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IMPACT OF TRADE OPENING ON UNEMPLOYMENT

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In the recent debate over the impact of trade opening on unemployment, it has been argued that openness will lead to an increase in unemployment or a decrease in unemployment. This study examines the impact of trade opening on unemployment by using linear regression model. Using the data from 89 countries in year 1994 and 2005. I found the evidence that trade has negative relationship on unemployment in both year 1994 and 2005. One unit increases in openness leads to decrease around one percent in unemployment. Also, the different time periods did not play the important role on the impact of trade opening on unemployment.

DEDICATION

I dedicate my research paper work to my family and friends. A special feeling of appreciation to my parents, Chanan and Pinya Keawphun, who always support and encourage while l am working on my research paper. Also my brother, Chompol Keawphun who always gives me good advises.

I also dedicate this research paper to my many friends who have support me throughout the process. I will always appreciate all they have done, especially Yen-Chun Chen whose words for encouragement. All of you have been my best cheerleaders.

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TABLE OF CONTENTS

LIST OF TABLES

TABLE PAGE

CHAPTER 1

INTRODUCTION

Unemployment is one of the issues that concern all in an economy. Many researchers try to find the factors that can affect the rate of unemployment. They identified a number of factors responsible for changes in unemployment such as technological changes, market structures, monetary and fiscal policies and regulations. However, majority of economists point to “trade opening”. They argue that opening the economy to international trade is a good way to increase economic activity at home and thus affect the rate of unemployment. Note that international trade creates more job opportunity when more companies produce more output to sell in the export markets. In contrast, some economists believe that openness may create addition unemployment as import competing sectors get foreign competition and consequently can create higher level of unemployment in that sector. The effects of openness can be different for different countries as production structures are different in different countries. Therefore, the relationship between openness and unemployment merits further investigation. This research paper is an attempt in this direction.

Bhagwati in his book “In Defense of Globalization” tried the present the advantages of globalization conclude, “Even globalization has some cost, it still has more benefit.” He claimed that increasing foreign trade leads to increasing in employment level by saying that international trade creates more opportunity of job and the jobs that work under globalization are also paid higher salary than the jobs that are not under globalization. Moreover, if trade can increase economic growth which means countries will have a good standard of living, then parents now will have sufficient

income to send their children to school instead of working. Therefore, the good influences of globalization create many benefits, for instance decrease in child labor. Therefore, from his point of view, globalization benefits employment level.

In addition, supporters of openness strongly believe that “an open world is better than a closed world” People believe opening trade has created many advantages to an economy such as technological development, political change in favor of good governance, and better management of social and natural environment.

On the other hand, some economists who oppose opening up the economy claim that trade opening creates many disadvantages to world. Openness leads an inequity across and within nation. In terms of the different skill of workers, some has higher skill than others: skilled and unskilled workers. We normally see that skilled worker will earn higher wage than unskilled worker in countries under trade liberalization. Therefore, for developed countries globalization can cause the problem for unemployment, globalization can cause higher unemployment rate for unskilled workers. For instance, the United States face with the increasing of trade deficit from 1994 to 2010 because of developing countries like China sells many manufacturing products to the United States. Therefore, labor in developed countries face with pay-cut from the employers. And this is a nightmare of many middle class workers in developed countries. Therefore, this is the reason that globalization might not good for blue collar or white collar, which leads to increase in unemployment rate (Hamdi, 2015).

The extent of openness of the economies also changed significantly in recent years. More and more economies are engaged vigorously in international trade and this suggests that we should examine the relationship between unemployment and trade

opening in two different time periods. In this paper we will examine the relationship between trade opening and rate of unemployment by using the data from 89 sample countries in 1995 and 2014 using regression analysis.

This paper is structured as follows. In Chapter 2, we discuss relevant literature, while in Chapter 3 data and data sources are discussed. Methods are discussed in Chapter 4 and empirical results are reported in Chapter 5. Some concluding remarks are reported in Chapter 6.

