



Thammasat University
Bachelor of Economics

**The unemployment rate of selected countries and the changing pattern of
transportation**

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EE406 CONTEMPORARY ECONOMIC ISSUES

To

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By:

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Introduction

The pandemic or the Covid-19 virus spread to everywhere in the world, and it causes a lot of negative impact to the society or the community of every country. The one main effect that can clearly be seen is the GDP of Thailand fell by 6 percent which before it is continuously to increase if the Covid-19 does not exist. Everything in the world is being slowed by the chain of the pandemic as everything needs to check whether it is safe from the virus

The number of people using public transportation and private transportation were extremely declining due to the pandemic and the policy that reduced the number of people going outside of the house. The example of the policy that the government implemented is the lockdown policy that limited the time of the people staying outside of the house as the government thought that it would prevent the spread of the Covid-19.

The unemployment rate of selected countries increased because of the effect of the Covid-19. It affects every sector in the economy as it causes a lot of the companies in the world to go bankrupt, or reduce the number of branches to minimize the cost in order to survive from the pandemic effect.

This research will analyze the correlation of unemployment of five world economic countries which are the United Kingdom, United States, Japan, South Korea, and France. compared with the transportation of five countries from the google trend and apple mobility index.

This paper will concern more on public transportation as every person in the country has more accessibility than private transportation as it is high cost if compared to the public transportation.

Literature Review

The type of research is about the effect of the covid-19 on the economy, and effect on the mental health of the people during the pandemic. This is due to the fact that Covid-19 slows every process of the world including the trading, transportation, health, and mental health of the people as people need to be more aware about the disease.

The first research came from Maryla Maliszewska, Aaditya Mattoo, and Dominique van der Mensbrugghe (2020) focused on the economy of the world as the benchmark of the world declined approximately 4 percent. This has the negative effect in most of the services in the world, but especially in domestic services and tourist services.

Cuiyan Wang (2021) studied the effect of the Covid-19 on the mental health of the people. The result is that people tend to have more on the IES-R and DASS-21 anxiety, depression and stress scale. However, the people that have more on the IES-R and DASS-21 are people who are more than 30, high education background, single and spread status, discrimination by other countries, contact with people with Covid-19 and worries about the Covid-19.

Warwick and Roshen (2020) researched on the outcome or the impact of the Covid-19 to the society and the community. There will be a lot of shocks in the market such as the labor supply, consumption demand, and cost of production. It impacts society in the negative that can make the economy worse.

Elizabeth, Scubham, and Sicheng (2021) focused on the unemployment rate of the transportation services such as taxi and limousine drivers. The people in the transportation services are more likely to be unemployed than the other industry. This can make the number of people traveling less than the normal situation as the number of taxis and limousines also decreases.

Hanne and Riku (2021) studied public transportation in the covid-19 era (2020). It can be clearly seen that the number of public transportation of the area in the selected research decreased if compared to the past.

Muhammad (2021) did study about impacts of covid-19 to the transport modes. The result showed that people are likely to stay at home to prevent the spread of the Covid-19, but if

