The Importance of Informal Sector during an Economic Crisis: A Story from Indonesia[1*]

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Abstract

This paper aims to examine the importance of informal sector as the last resort for employment during an economic crisis with Indonesia as the case study. Since its independence in 1945, Indonesia had experienced two big economic crises, namely the 1997/98 Asian financial crisis and the 2008/09 global economic crisis. The paper is based on secondary data analysis and a review of key literature on the crises. During those two crises periods, total employment in the country was generally expected to decline or open unemployment to increase significantly. But, surprisingly, total employment increased, and open unemployment increased only slightly in 1998 and dropped during the 2008-2009 period. One reason was that many laid off workers from crises-affected companies ended in informal economic activites that led to the increase of informal employment.

Keywords: Asian financial crisis, global financial crisis, employment, open unemployment

Introduction

As an open economy, Indonesia is always vulnerable to any economic shocks originated from outside. Especially, since Indonesia started for the first time a great economic reform in the 1980s toward international trade, banking, investment, and capital account liberalizations, the Indonesian economy has become more integrated with the world economy. Since the beginning of the 1990s until today, Indonesia had experienced two big economic crises. The first one was the Asian financial crisis, started in mid. 1997 and reached its climax in mid. 1998 when the national currency, i.e. rupiah, depreciated more than 300 per cent against the US dollar. The second one was during the 2008-2009 period, known as the global economic crisis. As employment or unemployment is always a very important issue in Indonesia, given the fact that it is a highly populated country, and Indonesia does not have unemployment benefits, which means that unemployment is strongly related with poverty, the main political concern during those two crises was their impact on employment and poverty. When hit by those two crises, it was generally expected, as according to a general theory, that many domestic economic activities will stagnate, many companies will collapse or they have to reduce their production volumes and lay off many of their workers. So, it was expected that open unemployment will rise up.

This paper aims to examine the Indonesian experiences with these two crises. More speciafically, based on national data on employment and open unemployment, it addresses three key research questions. First, theoretically, what were the main transmission channels through which the two crises affected employment? Second, evidently, what was the impact of these two crises on employment and open unemployment in Indonesia? Third, what was the change in informal employment during the two crisis periods?

[*] *This study is part of a research project conducted in 2015 with the support of the International Labor Organisation in Geneva (ref.no. 40147537.0).*

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Literature Review

Academic literature on the Asian financial crisis during the 1997-98 period and the global economic crisis in 2008 and 2009, is huge. One common of the literature is that countries have responded to varying degrees to the crisis, and with varying degrees of success. For instance, to mention some, Eichhorst, *et al*. from International Labour Organization, for instance, examine the impacts of economic crises on various countries from an institutional perspective taking into account different channels of external, internal and wage flexibility determined by both the institutional arrangements in place before the crisis and discretionary reforms implemented during the crisis. Their emphasis is placed on the role of permanent and temporary jobs, working time adjustment, wage flexibility and active and passive labour market policies. Their study shows that, at least for the time being, unemployment increases have been contained in countries with comparatively strong internal flexibility. At the same time, however, it appears that the crisis has, at least in some cases, contributed to a further dualization of labour markets given that risks are allocated unequally across types of employment. They found that a number of factors have moderated the labour market impacts of the crisis on individual countrie, and the most important one among the factor is fiscal stimulus packages, especially those that were timely and properly targeted, played a key role in alleviating the negative effects of the crisis.The structure of the economy also plays an important role, as vulnerable sectors constitute a larger share in some countries compared to others, i.e. sectors that tend to be affected by the global economic crisis significantly. In particular, countries which rely heavily on manufacturing suffered from a severe output shock in this segment. Another important consideration in this regard (although less studied) is the capacity of labour market institutions (e.g. wage setting, unemployment benefits) to absorb and accommodate shock).

Based on online survey on 10,000 responses in private firms from various sizes in Germany in 2009, Heide (2010) found that many firms have responded to the global economic crisis occurred in 2008 and 2009 by reducing their employee numbers, introducing short-time working, and cutting pay and benefits. However, the experiences of individual employees vary considerably, depending on economic sector and type of employee. As also concluded in many other studies, this Heide's study also suggests that the structure of the economy plays an important role.

Some Tambunan's publication on the two crises (2010, 2011) come with the conclusion that degree of economic openness, measured by percentages of international trade (import and export) in countries' total trade and foreign direct investment (FDI) in countries' total investment, is among important factors in determining the impact of external originated crises on domestic economy. Depending on the source of the crisis, the structure of the economy plays also an important role. If the crisis comes from the decline in world prices of mining or agricultural commodities, countries depending much on these sectors will suffer most; if it comes from the world income slump, it will lead to a serious crisis for countries which rely heavily on international trade, particularly export of manufactured goods.

Markovitsa *et al*. (2013) examine the impact of the 2008-2009 global economic crisis in Greece on employee work-related attitudes via changes in regulatory focus. They collected data in a large and heterogeneous sample of employees (N = 1024) during the crisis and compared them with a matched sample of employees surveyed (N = 882) half a decade earlier, i.e., before the crisis. Participants reported their job satisfaction, organizational commitment and their self-regulatory focus. Results show, as expected, that participants after start of the crisis were lower in extrinsic job satisfaction, affective organizational commitment and were also (unexpectedly) lower in normative commitment, while these attitudinal changes were explained by decreased promotion orientation and increased prevention focus. This paper makes a relevant contribution by showing that the threatening crisis event does not only have negative effects on work-related outcomes, but also that changes in regulatory foci occur and explain attitudinal change indicating an adaptive mechanism to the threatening situation of an economic crisis.

The Expected Impact of the Two Crises on Employment: A Theoretical Discussion

From the literature review and own observations during the two crisies, the theoretical explanations of the impacts of the crises and their main transmission channels on economic growth and then employment can be constructed as the followings.

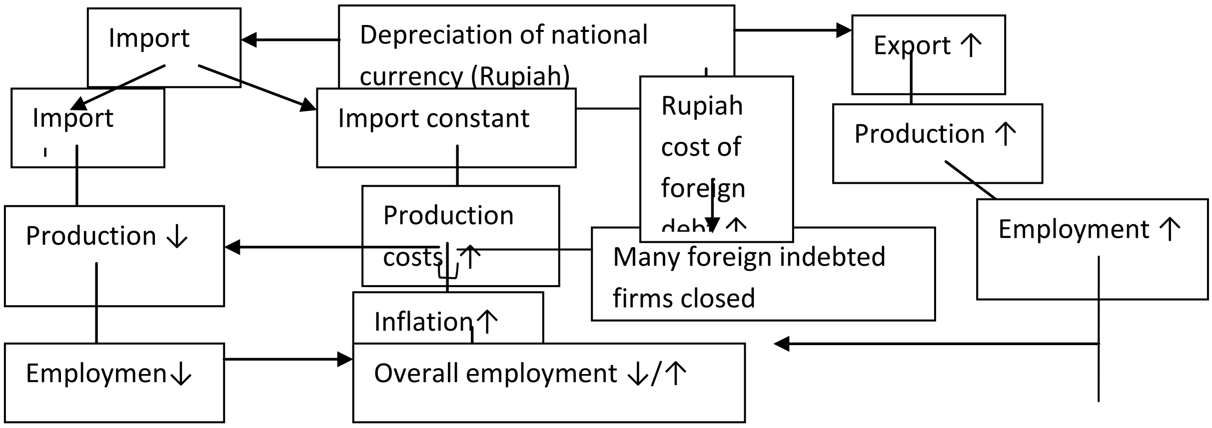
The 1997-98 Asian Financial Crisis

In Indonesia, the 1997/98 Asian financial crisis was triggered by a sudden capital flight from the country which led its national currency, the rupiah, to depreciate significantly against the US dollar. The depreciation was soon followed by a national banking crisis and ended with a national economic crisis. Through the rupiah depreciation and higher interest rate (as the monetary authority's direct response in that time in order to stop capital flight), the crisis hit first middle and high income groups such as current employees in the financial/banking sector and large scale industries which strongly dependent on credits from bank or other financial institutions and on imports. After few months, domestic inflation started to increase, accompanied with the increase in unemployment due to many laid off employees in crisis-affected firms. It then resulted in a significant increase in poverty in 1998.

