GOVERNMENT EXPENDITURE AND ECONOMIC GROWTH:

EVIDENCE FROM PANEL DATA

MAIZATUL MAZNI BINTI ZAINUN @ ZAINOL

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Nama Penyelia (Name of Supervisor) : **Dr. Sabri Nayan**

Tandatangan (Signature) :

Dr. Sabri Nayan
Senior Lecturer
School of Economics, Finance and Banking (SEFB)
038 Economic Building, College of Business
Universiti Utara Malaysia
06010 Sintok, Kedah Darul Aman
MALAYSIA

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Abstrak

Kesan perbelanjaan kerajaan ke atas pertumbuhan ekonomi pertama kali dikaji secara empirikal oleh Adolf Wagner. Wagner mencadangkan terdapat hubungan (*causal relationship*) antara perbelanjaan kerajaan dengan perkembangan ekonomi. Perbelanjaan kerajaan dianggap sebagai kesan kepada aktiviti ekonomi. Walau bagaimanapun, hipotesis Keynesian bersetuju arah kesan (*causality direction*) adalah daripada perbelanjaan kerajaan kepada aktiviti ekonomi. Kajian ini adalah penting untuk mendedahkan pemahaman yang jelas kepada pembuat dasar dan kerajaan tentang perkaitan antara perbelanjaan kerajaan dengan pertumbuhan ekonomi. Menggunakan pendekatan Data Panel, kajian ini mengkaji impak perbelanjaan kerajaan ke atas pertumbuhan ekonomi bagi negara ASEAN-5 dan menyiasat hubungan (*causal relationship*) antara pemboleh ubah berkenaan. Keputusan menunjukkan bahawa perbelanjaan kerajaan mempunyai hubungan ketara yang positif dengan pertumbuhan ekonomi. Kerajaan perlu memastikan bahawa perbelanjaan kerajaan diuruskan dengan baik. Pengurusan bajet kerajaan yang bagus akan memberi manfaat kepada produktiviti sesebuah negara. Bagi kajian selanjutnya, kedua-dua data kuantitatif dan kualitatif perlu digunakan untuk menerangkan hubungan antara perbelanjaan kerajaan dan pertumbuhan ekonomi.

Kata kunci: Perbelanjaan kerajaan, pertumbuhan ekonomi, negara ASEAN-5, Data Panel

Abstract

The impact of government expenditure on economic growth was first investigated empirically by Adolf Wagner. Wagner suggests that there is a causal relationship between government spending and economic development. Government expenditure is considered as the outcome of economic activities. However, Keynesian hypothesis agrees that the causality direction runs from government expenditure to economic activities. This paper is important to reveal a clear understanding to policy makers and governments about inter-linkages between government spending and economic growth. Using Panel Data approach, the study examines the impact of government expenditure on economic growth for ASEAN-5 countries and investigates the causal relationship between the variables. The result shows that government expenditure has a positive significant relationship with economic growth. Government should ensure that expenses of the governments are properly managed. A proper managed government budget will be benefit to productivity of the country. For future research, both quantitative and qualitative data should be used to explain the relationship between government expenditure and economic growth.

Key words: Government Expenditure, Economic Growth, ASEAN-5 Countries, Panel Data

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Table of Contents

List of Tables

Lists of Figures

List of Appendices

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

1.1.1. Wagner's Law and Keynesian Hypothesis

Numerous of previous research have been conducted regarding government spending and economic growth. This relationship is an important part studied in public economics. The relationship was first investigated empirically by Wagner more than a hundred years ago. Wagner introduced the 'law of the expanding state role'. It is also called Wagner's Law.

Wagner's Law suggests that public spending may cause economic progress. According to Wagner, government spending is positively respond to economic growth. Increasing income of a country will increase public sector's size of the country. Wagner also found that public spending is income-elastic.

Wagner suggests that consumption of elasticity for public good is greater than one and elasticity consumption from private sector is less than one. Most of public goods and services are considered as civil goods. Education and health care services are examples of civil goods.

As income increases, the demand for civil goods increases faster than increment in income level. Therefore, public spending should also increase faster compared to increment in national income due to a greater demand of enactment, laws and policy of civil goods (Dritsakis and Adamopoulos, 2004).

