



FISCAL POLICY AND ITS EFFECTS ON ECONOMIC GROWTH

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Abstract

This paper investigates the impact of fiscal policy on economic growth during the time horizons of 1985, 1998, and 2014. Using cross country data from a minimum of 37 countries, it is found that international trade taxes share a partial correlation with economic growth. The magnitude of this relationship is found to be positive during all time horizons, and is diminishing over time. Estimates from 2014 suggest that a 10 percentage point increase in a country's international trade tax will grant that country a .6% increase to their economic growth rate.

1.0 Introduction

When considering the growth performance of a country, many economists agree that the single most influential factor is the country's fiscal policy. Since the advent of supply side economics, many economists have explored the impact of various tax policies and rates within their models, and their research has helped develop ways to increase the accuracy of such models.

Many of these models have explored ways to add different tax rates (ie marginal, average, international trade, corporate income, etc.) while containing the accuracy of the model. And while many of these models have gone on to prove that there is a quantifiable impact of fiscal policy on economic growth, very few have taken these models into practice to explain future growth potential.

The goal then of this paper is to provide insight into a changing economic landscape. This paper undertakes a systematic cross-country analysis of the effects of both marginal and international tax rates on the growth path of economic activity. This paper will explore these variables' significance over three time periods; 1985, 1998, and 2014, through a data set of 66 countries from both developed, and developing nations. Inspiration is taken from Koester and Kormendi [1989], Peltzman [1980], and Rabushka [1985] in their models for determining the impact of fiscal policy on economic growth while controlling for endogenous variables.

Through their methods, a marginal tax statistic is created, and is regressed in tandem with per capita income to control for endogeneity. This method is then applied in a similarly to taxes on international trade. After exploring the relationship between per capita income, foreign direct

investment, taxes on international trade, and GDP growth rates, it becomes apparent that per capita income is so too endogenously related to per capita income, and should be controlled for.

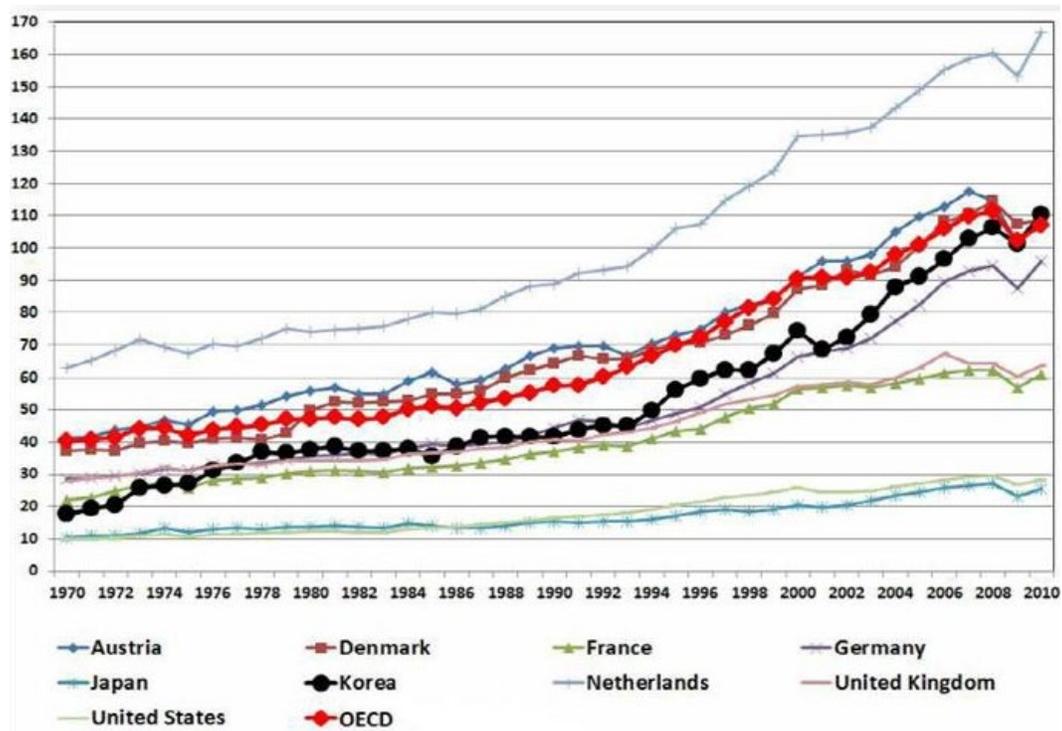
The results of these regressions is then compared amongst the three time horizons. With respect to some qualitative data, a growth path is created to help explore future tax structures, based on currently globalized economies. The conclusion of this paper states that increases to the international trade tax could prove beneficial for the United States. Trends in international business, however, have caused this beneficial effect to diminish from 1985 to 2014. It is suggested that the Trump Administration act on their proposal to increase the international tax rate, before this positive effect no longer exists.