Thus, for Indonesia, the 1997/98 crisis was initialy a currency crisis. Theoretically, the direct impact of a currency depreciation will be primary on export and import of the country concerned (Figure 1). By assuming other factors keep constant, export and then production and employment or income in the exporting firms/sectors and in their backward as well as forward linked firms/sectors will increase. This can be considered as the export effect of a currency depreciation. On the import side, domestic prices of imported consumption and non-consumption goods will also increase. In the case of non-consumption goods (i.e. raw materials, capital and intermediate goods, components/spare parts), as a direct response to higher prices (in national currency) of these imported goods, one of the following two scenarios is likely to happen: (1) imports decline and, consequently, total domestic production and employment also drop, or (2) imports may stay constant, but it will lead domestic production cost to increase and, finally, will result in higher domestic inflation. This can be seen as a currency depreciation.

Besides the above two effects, a national currency depreciation also makes the value in national currency of foreign debts (in foreign currency against which the national currency has depreciated) owned by domestic firms to rise. Many highly foreign indebted domestic firms will face a serious financial crisis. If many of these high indebted domestic companies have to reduce their production or they could even go bankrupt, domestic total production and employment then will further decline. This can be called as the foreign debt cost effect of a national currency depreciation.

Figure 1: The Expected Impact of the 1997/98 Asian Financial Crisis on Domestic Employment



The net result of all those effects on employment, however, can be postive, or negative, or no effect at all, depending on whether the export (positive) effect is larger, equal to, or smaller than the import and foreign debts cost (negative) effects of the currency depreciation. The key issue here is whether export will increase when national currency is weakening. Theoretically, it will depend at least on two main factors: (i) the proportion of imported inputs in the export products, because it determines to what extent the price competitiveness of the products will increase when national currency depreciates; and (ii) domestic production capacity of the export goods, which determines to what extent the production will increase when their price competitiveness increases. If, the positive (export) effect is the same as the negative (import and foreign debt cost) effects, which means that 'crowding-out effect' occurs, there will be no change.

The 2008-2009 Global Financial Crisis

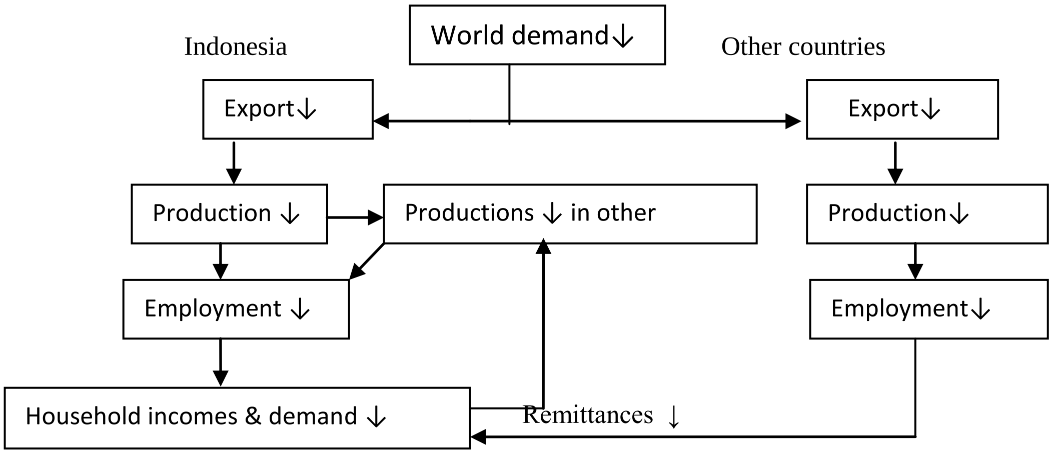
The 2008/2009 crisis has been called by many economists as the most severe economic or financial crisis ever happened since the great depression in the 1930s. The crisis impacted many countries through various channels, i.e. exports, investment (including FDI), and remittances. However, for Indonesia and many other developing countries, the most important channel was export. Retrenchments mounted in many export-oriented manufacturing firms in these countries, while working time fell along with increased downward pressure on wages. Also many employees in these firms were laid off and many of them migrated back to rural areas and shifted to informal and vulnerable employment.

As export was the most important transmission channel, therefore, the 2008/09 crisis for Indonesia and many other affected countries was considered primarily as a world demand/export market crisis. Theoretically, as illustrated in Figure 2, this kind of shock will affect domestic economy at the first stage through its effects on domestic export-oriented firms. It leads further to less production and employment in these firms and in other related firms. The increase in unemployment in this stage is considered as the direct employment effect of the crisis. In the next stage, the declined employment will cause incomes of many households to decline, and it will result further in lower market demands for goods and services. This leads to further decline in production and employment in many industries/sectors. This is the indirect employment effect of the crises. So, the overall unemployment (i.e. direct plus indirect employment effect) will increase.

In large countries like Indonesia which consists of many islands or regions (i.e. provinces, districts and subdistricts), the impact may vary by region, or even the impact in some regions may more severe than at the national level. For instance, if the decline in average household income in Java island (the most populated region of the country and where most export-oriented manufacturing industries are located) is higher than in the rest of the country, and the proportion of the affected households in Java is significant large, then total income in Java will decline faster than that in the rest of the country.

Thus, depending on: (1) the importance of the affected export commodities in Indonesia's total export; (2) the importance of the commodities and their related sectors (through backward and forward production linkages) in the economy of the regions of origin; (3) the importance of the regions' economy in the Indonesian economy; and (4) the crisis-coping measures taken by the affected firms to mitigate the effect of the crisis, the impact or outcome of the 2008/09 crisis on the Indonesian economy and also employment can be severe or moderate.

Figure 2 The Expected Impact of the 2008/09 Global Economic Crisis on Domestic Employment



Methodology

As the nature of this study is a quantitative descriptive analysis, it is based on secondary data analysis. It uses national data on selected macroeconomic variables taken from various sources, i.e. World Bank National Account Data, Asian Development Bank Key Indicators and Indonesian Statistics from the National Statistics Agency (BPS). The selected variables are real gross domestic product (GDP) in total and per capita, real value added of three key economic sector, i.e. services, industry and agriculture, employment in total and by sector, unemployment, and merchandize trade (export and import). It analyses the growth rate of those selected macroeconomic variables during the two crises periods.

Evidence and Discussion

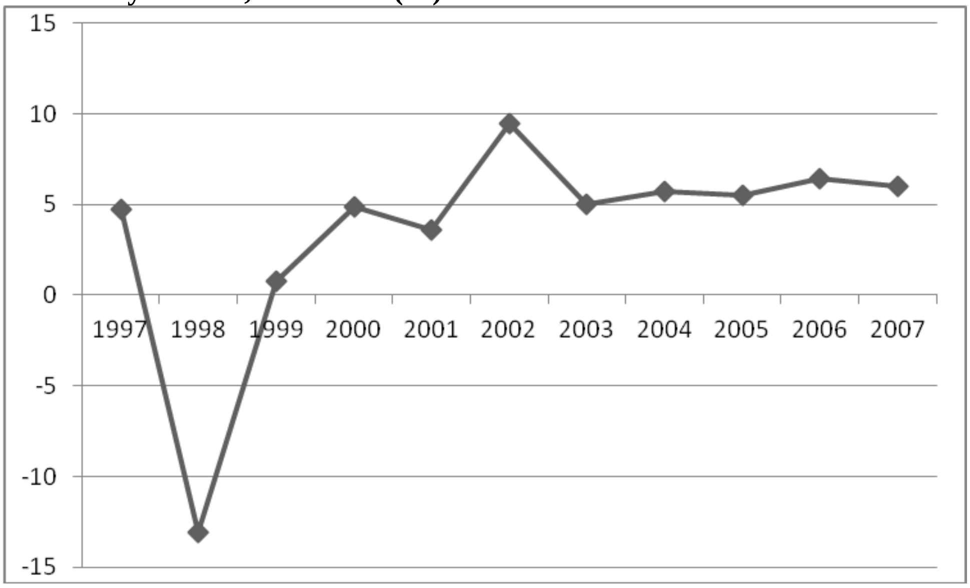
The impact on Economic Growth; The 1997/98 Asian Financial Crisis

In August 1997 Indonesia's currency began to slide in what at first appeared to be only the spillover from the financial crisis in Thailand. In following months, Bank Indonesia (BI), the central bank of Indonesia, had tried several times with little success to stop the depreciation of rupiah against the US dollar through open market operations. But by May 1998 Indonesia was suffering from the combined effects of currency, financial, economic, and political crises. Rupiah collapsed in waves, from its level in mid 1997 at around Rp 2,200 per one US dollar to Rp 5,000 by October 1997, and then to Rp 6,000 by December 1997, and a free fall in January 1998 which took the currency as low as Rp 17,000 per US dollar.