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Appendices

Appendix 1: Descriptive Statistics for Model 1

	GDP	GEXP	GCF	PI	TRD	LBR	TRSV	GSV
Mean	25.73480	23.48988	24.41243	21.49153	16.76390	4.835544	24.47562	24.65809
Median	25.68984	23.41541	24.33247	21.70214	17.27000	4.778091	24.38435	24.57710
Maximum	27.54532	25.18747	26.49754	25.08269	18.63628	6.085994	26.35016	26.41282
Minimum	24.31100	21.95805	22.94058	16.30042	14.25579	3.817979	21.43437	22.81710
Std. Dev.	0.698368	0.732923	0.734018	1.764179	1.324902	0.669805	0.988567	0.744440
Skewness	0.461463	0.428903	0.634866	-0.460657	-0.501342	0.332283	-0.278746	-0.021252
Kurtosis	2.952862	2.648413	3.421008	2.911193	2.104525	1.921523	2.703353	3.004727
Jarque-Bera	4.447987	4.476268	9.320142	4.462016	9.412762	8.358129	2.077065	0.009526
Probability	0.108176	0.106657	0.009466	0.107420	0.009037	0.015313	0.353974	0.995248
Sum	3216.850	2936.235	3051.554	2686.441	2095.488	604.4430	3059.453	3082.262
Sum Sq. Dev.	60.47696	66.60978	66.80901	385.9286	217.6654	55.63127	121.1808	68.71967
Observations	125	125	125	125	125	125	125	125

Appendix 2: Descriptive Statistics for Model 3

	GDP	GEXP	GCF	LBR	TRSV	GSV
Mean	1.96E+11	2.12E+10	5.46E+10	36476111	6.55E+10	6.72E+10
Median	1.44E+11	1.48E+10	3.69E+10	31642226	3.89E+10	4.72E+10
Maximum	9.18E+11	8.69E+10	3.22E+11	1.24E+08	2.78E+08	2.96E+11
Minimum	3.62E+10	3.44E+09	9.18E+09	1553141	2.04E+09	8.12E+09
Std. Dev.	1.73E+11	1.85E+10	5.73E+10	35604103	6.08E+10	5.60E+10
Skewness	2.554759	1.913858	3.177350	1.115787	1.530260	2.241458
Kurtosis	10.32833	6.263100	13.92809	3.082026	5.056685	8.944014
Jarque-Bera	415.6857	131.7668	832.3192	25.97216	70.81632	288.6866
Probability	0.000000	0.000000	0.000000	0.000002	0.000000	0.000000
Sum	2.45E+13	2.65E+12	6.83E+12	4.56E+09	8.19E+12	8.40E+12
Sum Sq. Dev.	3.73E+24	4.24E+22	4.073E+23	1.57E+17	4.59E+23	3.89E+23
Observations	125	125	125	125	125	125

Appendix 3: Regression Analysis for Model 1

Dependent Variable: LNGDP
Method: Panel Least Squares
Date: 04/16/17 Time: 23:30
Sample: 1990 2014
Periods included: 25
Cross-sections included: 5
Total panel (balanced) observations: 125

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.574114	0.614855	5.812939	0.0000
LNGEXP	0.258789	0.040353	6.413111	0.0000
LNGCF	0.248820	0.032341	7.693634	0.0000
LNPI	0.024738	0.007393	3.346173	0.0011
LNLBR	0.109245	0.024392	4.478748	0.0000
LNTRD	-0.123229	0.053568	-2.300411	0.0232
LNTRSV	0.181679	0.033371	5.444189	0.0000
LNGSV	0.153849	0.037498	4.102851	0.0001

R-squared	0.981874	Mean dependent var	25.73480
Adjusted R-squared	0.980789	S.D. dependent var	0.698368
S.E. of regression	0.096796	Akaike info criterion	-1.770558
Sum squared resid	1.096232	Schwarz criterion	-1.589546
Log likelihood	118.6599	Hannan-Quinn criter.	-1.697023
F-statistic	905.3804	Durbin-Watson stat	0.469747
Prob(F-statistic)	0.000000		

Appendix 4: Regression Analysis for Model 2

Dependent Variable: LNGDP
Method: Panel Least Squares
Date: 06/15/17 Time: 23:08
Sample: 1990 2014
Periods included: 25
Cross-sections included: 5
Total panel (balanced) observations: 125

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNGEXP	0.238147	0.042279	5.632797	0.0000
LNGCF	0.267766	0.033774	7.928205	0.0000
LNLBR	0.147677	0.015577	9.480297	0.0000
LNTRSV	0.160976	0.029583	5.441479	0.0000
LNGSV	0.206018	0.036535	5.638984	0.0000
C	2.108316	0.319438	6.600073	0.0000

R-squared	0.979397	Mean dependent var	25.73480
Adjusted R-squared	0.978531	S.D. dependent var	0.698368
S.E. of regression	0.102327	Akaike info criterion	-1.674477
Sum squared resid	1.246026	Schwarz criterion	-1.538718
Log likelihood	110.6548	Hannan-Quinn criter.	-1.619326
F-statistic	1131.354	Durbin-Watson stat	0.294814
Prob(F-statistic)	0.000000		

Appendix 5: Regression Analysis for Model 3

Dependent Variable: GDP
Method: Panel Least Squares
Date: 06/15/17 Time: 23:16
Sample: 1990 2014
Periods included: 25
Cross-sections included: 5
Total panel (balanced) observations: 125