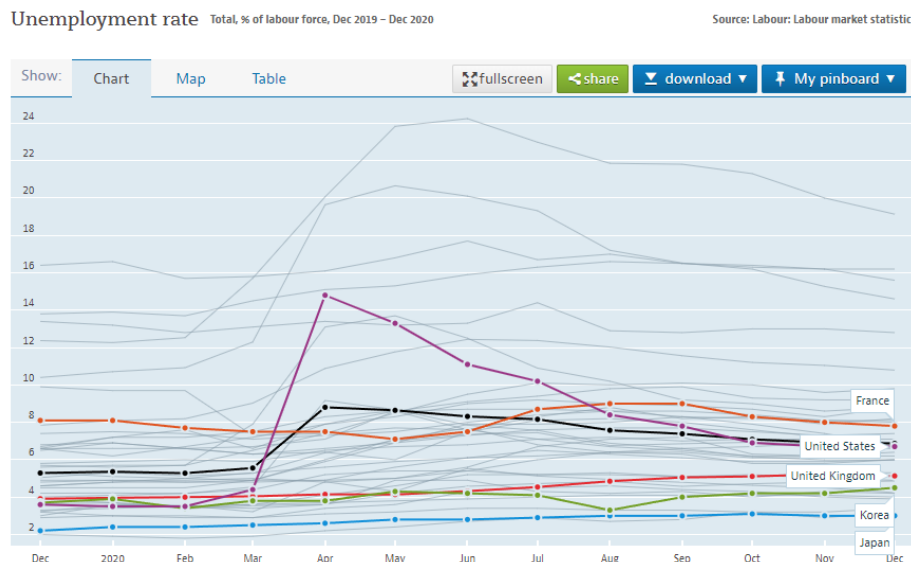
they need to go outside, they will avoid the public transportation that is crowded. They will use private cars, bicycles, and walking as the main way of transportation.

Wolfram and Carlos (2020) concerned about covid-19 and unemployment. The unemployment of the world began to increase after the arrival of the covid-19. This also led to the number of suicide to increase, and the GDP to decrease due to the unemployment that increased from the covid-19.

Data and Methodology

3.1) Data

This study uses the data from the three main data for finding the result of the unemployment rate in Thailand and the changing pattern of transportation. The first data comes from OECD for the unemployment rate from 5 countries: the United Kingdom, the United States, Japan, Republic of Korea, and France as shown in the figure 1. The second data is from google trends on bus schedules and train schedules of each country. The third data is from apple mobility index to check the transportation of the people in the specific country.



Source: OECD

3.2) Methodology

To be able to find the result of analyzing the correlation of unemployment and the pattern of transportation of the people in a specific country, the methodology can be divided into 4 main parts

i) Gathering data about unemployment.

My analysis is to check the correlation between the unemployment rate and the changing pattern of the people in a specific country collected by OECD in the unemployment rate of the United Kingdom, United States, Japan, South Korea, and France.

ii) Find the keyword search statistics on Google Trends.

There are two main keywords that I used for finding the data about the patterns of the people in those countries. The first keyword is bus schedule. The reason that I chose this word apart from only bus as people who want to travel will only search the schedule of the bus.

iii) Check other alternative economic indicators

The other alternative economic indicators that are used for checking the correlation of the unemployment rate and the pattern of the local people of specific countries. This research chose the apple mobility index to be the alternative indicators. The data of the apple mobility index need to be converted to be monthly data as the original form of the apple mobility index is in the form of daily data.

iv) Suggest the applications of these results

The hypothesis that I used in this research are:

H0: Unemployment rate and the changing pattern of selected countries.

Ha: Null hypothesis is rejected

If the P value is less than or equal to 0.05, the null hypothesis is rejected.

About the regression model, I used the Ordinary Least Square Regression (OLS), or the linear regression function.

OLS regression function: $Y_i = \alpha + \beta X_i + U_i$

Where Y_i = Dependent variable

α = Intercept of the model

β = Coefficient

X_i = Corresponds to i explanatory variable of the model

U_i = the random error with the expectation 0 and variance σ^2

With more explanatory variables of the model, the OLS regression function will be:

$$Y_i = a + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + U_i$$

The dependent variable Y is the Thailand's Gross Domestic Product (GDP),

The independent variable X1 is the unemployment of United Kingdom, independent variable X2 is the unemployment of United States, independent X3 is the unemployment of Japan, independent variable X4 is the unemployment of Korea, and X5 is the unemployment of France and Beta, the coefficient of X to Y is what I want to measure and analyze.

Result

The result of the regression to find P-value on google trend are

Table 1: This is the result after the regression for searching the P-value of the Unemployment rate and the changing pattern of transportation in 2020.