Indonesia together with South Korea were among the most severely affected economies by this crisis. The Indonesian economy had plunged into a deep recession in 1998 with GDP growth at minus around 13 per cent (Figure 3). The worst declines were in the construction sector (-39.8%), financial sector (-26.7%), trade, and hotel and restaurant (-

18.9%). Other sectors, which had large contractions, were manufacturing (-12.9 per cent) and transport and communication (-12.8%). The utility sector still experienced positive growth at about 3.7 per cent.

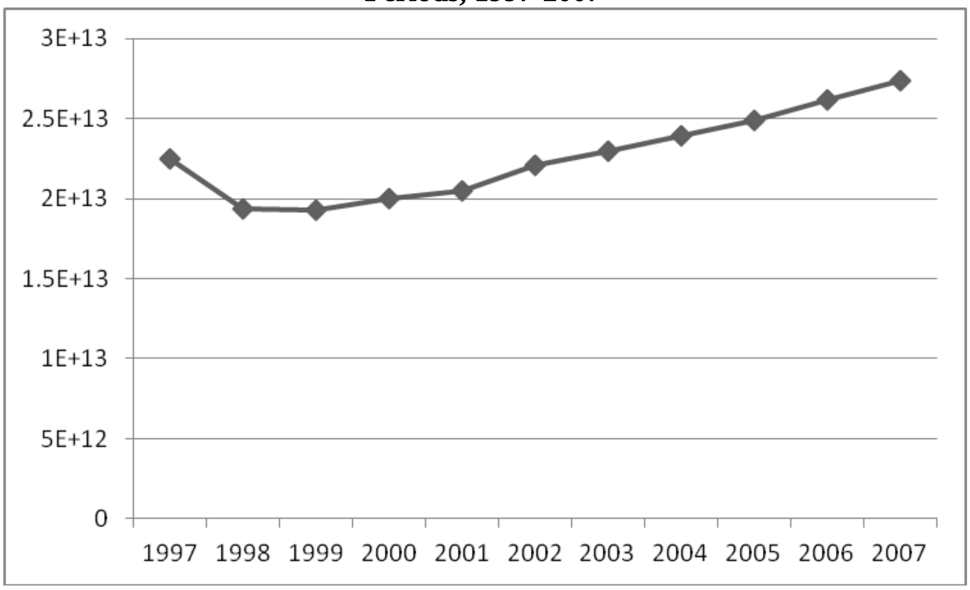
Figure 3 Real GDP Growth Rates in Indonesia during the Asian Financial Crisis and the Recovery Periods, 1997-2007 (%)



Source; World Bank national accounts data (http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators)

The GDP per capita (in constant price 1993) also dropped significantly from around 2.17 million rupiah in 1997 to 1.86 million rupiah in 1999 (Figure 4). In 1999, the economy started to recover with a positive growth rate of 0.9 per cent, which led real GDP (with new constant price 2000) per capita to rebound in 2000 (although part of the increase shown in Figure 4 was simply because of the use of new higher price index of the year 2000 as the base year for calculating real GDP)

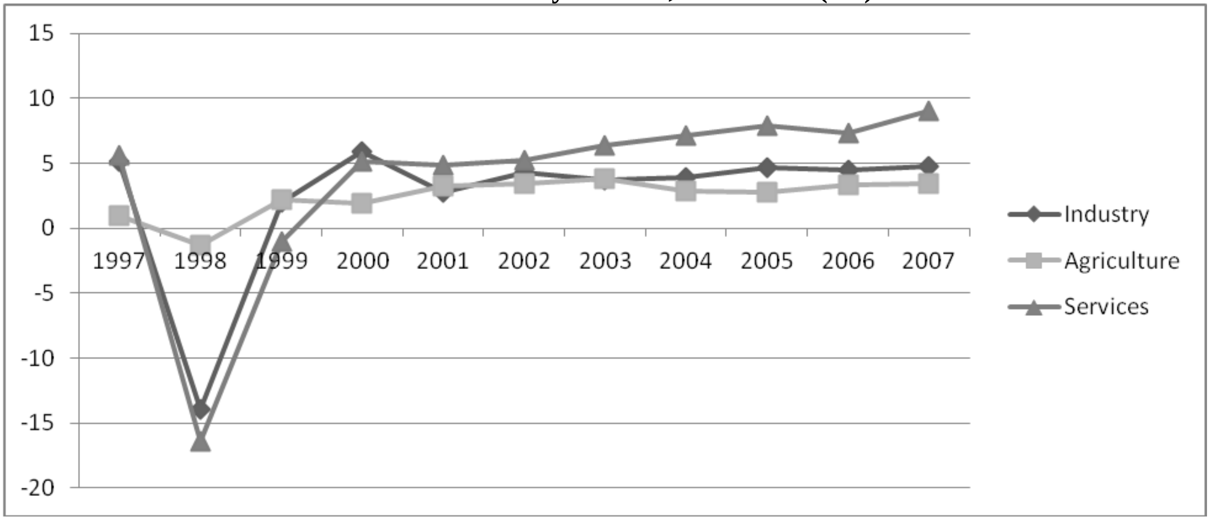
Figure 4 Real GDP per Capita in Indonesia during the Asian Financial Crisis and the Recovery Periods, 1997-2007



Source; World Bank national accounts data (http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators)

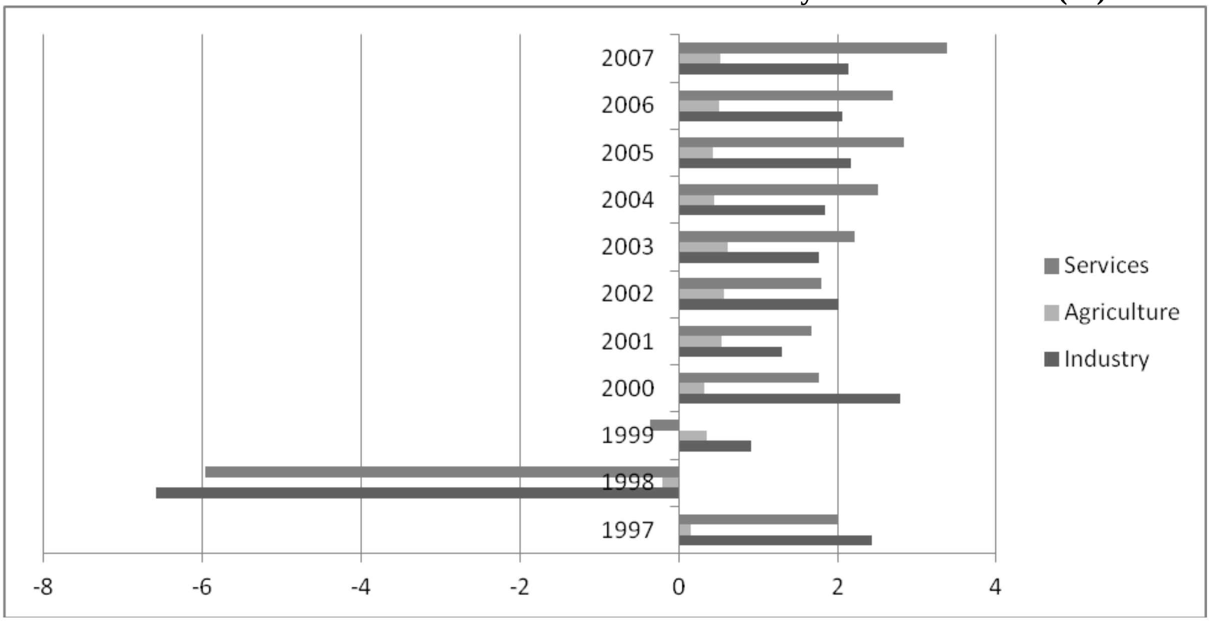
Aggregating all economic sectors into three key sectors, i.e. industry, agriculture and services, shows that industry was the most severely affected which led its output to drop at around 14 per cent in 1998, followed by services at 16.5 per cent, and agriculture experienced a decline of 1.3 per cent (Figure 5). But, the contribution of the service sector to the negative growth of GDP in 1998 was the largest at around 6.52 per cent, followed by the industrial sector 6.9 percent and the smallest agriculture at 0.2 per cent (Figure 6).