2.0 Trends - An Increase in Economic Dependency

The current trend in international economics is an increase of interdependence. Many policies and organizations have been put in place to facilitate the advancement of international trade since the 1980's, including the World Trade Organization (WTO), the International Monetary Fund (IMF), and of course the most recent Free Trade Agreement (FTA). While there is no *one* trade initiative that can derive the decades long increase in international trade, it would be equally foolish to believe that the advent and mass adoption of the internet does not solidify some of this momentum.

Having said that, this paper does not explore the correlation between international trade and the internet. This paper does, however, suggest that increases in international trade dependence has some impact on effective fiscal policy. Because the internet is a powerful tool for international trade, and because the internet is assumed to be a technology that will remain

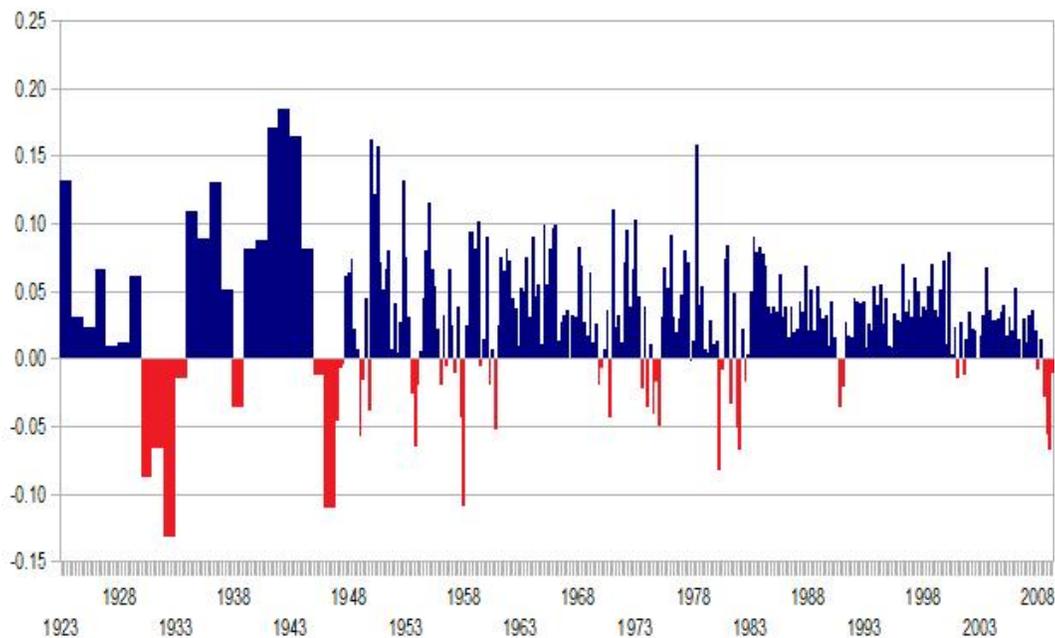
permanent in society, it is then important to accept international trade dependence as a fundamental part of a globalized economy. The following graph shows the economic dependence of trade ratios for OECD countries from 1970 to 2010, and can help visualize the above described trend.



As evidence by this graph, there is no dispute that economic interdependence is increasing across the board. This paper examines the years 1985, 1998, and 2014, so it is important to note the average economic interdependence ratio at these time horizons. In 1985 the ratio for OECD (acting as the average for the graphed countries) is around 50%. At the end of this graph in 2010 this ratio increased to over 100%. There is also a notable shift in the growth rate of the interdependence ratio around this time. From 1970 to 1985, it takes 15 years for the ratio to increase 10 percentage points. From 1991 to 2001, it takes a mere 10 years for the ratio

to increase 30 percentage points. For these reasons, the dates of 1985, 1998, and 2014 were selected due to their reflection of change within economic interdependence.

Furthermore, on a relatively microeconomic spectrum, these dates indicate pivotal growth periods for the United States in specific.