	Unemployment of UK	Unemployment of USA	Unemployment of Japan	Unemployment of Korea	Unemployment of France
Changing pattern	0.825687	0.000254	0.547401	0.586792	0.742676

From the table, the P-value of unemployment in the United Kingdom and changing pattern is 0.825687, the P-value of unemployment in the United States and changing pattern is 0.000254, the P-value of unemployment in the Japan and changing pattern is 0.547401, the P-value of unemployment in the Korea and changing pattern is 0.586792, and the P-value of unemployment in the France and changing pattern is 0.742676. Among 4 countries, USA, Japan, Korea, and France, the USA has a P-value lower than 0.8 which is the smallest number that is extremely good.

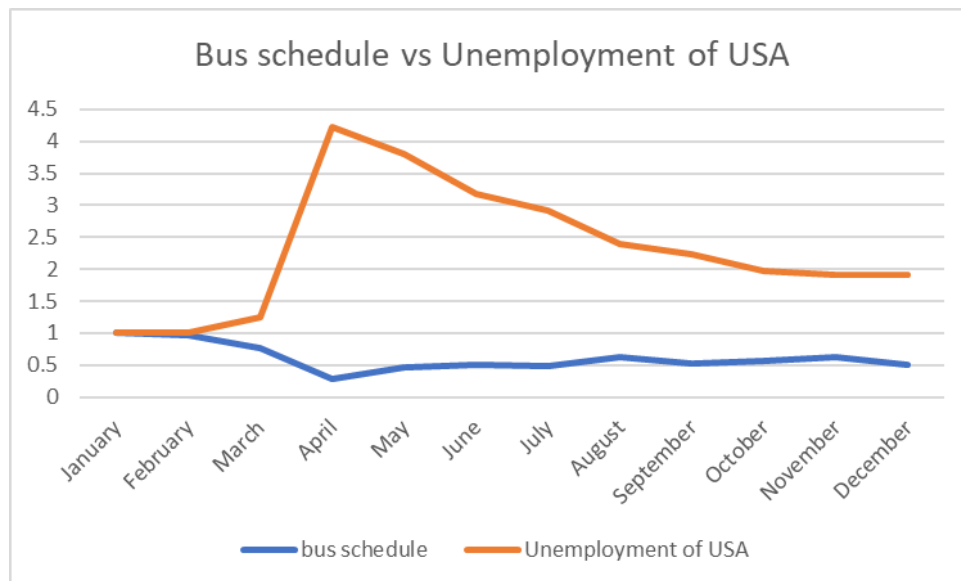
Table2: The correlation coefficient or the r square between the unemployment rate and the changing pattern of the United Kingdom, Japan, Korea, and France in 2020.

	Unemployment of USA	Unemployment of Japan	Unemployment of Korea	Unemployment of France
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Changing pattern	0.752936	0.037331	0.030569	0.011266
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The correlation of the unemployment of the United Kingdom and the changing pattern is 0.005086, the correlation of the unemployment of the Japan and the changing pattern is 0.037331, the correlation of the unemployment of the Korea and the changing pattern is 0.030569, and the correlation of the unemployment of the France and the changing pattern is 0.011266. All the results of the correlation coefficients are positive.

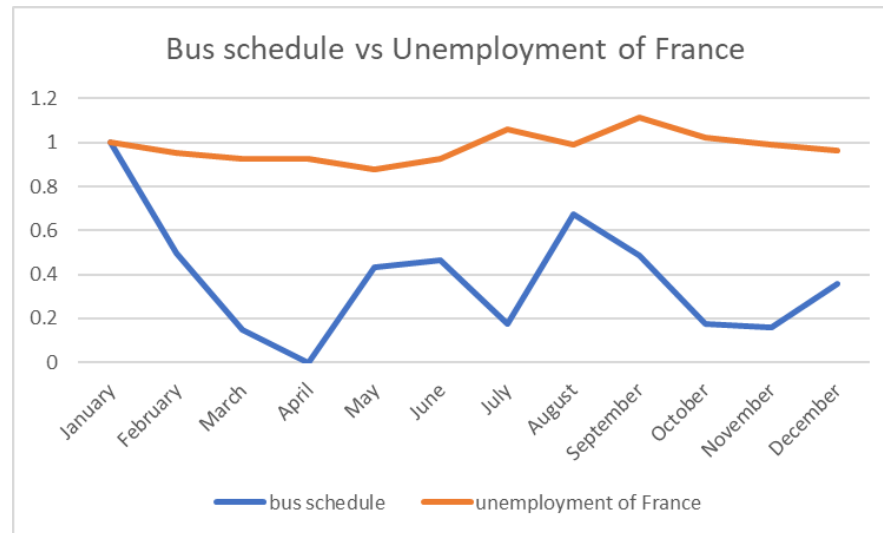
Figure: 1 The normalized data of bus schedule in USA and the unemployment of USA in 2020