Figure 5 Real Value Added Growth Rates of Three Key Sectors in Indonesia during the Asian Financial Crisis and the Recovery Periods, 1997-2007 (%)



Source; World Bank national accounts data (world-development-indicators)

Figure 6 Contributions of Three Key Economic Sectors to Indonesia's Real GDP Growth during the Asian Financial Crisis and the Recovery Period: 1997-2007 (%)[2]

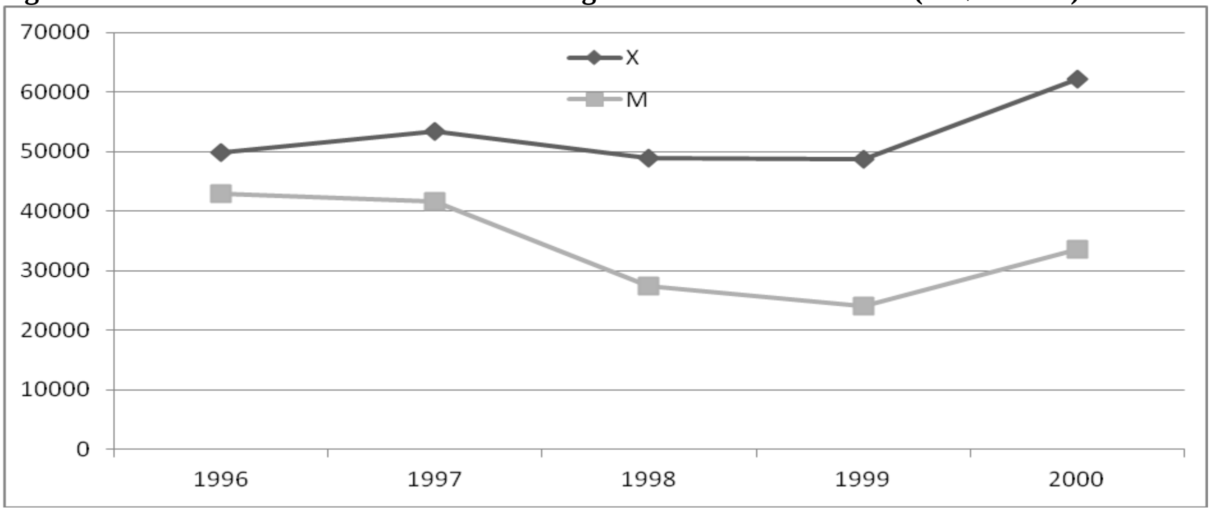


Source; World Bank national accounts data (world-development-indicators)

[2]There are different ways to calculate the contributions of sectors to GDP growth. For Figure 6, the contributions of the three sectors are calculated in the following way. Supposed the GDP share of industry in 2012 is 14 per cent and its output growth in 2013 (from 2012) is 100 per cent. So, the GDP growth contribution of industry in 2013 is 14 per ent x 100 per cent. The same way of calculation for agriculture and services, and the sum of the GDP contributions of the three sectors is the GDP growth rate in 2013.

In the trade sector, as shown in Figure 7, when the crisis reached the worst point in mid. 1998 when the average exchange rate of the Indonesian currency fell from around Rp2,900 per US dollar in early 1997 to slightly above Rp10,000 per US dollar, the free on board (f.o.b) value of Indonesian merchandise export declined from US$ 53.444 billions in late 1997 to US$ 48.848 billions at the end of 1998. For the same period, the cost, insurance and freight (c.i.f) value of the country merchandise import also down in a greater percentage from US$ 41.680 billions to US$ 27.337 billions. This suggests that the rupiah depreciation more than 300 per cent happened just in one year did not have a positive effect at all on Indonesian export growth. Although, some Indonesian agricultural commodities, which do not have import contents did increase in that period. But, the increase was crowded out by the decline in export of especially labour-intensive and highly components import depending manufactured goods.

Figure 7 Indonesian Merchandise Trade during the 1997/98 Asian Crisis (US$ million)*



Note: export in f.o.b value; import in c.i.f value
Source: Asian Development Bank Key indicators database (http://www.adb.org/publications/key-indicators-developing-asian-and-pacific-countries-2001).

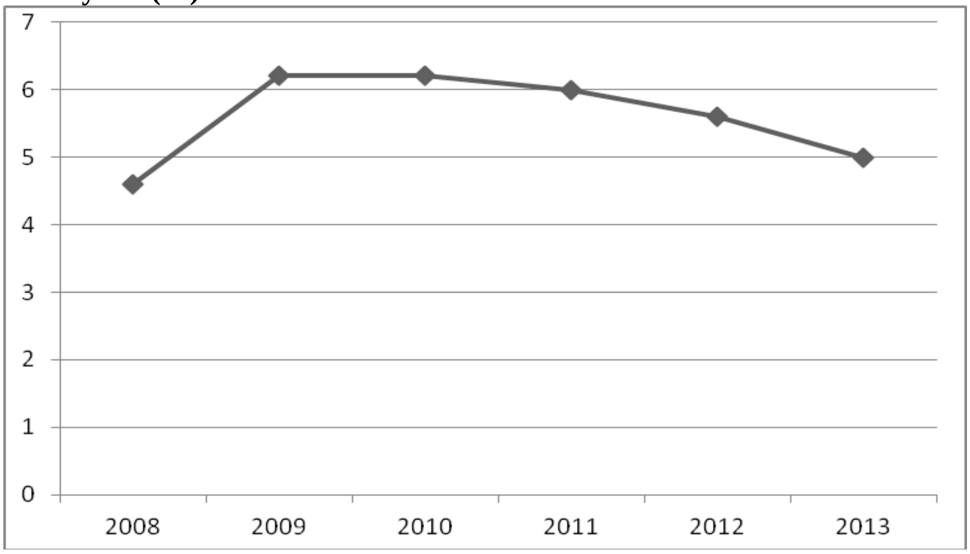
In 1999, with the improved macroeconomic management in which Indonesia had implemented a program of wide-ranging policy reforms since the crisis, in combination with a prudent monetary and fiscal policy, a sound banking system, a large stock of international reserves, and a more flexible exchange rate, Indonesian economy started to recover. Since that year until 2007, the pattern of Indonesian economic growth shows a positive trend.

The 2008/2009 Global Economic Crisis

Until the end of 2008, countries like Thailand, Malaysia, Singapore, Philippines and Indonesia still shown some resilience towards the crisis. However in the first quarter 2009, they experienced deteriorating economic performance, except Indonesia. Singapore suffered the most and recorded -8.9 per cent in real GDP growth rate (year-on-year basis) in the first quarter 2009. This did not surprise at all, given the fact that as a tiny economy, Singapore is fully integrated with the global market for goods, services and finance. Consequently, its economy is fully sensitive to any external economic shocks. The country's economy then started to recover with a positive growth rate in the third quarter. Similarly with Singapore was Thailand which also severely hit by the crisis since the third quarter 2008 and the economy contracted by 7.11 per cent in the first quarter 2009. Thailand achieved again a positive growth rate in the last quarter 2009. Malaysia which experienced a slightly positive growth by around 0.1 per cent in the last quarter 2008, also suffered economic contraction by

6.20 per cent in the first quarter 2009. Meanwhile, Indonesia and the Philippines managed to keep positive growth although at declining rates during the crisis period. Indonesia experienced a growth rate at 4.5 per cent in 2009, a drop from 5.8 per cent in 2008, and after that the economy started to recover (Figure 8). This may suggest that the Indonesian economy was also affected by the world economic recession in 2008/09, but nevertheless the country was able to keep postive economic growth rates during the crisis period.

