S.

1995 "The Structuralist Theory of Employment", Department of Economics, Columbia University New York (ed.), *AEA Papers and Proceedings 85/2*, 226–231.
www.columbia.edu/~esp2/struct.pdf (11.11.2015).

Sesselmeier, Werner, Lothar Funk and Bernd Waas

2010 *Arbeitsmarkttheorien. Eine ökonomisch-juristische Einführung* (Labour Market Theories. An Economic and Legal Introduction). 3rd ed. Heidelberg et al: Physica-Verlag.

Siven, Claes-Henric [rev.]

1974 "Inflation Policy and Unemployment Theory by Edmund S. Phelps", *The Swedish Journal of Economics* 76/3, 370–375. www.jstor.org/stable/3438905 (11.11.2015).

- Statistics Bureau and Ministry of Internal Affairs and Communications
 [2014a?] "Chapter 3 National Accounts", *Statistics Japan*.
www.stat.go.jp/english/data/nenkan/pdf/yhyou03.pdf (13.11.2015).
- [2014b?] "Chapter 6 Business Activities", *Statistics Japan*.
www.stat.go.jp/english/data/nenkan/pdf/yhyou06.pdf (13.11.2015).
- [2014c?] "Chapter 16 Labour and Wages", *Statistics Japan*.
www.stat.go.jp/english/data/nenkan/pdf/yhyou16.pdf (24.11.2015).
- [2014d?] "Chapter 17 Prices", *Statistics Japan*.
www.stat.go.jp/english/data/nenkan/pdf/yhyou17.pdf (13.11.2015).
- [2014e?] "Chapter 20 Social Security", *Statistics Japan*.
www.stat.go.jp/english/data/nenkan/pdf/yhyou20.pdf (13.11.2015).
- [2014f?] "Chapter 27 Comparative International Statistics", *Statistics Japan*.
www.stat.go.jp/english/data/nenkan/pdf/yhyou27.pdf (13.11.2015).
- [2013?] "3-1 Gross Domestic Product (Expenditure Approach). B In Real Terms (Chain-linked Method)", *Statistics Japan*.
www.stat.go.jp/data/nenkan/back63/zuhyou/y0301b00.xls (13.11.2015).
- Statistics Bureau et al. (eds)
 2006 *Japan Statistical Yearbook 2007*. 56th ed. Tokyo: Japan Statistical Association.
 2004 *Japan Statistical Yearbook 2005*. 54th ed. Tokyo: Japan Statistical Association.
 2001 *Japan Statistical Yearbook 2002*. 51st ed. Tokyo: Japan Statistical Association.
- Statistics Bureau, Statistical Research and Training Institute and Ministry of Internal Affairs and Communications (eds)
 2012 *Japan Statistical Yearbook 2013*. 62nd ed. Tokyo: Japan Statistical Association.
 2010 *Japan Statistical Yearbook 2011*. 60th ed. Tokyo: Japan Statistical Association.
 2008 *Japan Statistical Yearbook 2009*. 58th ed. Tokyo: Japan Statistical Association.
- Statistics Korea (comp.)
 2015 *Korea Statistical Yearbook. The 61st Edition*. Daejeon: Statistics Korea (PDF).
 2013 *Korea Statistical Yearbook. The 59th Edition*. Daejeon: Statistics Korea (PDF).
 2010 *Korea Statistical Yearbook. The 57th Edition*. Daejeon: Statistics Korea (PDF).
 2009 *Korea Statistical Yearbook. The 56th Edition*. Daejeon: Statistics Korea.
- The World Bank
 2015 "Real interest rate (%)", *The World Bank. Working for a World Free of Poverty*.
data.worldbank.org/indicator/FR.INR.RINR (Data from database: World Development Indicators; 13.11.2015).
 2013 "New Country Classifications", *The World Bank. Working for a World Free of Poverty*.
data.worldbank.org/news/new-country-classifications (13.11.2015).
- Walby, Sylvia
 2009 "Gender and the Financial Crisis", Paper for UNESCO Project on 'Gender and the Financial Crisis'.
www.lancaster.ac.uk/fass/doc_library/sociology/Gender_and_financial_crisis_Sylvia_Walby.pdf (26.11.2015).

Appendix

Executive Summary

This Master's thesis is on the research question of what impact the Global Financial Crisis might have had on Female Labour Force Participation in South Korea, Japan, China and Vietnam. I applied Keynes' Theory of Employment, Interest and Money, in order to answer this question. Phelps' Theory of Inflation and Unemployment and the Segmentation Theories complemented Keynes' theory. However, the core parts of this thesis (Chapter 3, 4, 5, 6) are based on the Keynesian methods.

Consequently, Chapter 3 introduces the way propensity to consume might have changed over time, and especially during and in the aftermath of the crisis, in the countries surveyed. Chapter 4 is on the relative strength of the multiplier determining the extent of impact that investment might have on employment in each country. Chapter 5 focusses on changes in rates of interest and, consequently, on changes in employment over time. And Chapter 6 introduces with the employment function the possible amounts of investment necessary to attain full employment.

In this way, this thesis offers possible methods and examples for applying Keynes' theory to today's economies in East and Southeast Asia.

Zusammenfassung

Diese Masterarbeit befasst sich mit der Forschungsfrage, welche Auswirkungen die globale Finanzkrise auf die Beteiligung der Frauen am Arbeitsmarkt in Südkorea, Japan, China und Vietnam bisher hatte. Zur Beantwortung dieser Frage habe ich Keynes' Allgemeine Theorie der Beschäftigung, des Zinses und des Geldes angewandt und diese um Phelps' Theorie der Inflation und Arbeitslosigkeit sowie um die Segmentationstheorien ergänzt. Das Kernstück dieser Arbeit (Kapitel 3, 4, 5, 6) basiert jedoch auf den Methoden nach Keynes.

Dementsprechend handelt Kapitel 3 von dem Ausmaß, um welches sich die Konsumneigung in den untersuchten Ländern über die Jahre, und insbesondere vor und nach der Krise, verändert hat. In Kapitel 4 stelle ich die relative Stärke des Multiplikators, der bestimmt, wie viel Einfluss eine Investition auf das Beschäftigungsvolumen in den einzelnen Ländern hat, vor. Kapitel 5 befasst sich mit den Veränderungen der Zinsraten im Laufe der Zeit und den damit einhergehenden Veränderungen im Beschäftigungsvolumen. Und in Kapitel 6 behandle ich mit der Beschäftigungsfunktion das Investitionsvolumen, das möglicherweise notwendig ist, um Vollbeschäftigung zu erreichen.

Insofern stellt diese Arbeit mögliche Methoden und Beispiele zur Anwendung von Keynes' Theorie auf moderne Wirtschaften in Ost- und Südostasien vor.

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		Listening	Reading		
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Japanese	Independent	B1	B1	B2	B1
Chinese	Basic	A2	A1	A1	A1

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