CHAPTER 2

LITERATURE REVIEWS

Nowadays, the topic about the relationship between trade opening and unemployment has become a very popular topic in the economic field. Economists noticed that openness probably could bring huge benefits for the rate of employment. Therefore, many economists studied about the impact of trade liberalization on unemployment level, but recently we still do not have the clearly answer about the relationship between openness and unemployment. Economists come up with three different ideas about the relationship of openness and unemployment. Some economists believe that trade liberalization has positive relationship with unemployment. On the other hand, some researchers believe that trade liberalization has negative correlation with labor demand. And some of them believe that there is no evidence about the relationship between openness and unemployment.

According to the idea that increasing in openness leads to decrease in unemployment. Felbermayr et al., (2011) investigate about the relationship between trade openness and rate of unemployment by using three ways: panel regression with 20 rich OECD countries, cross-sectional regression on a larger set of countries and also check the result by running panel regressions (large sample). The panel regression with 20 OECD countries shows that the increasing on trade openness leads to declining of unemployment rate. Which mean openness has negative relationship with unemployment rate. In terms of cross-sectional regressions (large sample), this approach the authors try to study the effect of real openness in a cross-section of 62 countries in period 1990-2006, which the sample of this approach is wider than the first

one. The authors found if openness increases by ten percentage points, rate of unemployment will decrease by about one percentage. However, in cross-sectional regressions, there is time-variance in the large cross-section so it might has some error, so they need to check the result again by running panel regression on a large set of countries. However, the result shows that there is negative relationship between real openness and unemployment. Therefore, higher openness leads to lower rate of unemployment.

Similar with the idea of the study of Hasan et al., (2012), they examine the relationship between trade and unemployment at the state level and the relationship between trade and unemployment at the industry level by using labor force survey data from India. Also they pay attention on the different effects of trade on unemployment rate when focus on level of labor market flexibility, type of labors and level share in net exporter. The study claims that, in terms of state-level, the urban unemployment decreases with trade liberalization in states that have flexible labor market and larger employment share in net exporter industries. In terms of industry-level analysis, the out come reveals that decreasing on protection leads to decreasing on probabilities of becoming unemployed. Also, the lower protection causes lower unemployment probabilities in comparative advantage sectors, which is in export industries. In addition, the authors consider the impact of trade liberalization in terms short-run and long-run, they found that trade liberalization can increase unemployment in short-run, but unemployment will start declining after that and decrease in long-run. Therefore, Hasan et al., (2012) presents that in state-level, unemployment will decrease with trade liberalization in states that have flexible labor market and larger employment share in

net exporter industries. In terms of industry-level, the decreasing protection will lead to decreasing on unemployment probabilities of becoming unemployed, especially in net export industries. Therefore, trade liberalization does not increase unemployment.

Moreover, the article of Arbache (2003) presents about the impacts of trade liberalization on labor market indicators in Brazil by using CGE model approach to find the answer. And analysis in three different simulations regarding to the effects of trade liberalization measures on labor market outcomes. The first simulation, the authors models it by using the base year (1996) without the imposition of any changes in the parameters. The second simulation is changing the parameters by raising export of skilled labor-intensive sector by 20%. The last simulation, he sets a productivity shock of 10% in the variables of the model.

First, the experiment of imposing the 1990 tariff into the output structure of base year, the results will present the effects of reducing the degree of openness of the economy back to 1990 levels in terms of the behavior of unemployment. The results reveal that reducing trade has positive aggregate impact on the labor market, with decreasing in unemployment in all types of labor. However, if also pay attention on the effect of imposing 1990 tariff on 1996 in terms of level of output, export, imports, domestic prices and labor demand. The result reveals that increasing the tariff leads to higher costs of production and more expensive on export goods which increasing domestic price. As increasing in cost of production, it makes output decreases and follows to decease in demand of labor. However, the effects is more stress in sectors that are more prone to trade, these sectors will have more variation in labor demand than other sectors. Therefore, this result claim that trade liberalization tends to favor

employment in the sector that are already trade-oriented.