This is the figure that represents the people who search the bus schedule on google and the unemployment of the United States. It can be clearly seen that the first quarter of 2020 is in the normal state as the Covid-19 is still not the big pandemic that destroys the economy. However, after March, the number of people who search the schedule dramatically decreases which can imply that people are less likely to go outside by bus, and the unemployment of Uk was starting to slowly rise. The line of bus schedules and unemployment go opposite to each

other which means when the number of unemployment increases, people search for less public transportation.

Figure 2: The normalized data of bus schedule in France and the unemployment of France in 2020



For this figure, it can also be clearly seen that the number of search bus schedules from Google dramatically dropped from January to April due to the Covid-19. The direction of the bus schedule and unemployment of France go in opposite directions with each other which means when the unemployment of France increases it can imply that people search or use the bus less the same as the United States.

The result of the regression to find P-value on Apple mobility index are

Table 3: This is the result after the regression for searching the P-value of the Unemployment rate and the changing pattern of transportation in 2020.

	Unemployment of UK	Unemployment of USA	Unemployment of Japan	Unemployment of Korea	Unemployment of France
Changing pattern	0.453458	0.865978	0.601653	0.612191	0.008028

From the table, the P-value of unemployment in the United Kingdom and changing pattern is 0.453458, the P-value of unemployment in the United States and changing pattern is

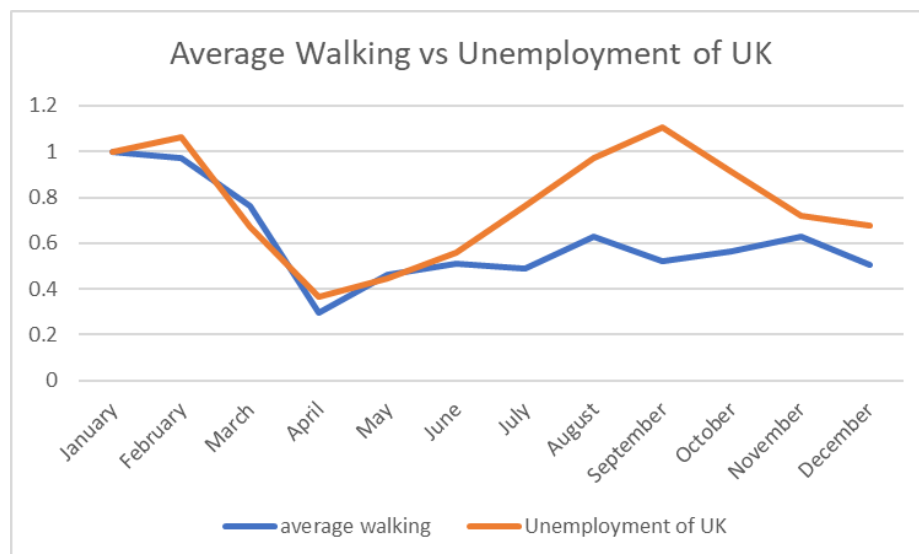
0.865978, the P-value of unemployment in the Japan and changing pattern is 0.601653, the P-value of unemployment in the Korea and changing pattern is 0.612191, and the P-value of unemployment in the France and changing pattern is 0.008028. Among 4 countries, UK, Japan, Korea, and France, France has a P-value lower than 0.8 which is the smallest number that is extremely good.