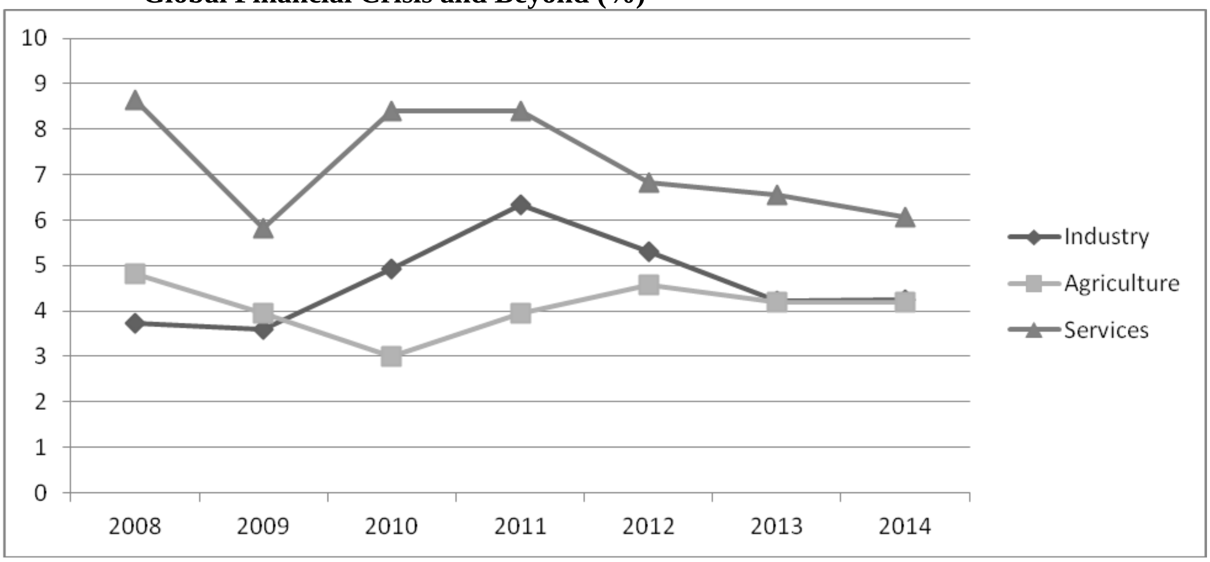
Figure 8 Real GDP Growth Rates in Indonesia during the 2008-09 Global Financial Crisis and Beyond (%)*



Source; World Bank national accounts data (http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators)

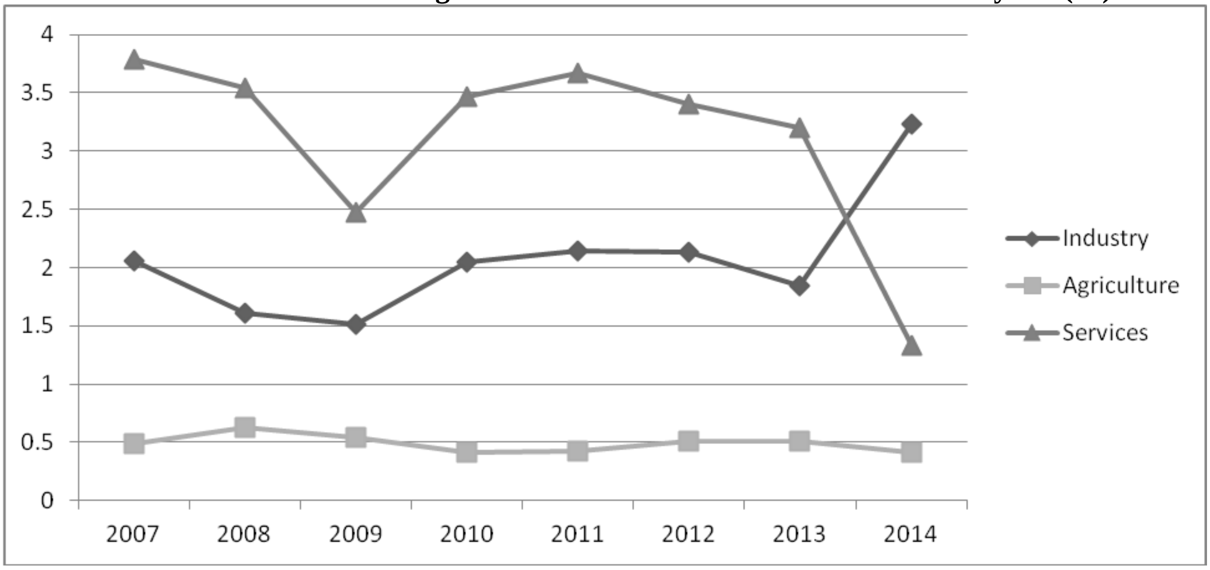
Although some domestic industries in Indonesia such as textile and garment, and furniture had experienced a deline in their export orders from the United States (USA), Japan, and many other affected countries, which pushed down the total growth rate of industrial output, no evidence of negative growth rates. Other two key sectors also managed to keep postive growth rates although at lower levels than before the crisis (Figure 9). The contributions of especially industry and service to GDP growth also started to increase again in 2010 (Figure 10).

Figure 9 Real Value Added Growth Rates of Three Key Sectors in Indonesia during the 2008-09 Global Financial Crisis and Beyond (%)



Source; World Bank national accounts data (world-development-indicators)

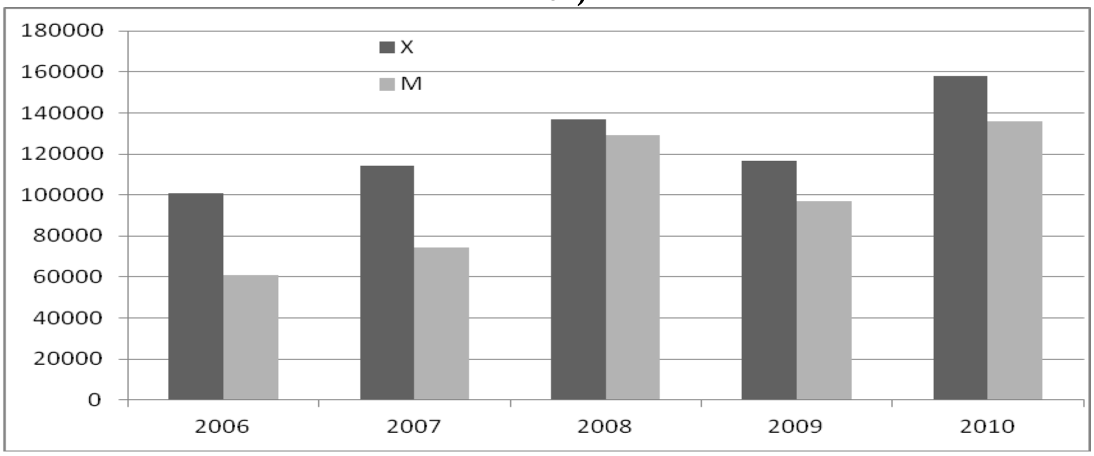
Figure 10 Contributions of Three Key Economic Sectors to Indonesia's Real GDP Growth during the 2008-09 Global Financial Crisis and Beyond (%)[3]



Sources; BPS, *Statistik Indonesia* (various issues), and BPS (2015)

In the trade sector, the decline in world demand during the crisis had a negative effect on Indonesian merchandise export. In 2006 the f.o.b value of Indonesian merchandise export was almost US$ 101 billions and continues to increase to approximately US$ 137 billion in 2008, and then fell to around US$ 116.5 billion in 2009. Indonesian merchandise import in c.i.f value also fell from approximately US$129.2 billion in 2008 to around US$ 96.8 billions (Figure 11).

Figure 11 Indonesian Merchandise Trade during 2008/009 Global Economic Crisis (US$ million)*



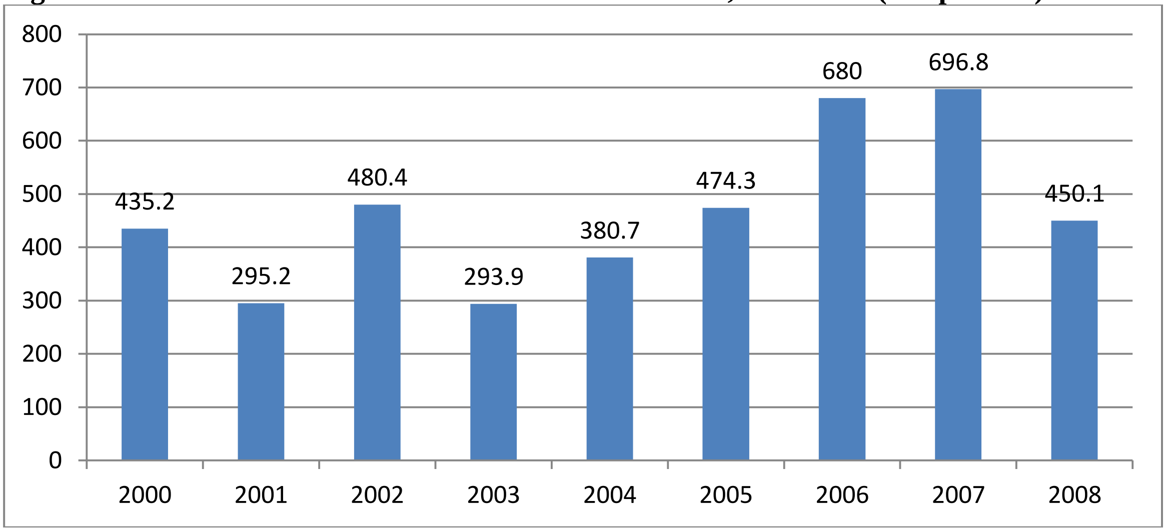
Note: export in f.o.b value; import in c.i.f value
Source: Asian Development Bank Key indicators database (http://www.adb.org/publications/key-indicators-developing-asian-and-pacific-countries-2001).