Second, the experiment of imposing a 20% increase in the exports of skilled labor-intensive, the results reveal the increasing in unemployment in low-skill informal workers and high-skill formal workers, but more emphasis for the low-skill informal workers. However, with low and middle-skilled workers in formal sectors and skilled informal workers faces with decreasing in unemployment rate. In addition, the effect of imposing a 20% increase in the exports of skilled labor-intensive in terms of level of output, export, imports, domestic prices and labor demand. The result of this simulation reveals that output of skilled labor-intensive sector and demand of labor varied just a little. And in this case the result indicates the negative relation between export and output, with higher exports had the effect decreasing in output. Therefore, these results claim, export-led strategy in Brazil mostly benefit to skilled labor-intensive sectors.

Third, the experiment of imposing a 10% rise productivity shock, the results indicate the decreasing unemployment of high-skilled worker in formal sector and increasing in other sectors. In addition, the effect of imposing a 10% rise productivity shock in terms of level of output, level of export, level of imports, domestic prices and labor demand. The result of the third simulation claim that this impact leads to decreasing of domestic price, which cause the lower cost per unit of output and increasing output. If output higher, export and import also higher. So, from these situation lead to increasing in demand of labor especially, high-skilled worker in formal sector. Therefore, Arbache (2003) claims that trade liberalization benefit to labor demand, especially, for skilled worker in the most trade-oriented sector.

Emphasize the idea of the negative relationship between trade openning and

unemployment with the study of Turco and Maggioni et al., (2013), they investigate the impact of importing, exporting and two-ways trading on overall firm employment and employment composition (ration of R&D to non-R&D workers) in an emerging country framework with using Multiple Propensity Score Matching (MPSM) and Difference-in-Difference (DID) estimations by using the data of Turkish manufacturing sector. First, they found that employment increases in firms starting to import, and employment increases in firms starting to export as well. However, the result of firms starting to two-ways trading seems greater than in export starters and import starters. Therefore, theses proved that international trade foster increasing labor demand in emerging market, especially for two-ways starters. Since they knew that international trade has positive effects on employment in initial markets, then they try to find trade intensity of firms matter to relationship of trade and employment or not and the results indicate that trade is more benefit to employment growth especially in terms of high trade intensive firms. So, this study can emphasis that international trade has positive effect on employment in emerging market, especially in the markets that have high intensity, in the other words, openness has negative relationship with unemployment.

Same idea with Kis-Katos and Sparrow (2015), they examine the effect of tariff reduction on labor market by using the sample from 20 tradable goods sectors in Indonesia in period 1993 to 2002. They claim that lower input tariff benefit job creation, in other words, trade liberalization decreases unemployment rate. So, they also claim that openness has negative relationship with unemployment.

Similar with the study of Edmonds and Pavcnik (2006), they examine the relationship between exposure to trade openness and child labor in a cross-country

setting. By using the data from year 1995 for the 113 countries and using the percent of a country's populations age 15-14 to be a measure of child labor. Estimate the association between the volume of trade openness and child labor. The result indicates there is negative significant association between trade and child labor. Moreover, focusing on non-OECD countries, the link between trade and child labor is negative as well. However, if trade between OECD and non-OECD countries, it seems to make level of child labor very low in non-OECD. In addition, focusing on exports of unskilled-labor intensive products from low-income countries, higher export of unskilled-labor intensive products associate with lower child labor. Therefore, in terms of the estimating the link between openness and child labor, overall results claim that there is negative relationship between openness and child labor, higher openness lower child labor. Therefore, there is negative association between openness and child labor. Especially, if non-OECD trade with OECD countries, trade will lead very low child labor on non-OECD countries.