Table 4: The correlation coefficient or the r square between the unemployment rate and the changing pattern of the United Kingdom, Japan, Korea, and France in 2020.

	Unemployment of UK	Unemployment of Japan	Unemployment of Korea	Unemployment of France
Changing pattern	0.05735	0.028236	0.02665	0.521145

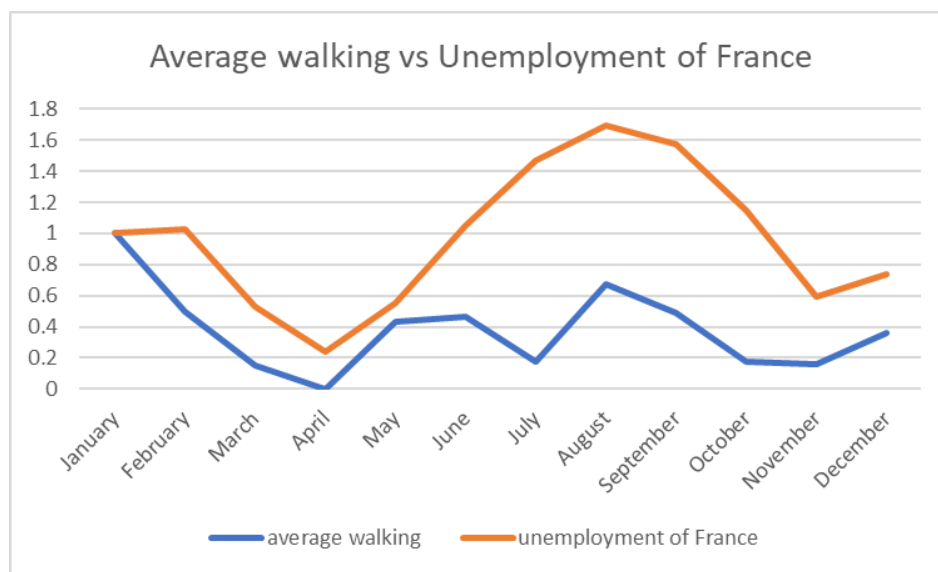
The correlation of the unemployment of the United Kingdom and the changing pattern is 0.05735, the correlation of the unemployment of the Japan and the changing pattern is 0.028236, the correlation of the unemployment of the Korea and the changing pattern is 0.02665, and the correlation of the unemployment of the France and the changing pattern is 0.521145. All the results of the correlation coefficients are positive.

Figure 3: The normalized data of average walking in United Kingdom and the unemployment of United Kingdom in 2020



In the first quarter of 2020 , the walking rate in the UK and the unemployment rate in the UK declined in the same directions. The second and third quarters of the year both average and unemployment began to increase which means more people are unemployed and people walk more. The reasons that the second and third quarter started to increase dramatically is because of the Covid-19 that affected the country. However, the fourth quarter both dropped as it is the last month of the year that people are likely to make celebrations such as the Christmast day and New year.

Figure 4: The normalized data of average walking in France and the unemployment of France in 2020



In the first quarter of 2020 of France, both of average walking and unemployment dropped dramatically before the pandemic started to change the world. The unemployment of France in the Second and Third quarter vastly increased because of the Covid-19, and it significantly decreased in the fourth quarter. The average walking was moving from 0.2 to 0.7 in the second and third quarter, and it stopped at 0.4 in December.

The limitation of the result is that only 80 percent of selected countries can be used to analyze as the p value of some countries cannot be used for analyzing. Second, the result from

the google trend might not be that accurate if compared to the apple mobility index that measures travel, but the google trend can be used to check the number of people who search for the time schedule of the bus only. Some people might search about the schedule, but he or she decides not to go.