The graph above explores per capita GDP growth in the United States from 1923 to 2008. From the graph, it can be seen that 1985 and 1998 reflect two different points in economic history. 1985 is a period that comes right after the Regan Tax Regime, and reflects a period of massive expansion. 1998 on the other hand denotes a period of stable growth. While 2014 is absent from this graph, the presence of the 2008 financial crisis should be evidence enough to denote that the United States is in a recovery phase during 2014.

This paper finds it important (now more than ever) to include a trend of increasing economic interdependence, and a collection of years at key moments within the United States

Economy. Under the Obama administration, his economic policies did a phenomenal job of tightening down economic stimulus in order to secure economic stability. With a new board of administration, President Trump comes into the United States economy at a point of utmost economic potential. Trump has announced his desires to loosen economic policies in order to capture some of this growth potential. When he does, it is important for his administration to understand fiscal policy's impact on growth, and how the significance of its components have varied over time. This paper aims to give some insight into this matter.

3.0 Literature Review

With the advent of supply-side economics, the effects of taxation on economic activity and growth have become important issues. This idea has been classically explored in detail by Atkinson and Stiglitz [1980] and by Bartlett and Roth [1983], states that higher rates of taxation inhibit economic activity. Work by Koester and Kormendi [1989] expands on this hypothesis with a real world application using global economic data from 63 countries from 1970 to 1979.

Koester and Kormendi find partial correlations between GDP growth rates and marginal and average tax rates, however their lack of an applicable economic model is uninformative. Lee and Gordon [2004] explore the more current understanding that fiscal policy does not directly impact economic growth, instead it is the change of fiscal policy that can change the components (ie the investment) within a country, and then therefore effect its growth. Schumpeter [1942] emphasized the role of entrepreneurial activity in generating new ideas that raise productivity. More currently, Cullen and Gordon [2002] show that there are several routes through which taxes can affect the amount of entrepreneurial risk taking. When considering the trump

administration's emphasis on helping American entrepreneurs, it is important to consider the findings of these papers as it pertains to the changing economic landscape under the Trump administration.

An estimating equation for economic growth is currently developing within growth literature. The most notable works on this developing model are from Mankiw et al. [1992], and Barro's [1996] research. Frankel and Romer [1999] and Dollar and Kraay [2003] looked specifically to add trade openness into this working model. While their research concluded it to be significant, Rodrik and Rodriguez (1999) provided some countering evidence. While this developed model will not be used within this paper, the use of simple, partial regressions over the three time horizons considered in this paper will shed some light on the changing impact of trade over time. This baseline information could then be used to understand, more accurately, the disparity between open trade's significance on economic growth.