In addition, Paz (2014), he comes up with negative and positive relationship between openness and unemployment. He analysis the impacts of trade liberalization on labor markets by presenting a novel theoretical model of a small open economy, in an environment in which tariffs affect firm's payroll tax compliance decisions. Using the data from the Brazilian trade liberalization episode (1989-2001) and 15 manufacturing industries. In this study, the author defined an informal job as an employment relationship in which the employer doses not comply with the payroll tax and formal job is opposite. Moreover, the author assumes that Brazil is domestic country and Brazil's trade partners are foreign countries. First, he examines the effect of changes in export

and import tariffs on the industry-level share of informal workers. Second, he examines the impacts of import and export tariff on formal average wage and informal average wage.

First, analysis the effect of reduction in export and import tariffs on the share of informal workers by estimating the effect of trade policy changes on the probability of a worker having on informal job and looking for the coefficients of import tariff and export tariff. Then he claims that reduction in export tariff lower share of informal work in total industry employment. Also reduction in import tariff increases share of informal worker.

Second, examine the impact of import and export tariff on formal and informal average wage. In terms of formal, estimates of the effect of trade policy changes on the average formal wage. He found decreasing in home import tariff on the industry level leads to decrease industry-level average formal wage, however, decreasing in foreign import tariff leads to increase industry-level average formal wage. In terms of informal, estimates of the effects of trade policy changes on the average informal wage. With the first estimation, the result indicates that the import tariff coefficient is positive and statistically significant, but the export tariff coefficient has negative and not statistically significant. So, he re-estimate by using IVProbit's non-linearity, the result shows that export tariff coefficient is positive and statically significant, but the import tariff is negative and not significant, which the result becomes opposite with the first estimation. Therefore, he concludes that the average informal wage is not impacted by tariff changes. They have ambiguous relationship.

Therefore, Paz (2014) claims that changes in tariff have impacts to formal and informal labors. A reduction in the import tariff leads to decrease the industry level

average formal wage and increase the share of informal work in total industry employment. On the other hand, a reduction in the export tariff leads to increase industry level average formal wage and decrease share of informal work in total industry employment. However, the tariff changes have no affect to informal wage.

Same as in the study of Dutt et al. (2009), they analysis the relationship between trade and unemployment by using model of trade and unemployment, in which unemployment is search induced and trade arises by using three different methods: Ricardian model, Heckscher-Ohlin (H-O), and panel data. In terms of the Ricardian model setting by a two-sector (export sector and import sector), single-factor (labor), and small country, the result of this model claims that trade openness has a negative relationship with unemployment. By intuition, opening up to trade leads the value of marginal product of labor increases in export sector (comparative advantage sector) because of the increasing in domestic relative price of the goods in this sector increases. On the other hand, trade also can destroy the viability of sector that has a comparative disadvantage (import sector). Which means in import sector, the values of marginal product of labor decline, then this sector cannot survive with trade liberalization. So, with the whole system, the value of marginal product of labor increases, which cause the decreasing of unemployment. Therefore, trade has negative relationship with unemployment.

In terms of Heckscher-Ohlin, assume that two tradable goods are produced by using labor and capital at different factor intensities. They explain that the relationship between trade and unemployment is negative or positive depends on the countries is capital-abundant or labor-abundant. By intuition, in terms of capital-abundant countries,

before opening trade, the relative price of the capital-intensive good is lower. However, after opening trade, the relative price of the capital-intensive good is increasing. Therfore, when the capital-intensive good increased, the demand of capital relative to labor is raising. Which mean wage falls and the rental on capital increases lead to increase in unemployment. On the other hand, in terms of labor-abundant countries, opening trade causes the demand of capital relative of labor decreases. Which mean wage raise and unemployment goes down. Therefore, Heckscher-Ohlin claims that the relationship between trade and unemployment is positive in capital-abundant countries. However, trade and unemployment has negative relationship in labor-abundant countries.