As the 2008/2009 crisis was a global crisis which affected also many other countries where many Indonesian workers are found like in Malaysia, Singapore, and also in some oil rich countries in the Middle East region, the impact of the crisis on these workers and, as a result, remittance inflows sent by them to Indonesia was also a serious concern by the

[3]See footnote 2 for the way of calculating the contributions of sectors to GDP growth.

Indonesian government in that time. However, during the crisis period, a serious 'remittance effect' did not happen, despite the fact that the number of Indonesian workers abroad had been on an upward trend until the crisis deepened in mid 2009 (ILO, 2009). Data provided by Yudo *et al.* (2009) show that the number of Indonesian workers departed overseas increased with 258,000 workers by the end of December 2008 or around 54 percent as compared to the end of September 2008 with 168,000 workers. However, total Indonesian workers went abroad in 2008 were less than in 2007 (Figure 12). However, according to their estimation, total remittances inflows from overseas Indonesian workers declined slightly from approximately US$1.589 billion in the end of first quarter 2009 from US$1.61 billion in December 2008. It is not sure whether the less number of Indonesian overseas workers in 2008 compared to 2007 or the slightly decline in remittances inflows was caused by the crisis or by other factors.

Figure 12 Total Number of Indonesian Overseas Workers, 2000-2008 (000 persons)



Source: Yudo *et al.(*2009)

Shaped by a number of factors, including a good macroeconomic management with wide-ranging economic and financial reforms (including a rapid reduction in public and external debt, strengthening of corporate and banking sector balance sheets and reducing bank vulnerabilities through higher capitalization and better supervision), sustained strong domestic consumption (which accounted for roughly three-fourths of Indonesia's GDP), political and social stability, and a government fiscal stimulus package of about 1.4 per cent of GDP in 2008, the Indonesian economy started to rebound in 2010. Although since the past few years, Indonesian economy tends to weakening due to a number of external factors, e.g. global economic slowdown and decline of international prices for many commodities, and internal factors, e.g. reduction of energy subsidies (especially fuel), lack of infrastructure, and slow process in absorbing government expenditures both by some departments and many sub-national governments.

The Impact on Employment and Unemployment

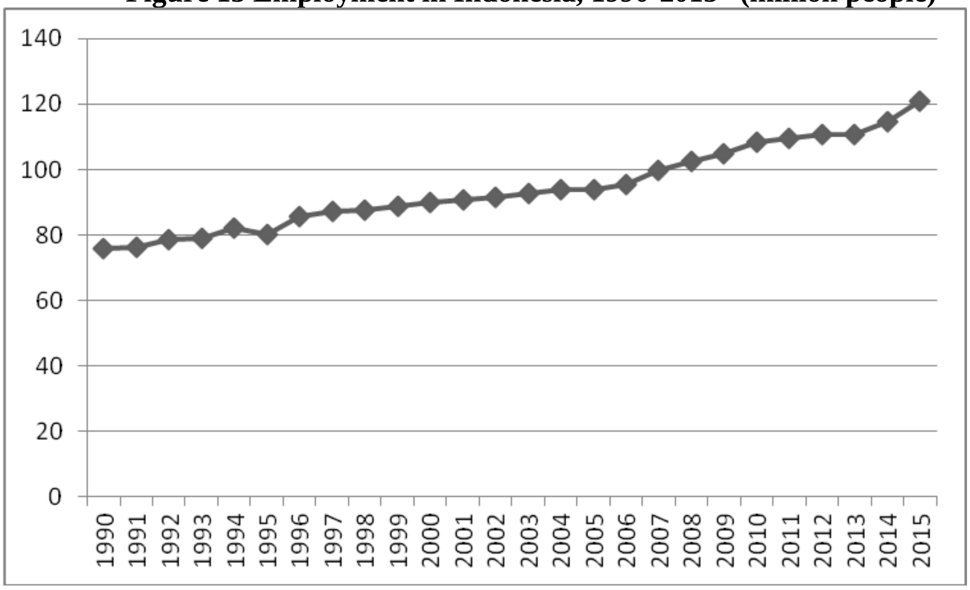
Employment is a derived demand, created by increased economic activities. But many other factors also affect employment growth and its distribution across economic sectors. As the economy goes through economic cycles, so does total employment: when the economic is growing, so employment is increasing, and visa versa, employment is declining or unemployment is increasing when the economy is weakening (Manning, 1998, 2000, 2003; Carl, *et al*., 2004).

In Indonesia, official data on employment used in this study show number of people who have jobs by sector as well as status of employment. According to the Indonesian National Statistics Agency (BPS), since 2001, status of employment has seven types: (i) own-account workers, (ii) employers assisted by temporary workers/unpaid workers; (iii) employers assisted by permanent workers/paid workers; (iv) wage-paid permanent employees; (v) casual agricultural employee; (vi) non-agricultural casual employee; and (vii) family/unpaid workers. Own-account workers, casual employees (in agriculture and non-agriculture), and family/unpaid workers are categorized as informal employees.

As in any other countries, official data on open unemployment in Indonesia represent the sum of short-term and long-term unemployment rates. While long-term unemployment rate reflects queuing for jobs in the formal sector, short-term unemployment rate reflects the fact that casual wage-workers do not find job in the formal sector on every day of any given period. As stated in Ghose, *et al* (2008), the short-term unemployment rate, therefore, is really a measure of underemployment of casual wage-workers (but not of self-employed or casual workers reported as employed) in the non-formal sector segment such as in micro and small enterprises which in Indonesia (as in other developing countries) are mainly operated informally (unregistered units of business).

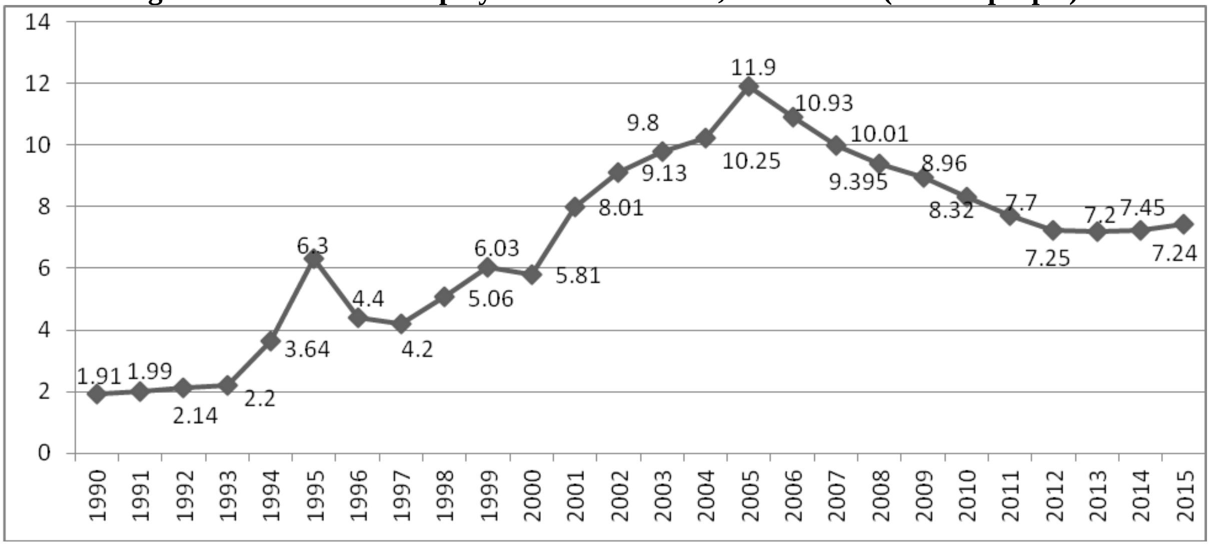
As shown in Figure 13, Indonesian employment data for the period 1990-2015 (February) show that total employmet increased annually (excepr in 1995), which seems to suggest that both the 1997/98 and the 2008/2009 crises had no negative effects at all on employment in Indonesia. Of course it is not true, especially during the 1997/98 crisis as it was the worst crisis ever occurred in Indonesia with a negative GDP growth of 13 percent (see again Figure 3). Unemployment data show that number of unemployed indeed increased during that crisis (Figure 14), as many highly indebted and highly import depending companies collapsed or had to reduce their production. Most of those who lost their jobs, especially in urban areas, had no other options then to join the already large informal sector in urban or rural areas (particularly in agriculture). That is why, Pritchett, *et al*. (2002) argue that given the country's flexible labor market dominated by informal employment (including self-employment), official open unemployment was never really the issue during the 1997/98 crisis period.