Conclusion and policy recommendation

i) Conclusion

There is a positive correlation of the unemployment of selected countries and the changing pattern of the people in each country. All the data go along with each other as the unemployment increases, and the number of people searching for the bus schedule decreases in the same way which can be implied that people travel less.

The research gap is that the data is not on every keyword for the google trend and limited time for searching the information to make this research, and it is in the pandemic situation or the Covid-19 situation. The data and the result might not be accurate.

ii) Policy recommendation

The policy recommendation will be divided into two parts which are the policy for short-term and policy for long-term. The short-term policy will help the community to prevent or protect the community from the Covid-19. However ,the long-term will help the people to be able to stay or live with the Covid-19.

Short-term

The first policy recommendation is to increase the incentive of the government to distribute the effective vaccine to the local people of each country to increase the motivation of the people to go outside to live like before the pandemic. Every country should provide the vaccine that have more research that can prevent the every type of the Covid-9 such as Delta and Omicon.

The second policy is to make it easy for people to get vaccines from every place such as the convenience store, pharmacist store, and community mall. By providing these location, it will makes the people to get the vaccine

The third policy is to raise awareness and convince the people. By giving information to the people, it will help to increase the incentive of people to get vaccinated more easily. People will know that

Long-term

The government of each country should also provide a strong education system for their people as if the people are well educated, it can reduce the unemployment of the country by a huge amount.

The government can support the citizens by making good or effective transportation such as the sky train, railway, and road. This will help people travel or go to work more easily and reduce the time for traveling in the city. People will have more incentive in going to work, and the productivity of the people will also increase.

Future improvement on this research

This reach could be improved by using the other more keyword on the google trend to make sure that the result is accurate, and it will also help to make sure that the correlation of the unemployment rate of selected countries and transportation pattern is related to each other.

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Appendix

Table1: the unemployment of selected countries.

2020	Usa	Japan	Korea	UK	France
January	3.5	2.4	3.9	3.96	8.1
February	3.5	2.4	3.4	4	7.7
March	4.4	2.5	3.8	4.04	7.5
April	14.8	2.6	3.8	4.15	7.5
May	13.3	2.8	4.3	4.14	7.1
June	11.1	2.8	4.2	4.32	7.5
July	10.2	2.9	4.1	4.54	8.6
August	8.4	3	3.3	4.85	8
September	7.8	3	4	5.05	9
October	6.9	3.1	4.2	5.11	8.3
November	6.7	3	4.2	5.22	8
December	6.7	3	4.5	5.13	7.8

Table2: the roll-up normalize of bus schedule

Month	Roll-up Normalize bus schedule of UK	Roll-up normalize bus schedule of Usa	Roll-up normalize bus schedule of Japan	Roll-up normalize bus schedule of Korea	Roll-up normalize bus schedule of France
January	1	1	1	1	1
February	1.079096	0.973958	0.892157	1.340206	0.497512
March	1.135593	0.760417	0.843137	0.659794	0.149254
April	0.305085	0.294271	0.294118	0.273196	0
May	0.344633	0.463542	0.583333	0.809278	0.432836
June	0.344633	0.510417	0.519608	0.639175	0.462687
July	0.672316	0.486979	0.534314	0.850515	0.174129
August	0.971751	0.630208	0.539216	0.721649	0.671642
September	0.903955	0.520833	0.328431	1.201031	0.487562
October	0.683616	0.5625	0.343137	0.92268	0.174129
November	0.649718	0.630208	1.45098	1.025773	0.159204

December	0.638418	0.505208	0.965686	0.603093	0.358209
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Table 3: the normalized unemployment of selected countries.