In terms of using panel data to discuss the short-run effect of trade liberalization as predicted by a model of endogenous job destruction, setting at steady state which is the job creation equals the job destruction and not allow intersectoral labor mobility. By intuition, trade liberalization leads unemployment increases in short-run, but after that unemployment starts to decrease to the new steady state in long run. Which means “job creation takes time, while job destruction can take place immediately”. Therefore, they imply that trade liberalization impact to increase unemployment in short-run but finally decrease unemployment in long run. Therefore, according to Dutt P. et al. (2009), they claim that First, in Ricardian model, opening up to trade leads to decrease in unemployment. Second, in Heckscher-Ohlin, in capital-abundant countries, opening up to trade leads to increase in unemployment, however, in labor-abundant countries, opening up to trade leads to decrease in unemployment. Third, in Panel data, trade liberalization effect on unemployment by raising unemployment rate in short-run and

eventually declining unemployment in long run.

In addition, some studies not only focus on relationship between openness and unemployment, but they also focus on the different effects of openness on unemployment in different types of jobs: good jobs and bad jobs. Wang and Zhao (2015), they examine how trade liberalization affects workers and firms. Trade leads to the amplification of productivity between higher quality (exporting firms) and lower quality (non-exporting firms) firms due to the changes in the extensive and intensive margin, opening trade force the least efficient firms with the lowest quality to out of the market, on the other hands, opening trade rise number of higher quality firms. Therefore, opening trade force the lowest quality firms to exit the market, which means jobs in the lowest quality firms are destroyed by opening trade. On the other hand, opening trade increases the number of higher quality firms, which means good jobs in higher quality firms are created by opening trade. Therefore, opening trade leads to increase in good jobs but decrease in bad jobs.

In contrast, in the study of Davis and Harrigan (2011), they examine the effect of trade liberalization on employment in terms of good jobs and bad jobs to consider the impact of trade liberalization on level of good jobs and bad jobs. Using the new model, which is merge the idea from the Melitz model with a variant of the Shapiro-Stiglitz model of efficiency wages. So, model in this study will be the model that links product market churning to labor market churning, while giving workers a reason to care about their jobs. The authors prove that opening trade mostly destroys the high paying jobs (good jobs). In the words, only the lowest paying jobs will survive the trade liberalization. Therefore, they believe that bad jobs can survive in freer trade, however, good jobs will

be destroyed by freer trade which is opposite with the idea of Wang and Zhao (2015).

In terms of people who believe that opening has no effect on labor demand, according to Krishna et at. (2001), they try to present the relationship between trade openness and labor demand elasticites by using data of 10 Turkish manufacturing industries in period 1983 – 1986, when there were large scale change in the level of trade protection (tariff and non tariff protection). They estimate the model of monopolistic competition, where each firm faces its own less than infinitely elastic demand curve and assumed to be no strategic interaction between firms. They found that in terms of industry-specific own price labor demand elasticities and post-reform changes, a change in elasticity is insignificant to trade reform. In terms of cross price elasticites of labor demand and the changes follow the trade reform are also lack of significance. Moreover, in terms of labor demand elasticites and changes by worker types, they also got changes in elasticity are insignificant following trade reform. Lastly, regressions by using the pooled over all industries (across industries), the result also shows that labor demand elasticity has no relationship with trade reform. Therefore, in all cases have the same outcome, which is labor demand elasticity seems to be unresponsive to trade openness. So, Krishna P. et at. (2001) claim that trade reforms has insignificant relationship with labor demand elasticities.

Moreover, Edmonds and Pavcnik (2006) they estimate the association between the volume of trade openness and child labor with controlling for income. They found that there is no statistically significant association between trade and child labor and the magnitude of coefficient is very small. Cross-data say in this case openness elasticity of child labor is very small. Therefore, there is very little evidence to assume that with the

income control, increasing trade openness relate with child labor. However, still cannot ignore the very small value, so to conclude the situation in this case, they assume that there could be anything other than relationship between openness and income that play important role in impact of child labor.

Although there are many different opinions about the relationship between openness and level of unemployment, majority of economists believe that openness has negative relationship with unemployment.