Figure 13 Employment in Indonesia, 1990-2015* (million people)



Sources: BPS (*Berita Resmi Statistik: Pertumbuhan Ekonomi Indonesia; Laporan Bulanan Data Sosial-Ekonomi; Statistik Indonesia*; SAKERNAS), various issues; ADB (*Key Indicators Asia and the Pacific*), various issues

Figure 14 National Unemployment in Indonesia, 1990-2015* (million people)



Source: Sources: BPS (*Berita Resmi Statistik: Pertumbuhan Ekonomi Indonesia; Laporan Bulanan Data Sosial-Ekonomi; Statistik Indonesia*; SAKERNAS), various issues; ADB (*Key Indicators Asia and the Pacific*), various issues

During the crisis, employment performance was particularly uneven by sector and post-crisis recovery has been slower after an initial rebound in some sectors. As shown in Table 1, employment dropped steeply in all severely affected sectors including mining, manufacturing and construction, whilst employment in agriculture rose significantly and some services sub-sectors exhibited resilience. According to a study by Carl, *et al*. (2004), the agricultural sector absorbed many displaced workers from affected/bankrupted companies in manufacturing, construction and banks in urban areas. At the depth of the crisis in 1998, the number of workers in the sector increased by 4.6 million while in non-agricultural sectors it declined by 2.3 million workers. After the crisis, the manufacturing sector led the recovery, with an average growth of 4.6 per cent annually, followed by construction around 4.2 per cent, transportation 2.8 per cent and trade 1.0 per cent. Much of this employment growth occurred during the rebound in 1999 –2000, but slowed in 2002. Employment in agriculture posted only modest gains of 0.5 per cent per annum during the recovery period.

Table 1 Annual Change per Annum of Employment Trends in Selected Sectors in Indonesia before, during and after the Asian Financial Crisis Period, 1990-2002 (%)

Sector	1990-1997	1997-1998	1998-2002
Agriculture, including livestock, forestry and fishery	-2.3	13.3	0.5
Mining & quarrying	7.8	-23.9	-1.7
Manufacturing industry	5.6	-9.6	4.6
-Food, beverages, tobacco	7.3	-14.0	5.0
-Textiles, garments, footwear	7.1	-5.5	4.0
-Wood products	7.1	5.3	-5.0
-Others	2.7	-20.3	13.5
Construction	10.7	-16.4	4.2
Trade, restaurant & hotel	6.4	-1.2	1.0
Transport & communication	8.6	0.6	2.8
Utilities & other services	4.9	-2.1	-3.4
Total	2.1	2.6	0.8

Source: BPS (SUSENAS); adopted from Carl, *et al*. (2004)[4].

[4].The percentage changes were calculated by Carl, *et al*. (2004) in which they divided all sectors into tradable sectors (i.e. agriculture, mining and quarrying, and manufacturing industry) and non-tradable sectors (the remaining sectors in the table).

During the 2008-09 crisis, total employment increased or total unemployed people declined, despite the fact that during that period it was reported in many newspapers that many workers in the formal sector were threatened with dismissal or sent home. While, according to a report issued by ILO in 2009, the crisis has prompted a steep fall in the growth of wage employment, which grew about 1.4 per cent during the period February 2008-February 2009, compared to 6.1 percent during the same period in the previous year. A study by Hastuti *et al*. (2012) shows that because of the crisis as many as 17,488 workers were fired and 23,927 workers were threatened with dismissal. Thus a total of 41,415 persons in that time had already lost or were about to lose their job. Besides that, 6,597 workers had been asked to stay at home and plans had been made for another 19,091 workers to do the same; the total amounted to 25,688 employees. At the same time the number of Indonesian workers in abroad (TKI) who were sent home (as of 12 December 2008) was quite large; it involved 250,000 workers, most of whom had been employed in sawit oil palm and rubber plantations in Malaysia (Djaja, 2009).

However, this total number of workers who lost their jobs mentioned in Hastuti *et al*.'s (2012) study as a percentage of employed labour force is very small. Even, if the returning 250 000 migrants as reported by Djaja (2009) were added to, still as a percentage of total employment is small.

As shown before, during the 2008/09 crisis, the overall impact on the Indonesian economy was soft. So, it can be said that the moderate impact on employment is not surprising, Although the (*y-o-y*) growth rate of employment was slowing down from 4.4 per cent in 2007 to 2.7 per cent in 2008 and 2.3 per cent in 2009, in absolute number total employment continued to rise from slightly above 100 million people in 2007 to more than 114 million people in 2014 (by August). During this global crisis period, number of workers in agriculture, mining, industry, and construction, which were severely hit by the 1997/98 crisis, increased, Only in transport, storage and communication, number of workers dropped slightly in 2009 (Table 2).

Table 2 Employment Changes during the 2008/09 Crisis by Sector in Indonesia, 2007-2010

Sector	Period			
	2007	2008	2009	2010
Agriculture, including livestock, forestry, and fishery	42 665 638	42 958 038	43 536 759	43 243 111
Mining & quarrying	1 034 890	1 097 862	1 200 510	1 280 889
Manufacturing industry	12 052 112	12 325 295	12 512 148	13 474 059
Electricity, water and gas	189 065	215 272	244 159	240 126
Construction	5 123 327	5 381 525	5 435 909	5 485 338
Trade, restaurant & hotels	20 812 715	21 387 397	22 094 461	22 421 821
Transport & communication	6 025 131	6 271 378	6 167 723	5 486 719
Finance, real estate, rent, business services	1 373 415	1 422 290	1 436 137	1 664 016
Community, social & individual services	12 577 372	13 583 568	14 442 450	16 293 636
Other services	-	-	-	-
Total	**101 853 665**	**104 642 625**	**107 070 256**	**109 589 715**

Source: BPS (*Tenaga Kerja*: http://www.bps.go.id/linkTabelStatis/view/id/970).

The Impact on Informal Employment

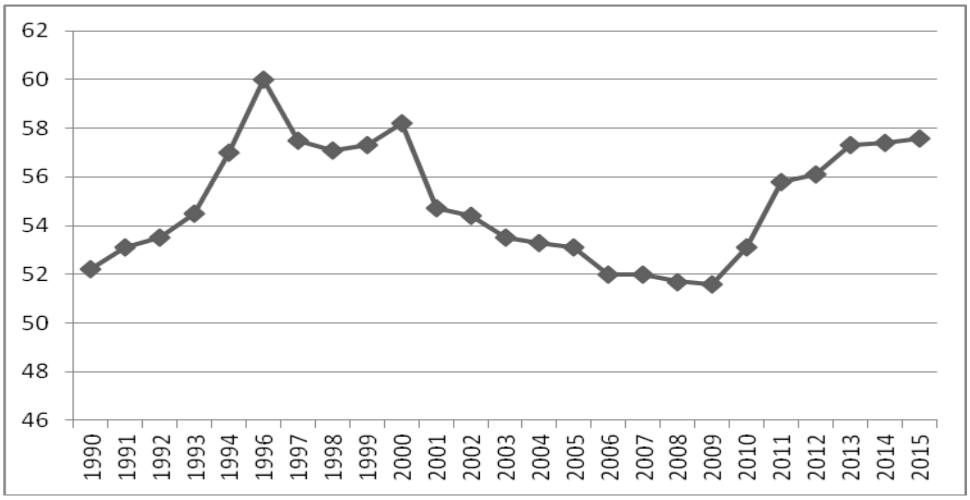
In January 1993, the Fifteenth International Conference of Labour Statisticians (15th ICLS) adopted an international statistical definition of the informal sector that was subsequently included in the revised international System of National Accounts (SNA) (ILO, 2000). The 15th ICLS defined informal sector enterprises, which is adopted by this paper, on the basis of the following criteria (Hussmanns, 2004:3):

1) they are private unincorporated enterprises (excluding quasi-corporations), i.e. enterprises owned by individuals or households that are not constituted as separate legal entities independently of their owners, and for which no complete accounts are available that would permit a financial separation of the production activities of the enterprise from the other activities of its owner(s);
2) all or at least some of the goods or services produced are meant for sale or barter, with the possible inclusion in the informal sector of households which produce domestic or personal services in employing paid domestic employees;
3) their size in terms of employment is below a certain threshold to be determined according to national circumstances, and/or they are not registered under specific forms of national legislation (such as factories' or commercial acts, tax or social security laws, professional groups' regulatory acts, or similar acts, laws or regulations established by national legislative bodies as distinct from local regulations for issuing trade licenses or business permits), and/or their employees (if any) are not registered; and
4) they are engaged in non-agricultural activities, including secondary nonagricultural activities of enterprises in the agricultural sector2 whether it was their main or a secondary job.