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GEXP	2.833276	0.181182	15.63772	0.0000
GCF	1.046659	0.085175	12.28839	0.0000
LBR	644.5372	56.72413	11.36266	0.0000
TRSV	0.024430	0.038617	0.632632	0.5282
GSV	0.936904	0.080861	11.58661	0.0000
C	-9.47E+09	2.70E+09	-3.505102	0.0006

R-squared	0.993132	Mean dependent var	1.96E+11
Adjusted R-squared	0.992843	S.D. dependent var	1.73E+11
S.E. of regression	1.47E+10	Akaike info criterion	49.70351
Sum squared resid	2.56E+22	Schwarz criterion	49.83926
Log likelihood	-3100.469	Hannan-Quinn criter.	49.75866
F-statistic	3441.522	Durbin-Watson stat	0.517647
Prob(F-statistic)	0.000000		

Appendix 6: Granger Causality Test

Pairwise Granger Causality Tests
Date: 05/07/17 Time: 23:56
Sample: 1990 2014
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
GEXP does not Granger Cause GDP	115	0.51901	0.5966
GDP does not Granger Cause GEXP		0.61401	0.5430
GCF does not Granger Cause GDP	115	5.33044	0.0062
GDP does not Granger Cause GCF		17.8924	2.E-07
PI does not Granger Cause GDP	115	1.30244	0.2760
GDP does not Granger Cause PI		1.16121	0.3169
TRD does not Granger Cause GDP	115	0.07734	0.9256
GDP does not Granger Cause TRD		1.00831	0.3682
LBR does not Granger Cause GDP	115	0.34903	0.7062
GDP does not Granger Cause LBR		2.74690	0.0685
TRSV does not Granger Cause GDP	115	14.6734	2.E-06
GDP does not Granger Cause TRSV		0.09202	0.9122
GSV does not Granger Cause GDP	115	0.60198	0.5495
GDP does not Granger Cause GSV		10.5116	7.E-05
GCF does not Granger Cause GEXP	115	2.32589	0.1025
GEXP does not Granger Cause GCF		13.8237	4.E-06
PI does not Granger Cause GEXP	115	1.23159	0.2958

GEXP does not Granger Cause PI		1.00809	0.3683
TRD does not Granger Cause GEXP	115	0.13182	0.8766
GEXP does not Granger Cause TRD		2.96616	0.0556
LBR does not Granger Cause GEXP	115	0.02019	0.9800
GEXP does not Granger Cause LBR		1.30609	0.2750
TRSV does not Granger Cause GEXP	115	9.84807	0.0001
GEXP does not Granger Cause TRSV		0.04410	0.9569
GSV does not Granger Cause GEXP	115	1.27061	0.2847
GEXP does not Granger Cause GSV		11.2990	3.E-05
PI does not Granger Cause GCF	115	0.51221	0.6006
GCF does not Granger Cause PI		1.87500	0.1582
TRD does not Granger Cause GCF	115	0.86951	0.4220
GCF does not Granger Cause TRD		1.40574	0.2496
LBR does not Granger Cause GCF	115	5.46163	0.0055
GCF does not Granger Cause LBR		0.99152	0.3743
TRSV does not Granger Cause GCF	115	13.4571	6.E-06
GCF does not Granger Cause TRSV		0.48951	0.6143
GSV does not Granger Cause GCF	115	1.31417	0.2729
GCF does not Granger Cause GSV		0.47249	0.6247
TRD does not Granger Cause PI	115	1.30980	0.2740
PI does not Granger Cause TRD		0.87215	0.4209
LBR does not Granger Cause PI	115	2.31481	0.1036
PI does not Granger Cause LBR		0.86576	0.4236
TRSV does not Granger Cause PI	115	7.50349	0.0009
PI does not Granger Cause TRSV		0.04960	0.9516
GSV does not Granger Cause PI	115	3.34109	0.0390
PI does not Granger Cause GSV		0.52967	0.5903
LBR does not Granger Cause TRD	115	5.84091	0.0039
TRD does not Granger Cause LBR		4.87255	0.0094
TRSV does not Granger Cause TRD	115	1.45919	0.2369
TRD does not Granger Cause TRSV		0.82300	0.4418
GSV does not Granger Cause TRD	115	0.44118	0.6444
TRD does not Granger Cause GSV		0.53540	0.5870
TRSV does not Granger Cause LBR	115	2.01875	0.1377
LBR does not Granger Cause TRSV		0.74773	0.4758
GSV does not Granger Cause LBR	115	4.78153	0.0102
LBR does not Granger Cause GSV		11.2333	4.E-05
GSV does not Granger Cause TRSV	115	0.01758	0.9826
TRSV does not Granger Cause GSV		4.97796	0.0085