CHAPTER 3

DATA DESCRIPTION

The data used in this paper are the annual data of years 1995 and 2014 of 89 countries. This paper focuses on two different time periods because in year 1995 the level of international trade was not growth as in year 2014. Therefore, we can see the impact of trade opening on unemployment overtime. This study uses two variables, which are unemployment, total (% of total labor force) and level of trade opening, to create the regression model.

3.1 Unemployment

Unemployment as the percent of total labor force is calculated from the share of the labor in each country that is without work but available for and seeking employment in recent past period. Moreover, people who did not look for work but have an arrangement for a future job are counted as unemployed. Also, it is calculated in terms of the percent of total labor force. The data are collected in years 1995 and 2014.

3.2 Openness

Trade opening, the basic measure of openness is the trade intensity ratio: exports plus imports divided by GDP or sum of exports as percent of GDP and imports as percent of GDP in both goods and service. This paper use openness to compare the levels of trade barriers of countries in different times, year 1995 and 2014.

Which are all the data defined by The World Bank national accounts data, OECD National Accounts data files, and the International Labor Organization (ILO).

CHAPTER 4

METHODS

This study uses the regression model to show the relationship between unemployment and openness. The linear regression model for this study can be expressed as

$$UN_t = \beta_0 + \beta_1 OP_t + \varepsilon \qquad (1)$$

The model consists of one dependent variable and one independent variable. The dependent variable is UN_t, which refers to unemployment as the percent of total labor force. Independent variable is OP_t, which refers to openness. Where is a constant terms: β_0, and β_1 are constant and coefficients on independent variable and ε is an error term, also t stand for year 1995 or 2014. Therefore, this research used the regression model (1) to examine the impact of openness on unemployment, in years 1995 and 2014.

4.1 Estimation: For all 89 countries in year 1995

For all 89 sample countries, I use regression model (1) to examine the impact of trade opening on unemployment in years 1995. Considering the effects of openness on unemployment in year 1995, when there has lower level of trade. According to the equation (1), in case of the coefficient on independent variable (OP_t) becomes positive number, that means openness has positive effect on the rate of unemployment. In the other words, if openness increases, unemployment increases as well. On the other hand, if coefficient of independent variable (OP_t) becomes negative number, openness have negative correlation with unemployment. Means unemployment will decline if openness increases.

4.2 Estimation: For all 89 countries in year 2015

Using the regression model (1) to examine the impact of openness on unemployment in year 2015, when there has higher level of trade. Considering the impact of openness on rate of unemployment by looking at the coefficient of independent variable (OP_t). Same as in the first case, if the coefficient becomes positive; unemployment increases if openness increases. However, if the coefficient becomes negative, which means openness has negative relationship with unemployment. After we knew the relationship between openness and unemployment in year 1995 and 2015, then we can compare the result of both years by considering the impact of openness on unemployment overtime periods.

CHAPTER 5

EMPIRICAL RESULTS

This study focuses the analysis on data of unemployment and openness on year 1995 and 2015 of 89 countries. Table 1 presents descriptive statistics for the unemployment and openness on periods 1995 and 2014. As we know that the level of trade opening in the past is much lower than the present years. According to the table 1, we can see the Minimum and Maximum of openness in 1995 are both lower than in 2015. In year 1995, the highest level of openness is 345.7 and the lowest is 14.80. However, in year 2015, the maximum level of trade opening is 439.2 and the minimum level is 19.10. Also, the mean value of openness in 1995 is 75.40 and the mean value of openness in 2014 is 90.22, obviously higher than in the past year.

In terms of unemployment as the percentage of total labor force, the maximum and minimum unemployment in year 1995 and 2014 are slightly differences. In period 1995, the minimum unemployment is 0.4 and the maximum unemployment is 19. In period 2014, the minimum unemployment is 0.3 and the maximum unemployment is 19.10. Also, value of mean of unemployment in 1995 is 6.93 and a value of mean of unemployment in 2014 is 6.53, which is also slightly different with the mean value in 1995.