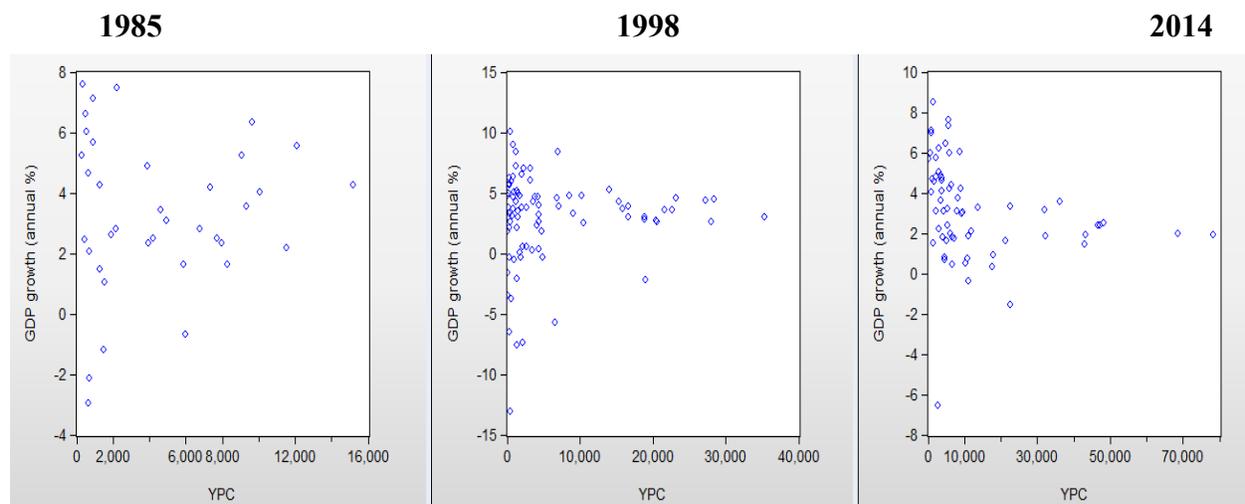
4.0 Data and Methodology

4.1 Data

Data on all variables included in this paper were provided by The World Bank's World Development Indicators. Out of a pool of 264 countries, 37 countries were used in the regression for 1985, and 66 countries were used in the regression for 1998 and 2014. These samples were selected on a basis of data availability, as can be seen through the conditions of the regressions. These samples include economic data from both developed, and developing nations. The sample for 1985 is therefore smaller than that of 1998 and 2014 due to the lack of information regarding developing nations at this time. Having said this, there are still enough data points from both

developed and developing nations in 1985, and the sample is still reflective of both types of economies at this time.

While this will be looked into in great detail in the following sections, the scatterplot between International Tax Rates and Income per Capita (YPC) works well to visualize the spread in economic standings among the data set.



A few things to note from this representation of the data. There is a noticeable pooling of lower income countries within the data set for 1998 and 2014, as compared to 1985. As described above, this is due to the lack of regulation for economic reporting back in the 1980's. Even though it seems as though a majority of the data lies within lower income nations, it is important to include such nations. A majority of foreign direct investment is located within such nations, and thus in order to derive an accurate picture of the growth model within a global economy, it is important to recognize the nations that benefit the most out of globalized trade.

Another point of notice is that YPC is not controlled for inflation. This not not hurt the statistical significance of the regressions for these data sets. However, this will cause a bit of

confusion when interpreting coefficients across these three time horizons. Moving forward, it is important to take a grain of salt when comparing the magnitude of YPC coefficients.

A final note is the shape of the data distribution from 1998 to 2014. Looking specifically at countries with under 10,000 YPC for both time horizons, there is an apparent upward shift among lower income nations. In 1998, these nations derived a variety of growth rates (at its lowest, about -12.5%, and averaging 2.5%). In 2014, there is only one country below 10,000 YPC that is experiencing negative returns. Even still, this country (The Ukraine) is only experiencing negative growth of -6.5%, almost half of the lowest growth country (Indonesia) in 1998. While this paper does not explore the reasoning behind this phenomena, it is an important trend to notice moving forward, and is further supporting evidence that there is a new emphasis on globalized trade within today's economy.

4.2 Methodology – Marginal Tax

There is a particular issue of endogeneity that requires the control of YPC within the regression. Peltzman [1980] and Rabushka [1985] show that both government spending to GDP and/or the ratio of taxation to GDP are both correlated with the level of per capita income in a country. This effect has often been termed “Wagner’s Law” and must be controlled for within the data. First, a regression of GDP Growth Rates (GDPGR) against Per Capita Income (YPC), and a regression of Marginal Tax against YPC, was conducted to confirm that Wagner’s Law is present within the data set.

GDPGR - 1985

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	3.54E-05	0.000104	0.338835	0.7368
C	3.149268	0.631312	4.988447	0.0000
R-squared	0.003270	Mean dependent var	3.308749	
Adjusted R-squared	-0.025208	S.D. dependent var	2.527593	
S.E. of regression	2.559253	Akaike info criterion	4.769846	
Sum squared resid	229.2421	Schwarz criterion	4.856923	
Log likelihood	-86.24215	Hannan-Quinn criter.	4.800544	
F-statistic	0.114809	Durbin-Watson stat	2.034777	
Prob(F-statistic)	0.736758			

GDPGR - 1998

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	3.21E-05	4.97E-05	0.646359	0.5198
C	2.606630	0.512153	5.089555	0.0000
R-squared	0.004949	Mean dependent var	2.804726	
Adjusted R-squared	-0.006897	S.D. dependent var	3.792194	
S.E. of regression	3.805249	Akaike info criterion	5.533621	
Sum squared resid	1216.313	Schwarz criterion	5.590699	
Log likelihood	-235.9457	Hannan-Quinn criter.	5.556592	
F-statistic	0.417780	Durbin-Watson stat	2.331943	
Prob(F-statistic)	0.519809			