According to Ghose, *et al* (2008), together with unemployment and labor productivity in the informal sector, the share of formal employment in total employment forms three most relevant indicators in assessing the overall employment situation in the economy. Ceteris paribus, the larger the share of the formal segment in total employment, the better is the employment situation.

As explained before, according to the BPS, status of employment in Indonesia has seven types, including own-account workers, casual employees (in agriculture and non-agriculture), and family/unpaid workers, who are categorized as informal employees. As in many other developing countries, in Indonesia dualism in employment is also obvious. Based on annual National Labor Survey (SAKERNAS), the share of formal employment, although varies by year, is between minimum 52 per cent and maximum 60 per cent (Figure 15). This may suggest that the informal sector, although less than half of total employment, still plays an exceptionally large role in Indonesia's economy today, especially with respect to employment creation.

Figure 15 Formal Employment Share as Percentage of Total Employment in Indonesia, 1990-2015



Sources: BPS: SAKERNAS 1990 to 2015; in 2015 is February; for other years: August.

Further, Table 3 shows changes in total informal and formal workers by sub-category (status) during the two crisis periods. As can be seen, during the 1997/98 crisis, among the subcategories of informal employment, only self-employed steadily increased in 1998 and 1999; while family or unpaid workers increased but only in 1998 and then fell in 1999. Carl, *et al*. (2004) observed that during that crisis, total employment in Indonesia did not drop simply because many displaced wage-paid people from the formal sector such as manufacturing industy, mining and construction opened their own small activities just in order to earn some money to maintain their minimum level of income.

Table 3 Total Informal and Formal Workers by Sub-category in Indonesia during the 1997/98 and 2008/2009 Crises (people)

Status of employment	Period					
	1997	1998	1999	2007	2008	2009
Self employed	19978117	20523338	21707778	20324527	20921567	21046007
Casual workers in agriculture	17055557	17128006	16258228	5917400	5991493	5878894
Casual non-agricultural workers				4458772	5292262	5670709
Family/unpaid workers				17278999	17375335	18194246
Employers with non-fixed/unpaid workers	18046722	19690059	18914502	21024297	21772994	21933546
Employers with fixed/paid workers	1480154	1525625	2552803	2883832	3015326	3033220
Wage-paid employees	30489206	28805421	29383548	28042390	28183773	29114041
TOTAL	87049756	87672449	88816859	99930217	102552750	104870663

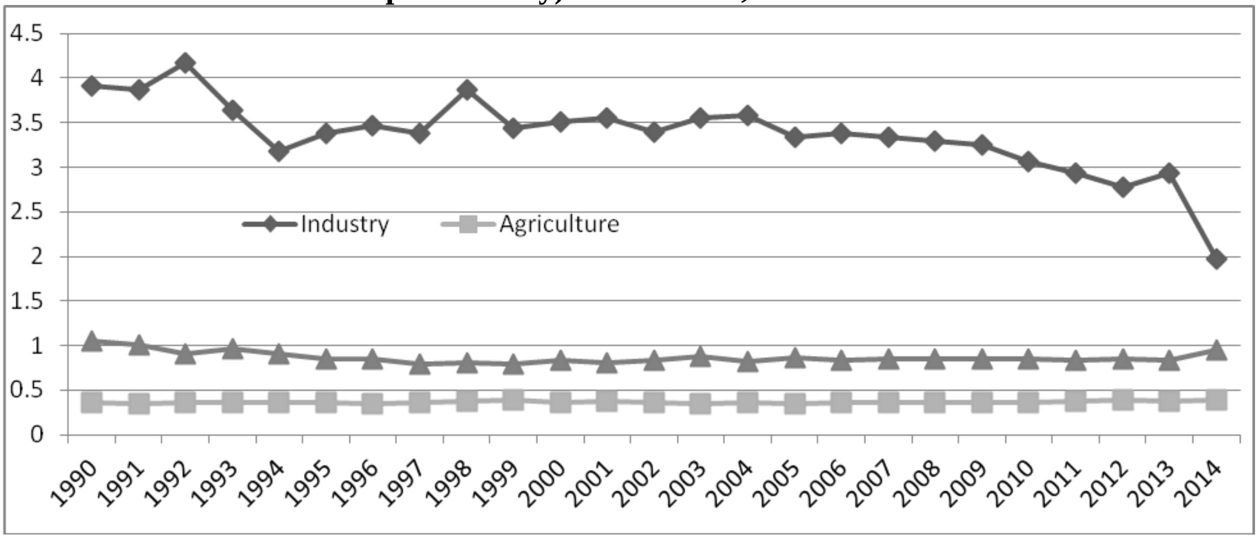
Sources: BPS: SAKERNAS 1990 to 2015; in 2015 is February; for other years: August.

Ghose, *et al*. (2008) emphasize that in a country like Indonesia with this kind of labor market characteristic (dualism), the improvement of employment condition should be reflected by, simultaneously, the increase in the share of formal employment in total national employment (or the growth rate of formal employment must be larger than that of national labor force/supply) and the decline in the share of non-formal employment or the decline of underemployment in the informal sector, either by the movement of many workers out from the informal sector or the increase of output in the sector. Figure 15 may suggest that after the global economic crisis, the employment condition in Indonesia started to improve.

Ghose, *et al*. (2008) give an alternative way to measure employment in the informal sector or the degree of dualism in the labor market by using data or estimates of output and employment shares of three broad sectors, namely agriculture, industry and services, with the following formula: $(Yi/Y)/(Ei/E) = (Yi/Ei)/(Y/E)$, where E and Ei are, respectively, total employment in the economy and employment in sector i (i= agriculture, industry and services) and Y and Yi are, respectively, total output (GDP) and output in sector i. Thus, $(Yi/Y)/(Ei/E) = (Yi/Ei)/(Y/E)$ is the ratio of output per worker in sector i to output per worker in the economy.

Using this method with Indonesian data on total GDP and employment, and distributions of GDP and employment by the three major sectors shows that agriculture is predominantly non-formal because its ratio is less than unity, i.e., the output per worker in the sector is less than that in the economy, and industry is predominantly formal as its ratio is above the unity, i.e. the output per worker in the sector is more than that in the economy (Figure 16).

Figure 16 Employment Dualism (i.e. the ratio of sectoral labor productivity to national labor productivity) in Indonesia, 1990-2014



Source: World Bank national accounts data World Bank national accounts data (http://databank. worldbank.org/ data/reports.aspx?source=world-development-indicators).

Conclusion

This study aimed to examine the impact of two big economic crises that hit Indonesia on employment in the country, namely the 1997/08 Asian financial crisis and the 2008/09 global economic crisis. Theoretically, it was generally expected that during those two crises, employment (or unemployment) in Indonesia would decline (or increase) significantly.

Frankly, by analyzing secondary data only, it is of course difficult to conclude that the changes in the labour market composition happened during the two crisis periods were mainly because of the crises. The analysis of secondary should be added by a micro-level research, i.e. field surveys with informal workers as the main respondents. However, at its current state, this study comes with two main important findings. First, despite many laid-off workers in the formal sector were reported, national data show that total employment continued to increase during the two crisis periods. Second, open unemployment had not increased significantly during the 1997/98 crisis, and even it declined during the 2008/09 crisis.

These findings at the macro level are different from what commonly found in the literature. However, it cannot be said that convetional theories on the impact of an economic crisis on employment are not valid anymore; it is only that these theories do not apply for countries where informal sector is not only real but also very important for employment creation. In Indonesia, during the crises most (if not all) of the laid off employees were end up in economic activities in the informal sector, either as low-paid workers or owners of micro or small businesses. This labour market phenomen is said most likely due to the fact that Indonesia does not have a social security system as the one known in the West, which provides unemployment benefits to those who have no while looking for jobs. Thus, for the laid off employees from the formal sector who were engaged in informal economic activities, they did those low or unstable income generating activities just as a means for them to survive. The informal sector has proved to be very important during the crisis as the last resort for them.

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