Moreover, in 1995, there exist a higher standard deviation in unemployment, which is 4.19. Means the level of unemployment of sample countries are more spread out in year 1995 than in 2014. However, in 2014, there exist the higher standard deviation in openness, which is 58.14. Means the level of openness of sample countries are more spread out in year 2014 than in 1995.

Table 1

Descriptive Statistics

	Year 1995		Year 2014	
	Unemployment	Openness	Unemployment	Openness
Mean	6.93	75.40	6.59	90.22
S.D.	4.19	48.81	3.98	58.14
Minimum	0.40	14.80	0.30	19.10
Maximum	19.00	345.70	19.70	439.20
N	89.00	89.00	89.00	89.00

5.1 Empirical Results: For all 89 countries in year 1995

After running the regression model (1) for all 89 countries in year 1995, the results dedicate that the openness is negative and significantly related to unemployment in 1995. The coefficient for openness indicated for every unit change amount of change in openness could expect a change in unemployment, holding all other variables constant. The regression result in table 2 can be described as if openness increases by 1, unemployment will decreases by 0.0169409. Also it is statistically significant at level 10% because its t-value is 1.88, which is greater than 1.64. Also, the constant is 8.20875, this is the predicted value when openness equals zero. Therefore, from the results of year 1995 I can conclude that trade opening has negative impact on unemployment. If countries have higher trade opening, rate of unemployment would be lower.

5.2 Empirical Results: For all 89 countries in year 2014

The results of regression model (1) of year 2014, which is shown in table 2 could be described that the openness is also negative and significantly correlated to unemployment in year 2014. From table 2, the results dedicated that the coefficient of openness is -0.0122224 with t-value 1.69, which means fro every unit increase in

openness, expect a 0.0122224 unit decrease in unemployment, holding all other variables constant. Moreover, the coefficient for openness is statistically significant at level 10% because its t-value is higher than 1.64. Also, the constant is 7.693709, this is the predicted value when openness equals zero. So, from the results in year 2015, trade opening has negative correlation with unemployment, which means if countries have higher level of openness, those countries would have the lower rate of unemployment.

Table 2

Estimate the impact of Trade Opening on Unemployment

Dependent	Year 1995 (1)	Year 2014 (1)
Constant	8.20875 (10.16)***	7.693709 (9.94)***
Openness	-0.0169409 (1.88)*	-0.0122224 (1.69)*
R^2	0.039	0.0318

Note: For 89 countries. N=89
Absolute value of robust t-statistics is reported in parentheses.
* Significant at 10% level
** Significant at 5% level
*** Significant at 1% level

Previously, we know that in both years openness has negative impact on unemployment, the higher level of trade opening leads countries to have lower rate of unemployment. Comparing the results between year 1995 and 2014, the coefficients of openness in year 1995 and year 2014 are almost the same; in 1995 increasing one unit of openness, expected to decrease 0.0169409 unit of unemployment, however, in 2014 increasing one unit of openness, expected to decrease 0.0122224 unit of unemployment. In the other words, time is not important for the impact of openness on

unemployment, because overtime the coefficients of openness in both years are around negative 0.01 as we can see in table 2.

CHAPTER 6

CONCLUSION

In this paper I examine the impact of trade opening on unemployment by using 89 sample countries. Our result can be described as, in year 1995, the increasing by 1 unit of openness leads to decreases 1.7% of level of unemployment. Also, in year 2015, increasing by 1 unit of level of trade opening causes the decreasing 1.2% of unemployment level. Therefore, from the empirical results of both years, I can assume that trade opening has negative impact on unemployment. Which means countries that have higher level of trade opening; they would have the lower rate of unemployment. Moreover, when I compare the results of year 1994 and 2015, I notice that the results are slightly different, so the different time periods did not play the important role on the impact of trade opening on unemployment. Because overtime the impact of openness on unemployment are almost the same, increasing by 1 unit of openness leads to decrease rate of unemployment around 1%.

All in all, our empirical results present that openness has negative impact on unemployment and overtime the impact of openness on unemployment still negative.

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