Month	Roll-up normalize unemployment of UK	Roll-up normalize unemployment of USA	Roll-up normalize unemployment of Japan	Roll-up normalize unemployment of Korea	Roll-up normalize unemployment of France
January	1	1	1	1	1
February	1.010101	1	1	0.871795	0.950617
March	1.020202	1.257143	1.041667	0.974359	0.925926
April	1.04798	4.228571	1.083333	0.974359	0.925926
May	1.045455	3.8	1.166667	1.102564	0.876543
June	1.090909	3.171429	1.166667	1.076923	0.925926
July	1.146465	2.914286	1.208333	1.051282	1.061728
August	1.224747	2.4	1.25	0.846154	0.987654
September	1.275253	2.228571	1.25	1.025641	1.111111
October	1.290404	1.971429	1.291667	1.076923	1.024691
November	1.318182	1.914286	1.25	1.076923	0.987654
December	1.295455	1.914286	1.25	1.153846	0.962963

Table 4: the normalized average walking of selected countries

Month	Roll-up normalize average walking of UK	Roll-up normalize average walking of USA	Roll-up normalize average walking of Japan	Roll-up normalize average walking of Korea	Roll-up normalize average walking of France
January	1	1	1	1	1
February	1.064751	1.076904	1.165875	0.622287	1.026563
March	0.671671	0.814671	1.245227	0.364267	0.532262
April	0.36418	0.61022	0.776185	0.405703	0.241927
May	0.448758	0.981066	0.662539	0.448464	0.549976
June	0.560567	1.362224	0.822482	0.442361	1.050712
July	0.763967	1.476909	0.912993	0.477626	1.468238
August	0.972697	1.603034	1.006804	0.440475	1.691015
September	1.106396	1.516546	1.096	0.489509	1.57728
October	0.913788	1.430424	1.157381	0.513203	1.151545

November	0.721166	1.198048	1.202272	0.509746	0.590974
December	0.678026	1.207708	1.027254	0.399126	0.738999

Table 5: Regression data of the roll-up normalized unemployment of United Kingdom and percent roll-up normalized United Kingdom unemployment

SUMMARY OUTPUT									
Regression Statistics									
Multiple R	0.071313								
R Square	0.005086								
Adjusted R Square	-0.09441								
Standard Error	0.306752								
Observations	12								
ANOVA									
	df	SS	MS	F	Significance F				
Regression	1	0.00481	0.00481	0.051116	0.825687				
Residual	10	0.940967	0.094097						
Total	11	0.945777							
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
Intercept	0.918069	0.847969	1.082668	0.304371	-0.97132	2.807461	-0.97132	2.807461	
X Variable	-0.16622	0.735189	-0.22609	0.825687	-1.80432	1.471886	-1.80432	1.471886	

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Table 6: Regression data of the roll-up normalized unemployment of United States and percent roll-up normalized United States unemployment

Us								
SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.867719							
R Square	0.752936							
Adjusted R Square	0.72823							
Standard Error	0.108371							
Observati ons	12							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significa nce F</i>			
Regressi on	1	0.357911	0.357911	30.47541	0.000254			
Residual	10	0.117442	0.011744					
Total	11	0.475353						
	<i>Coefficie nts</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.011788	0.078963	12.81339	1.57E-07	0.835847	1.18773	0.835847	1.18773
X Variable 1	-0.17277	0.031296	-5.52045	0.000254	-0.2425	-0.10304	-0.2425	-0.10304

Table 7: Regression data of the roll-up normalized unemployment of Japan and percent roll-up normalized Japan unemployment

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.193213							
R Square	0.037331							
Adjusted R Square	-0.05894							
Standard Error	0.355207							
Observations	12							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.048928	0.048928	0.387789	0.547401			
Residual	10	1.261722	0.126172					
Total	11	1.31065						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.424455	1.181984	1.205139	0.255894	-1.20917	4.058079	-1.20917	4.058079
X Variable 1	-0.6304	1.012322	-0.62273	0.547401	-2.886	1.625195	-2.886	1.625195

Table 8: Regression data of the roll-up normalized unemployment of Korea and percent roll-up normalized Korea unemployment

SUMMARY							
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OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.17484							
R Square	0.030569							
Adjusted R Square	-0.06637							
Standard Error	0.29745							
Observations	12							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.027899	0.027899	0.315329	0.586792			
Residual	10	0.884762	0.088476					
Total	11	0.912661						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.397835	1.002073	1.394944	0.19324	-0.83492	3.630592	-0.83492	3.630592
X Variable 1	-0.55006	0.97955	-0.56154	0.586792	-2.73263	1.632515	-2.73263	1.632515

Table 9: Regression data of the roll-up normalized unemployment of France and percent roll-up normalized France unemployment

SUMMARY OUTPUT								
<i>Regression Statistics</i>								

Multiple R	0.106142							
R Square	0.011266							
Adjusted R Square	-0.08761							
Standard Error	0.287519							
Observations	12							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.009419	0.009419	0.113944	0.742676			
Residual	10	0.826674	0.082667					
Total	11	0.836093						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-0.05749	1.300472	-0.04421	0.965609	-2.95512	2.840143	-2.95512	2.840143
X Variable 1	0.447761	1.326479	0.337556	0.742676	-2.50782	3.403342	-2.50782	3.403342

Table 10: Regression data of the roll-up normalized average walking of United Kingdom and percent roll-up normalized United Kingdom unemployment

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.239479							
R Square	0.05735							

Adjusted R Square	-0.03691							
Standard Error	0.246949							
Observations	12							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.037102	0.037102	0.608395	0.453458			
Residual	10	0.609839	0.060984					
Total	11	0.646942						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.242607	0.682654	0.355389	0.72968	-1.27844	1.763655	-1.27844	1.763655
X Variable 1	0.46165	0.591861	0.779997	0.453458	-0.8571	1.780398	-0.8571	1.780398

Table 11: Regression data of the roll-up normalized average walking of United States and percent roll-up normalized United States unemployment

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.054677							
R Square	0.00299							
Adjusted R Square	-0.09671							
Standard Error	0.318419							

Observations	12							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.00304	0.00304	0.029985	0.865978			
Residual	10	1.013909	0.101391					
Total	11	1.016949						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.225838	0.227443	5.389639	0.000306	0.719062	1.732613	0.719062	1.732613
X Variable 1	-0.067	0.386896	-0.17316	0.865978	-0.92905	0.795062	-0.92905	0.795062

Table 12: Regression data of the roll-up normalized average walking of Japan and percent roll-up normalized Japan unemployment

SUMMARY OUTPUT							
<i>Regression Statistics</i>							
Multiple R	0.168035						
R Square	0.028236						
Adjusted R Square	-0.06894						
Standard Error	0.188572						
Observations	12						
ANOVA							

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.010332	0.010332	0.290563	0.601653			
Residual	10	0.355593	0.035559					
Total	11	0.365925						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.970595	0.085666	11.32994	5.01E-07	0.779718	1.161472	0.779718	1.161472
X Variable 1	0.075867	0.140745	0.539039	0.601653	-0.23773	0.389467	-0.23773	0.389467

Table 13: Regression data of the roll-up normalized average walking of Korea and percent roll-up normalized Korea unemployment

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.16325							
R Square	0.02665							
Adjusted R Square	-0.07068							
Standard Error	0.174206							
Observations	12							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.008309	0.008309	0.273801	0.612191			

Residual	10	0.303477	0.030348					
Total	11	0.311787						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.815359	0.58688	1.389311	0.194895	-0.49229	2.123008	-0.49229	2.123008
X Variable 1	-0.30019	0.573689	-0.52326	0.612191	-1.57845	0.97807	-1.57845	0.97807

Table 14: Regression data of the roll-up normalized average walking of France and percent roll-up normalized France unemployment

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.721904							
R Square	0.521145							
Adjusted R Square	0.47326							
Standard Error	0.330102							
Observations	12							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	1.185906	1.185906	10.88315	0.008028			
Residual	10	1.089671	0.108967					
Total	11	2.275577						

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-3.94727	1.493076	-2.64372	0.024577	-7.27405	-0.62049	-7.27405	-0.62049
X Variable 1	5.024104	1.522935	3.298962	0.008028	1.630794	8.417413	1.630794	8.417413