GDPGR - 2014

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	-4.00E-05	1.75E-05	-2.281433	0.0259
C	3.702391	0.365847	10.12006	0.0000
R-squared	0.075210	Mean dependent var	3.191832	
Adjusted R-squared	0.060761	S.D. dependent var	2.426100	
S.E. of regression	2.351240	Akaike info criterion	4.577597	
Sum squared resid	353.8130	Schwarz criterion	4.643950	
Log likelihood	-149.0607	Hannan-Quinn criter.	4.603816	
F-statistic	5.204938	Durbin-Watson stat	1.683695	
Prob(F-statistic)	0.025859			

Marginal Tax – 1985

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	0.000366	0.000284	1.291036	0.2052
C	16.85889	1.717512	9.815883	0.0000
R-squared	0.045457	Mean dependent var	18.51205	
Adjusted R-squared	0.018185	S.D. dependent var	7.026737	
S.E. of regression	6.962554	Akaike info criterion	6.771508	
Sum squared resid	1696.701	Schwarz criterion	6.858585	
Log likelihood	-123.2729	Hannan-Quinn criter.	6.802207	
F-statistic	1.666775	Durbin-Watson stat	2.205957	
Prob(F-statistic)	0.205154			

Marginal Tax – 1998

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	0.000106	0.000130	0.816243	0.4167
C	15.23173	1.341359	11.35545	0.0000
R-squared	0.007869	Mean dependent var	15.88692	
Adjusted R-squared	-0.003942	S.D. dependent var	9.946588	
S.E. of regression	9.966173	Akaike info criterion	7.459251	
Sum squared resid	8343.267	Schwarz criterion	7.516329	
Log likelihood	-318.7478	Hannan-Quinn criter.	7.482223	
F-statistic	0.666253	Durbin-Watson stat	0.748886	
Prob(F-statistic)	0.416670			

Marginal Tax - 2014

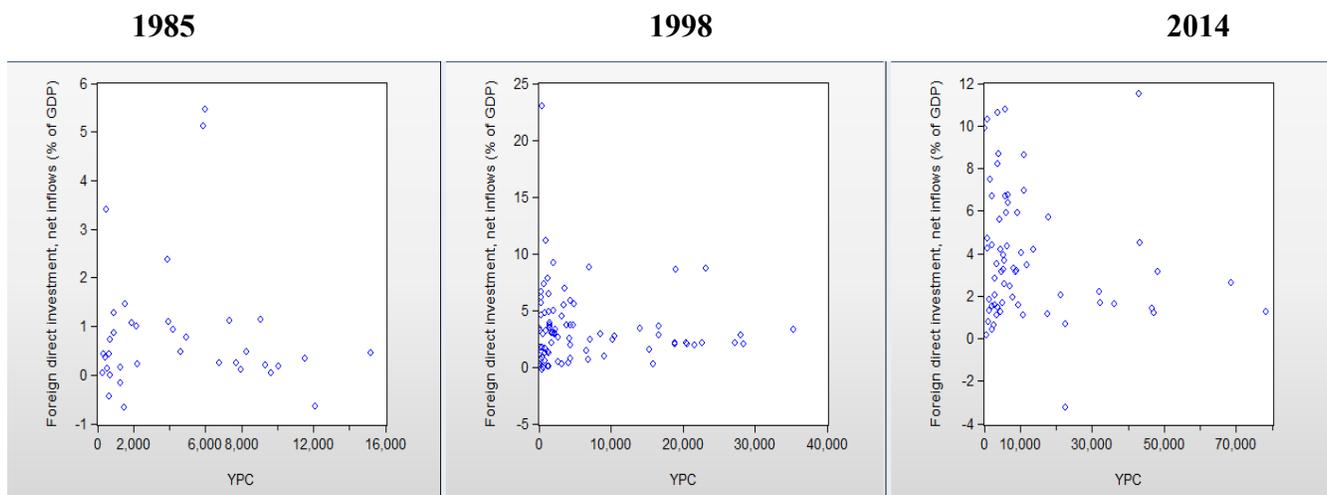
Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	2.84E-05	4.02E-05	0.706873	0.4822
C	17.54115	0.838269	20.92544	0.0000
R-squared	0.007747	Mean dependent var	17.90361	
Adjusted R-squared	-0.007757	S.D. dependent var	5.366649	
S.E. of regression	5.387423	Akaike info criterion	6.235846	
Sum squared resid	1857.557	Schwarz criterion	6.302199	
Log likelihood	-203.7829	Hannan-Quinn criter.	6.262065	
F-statistic	0.499670	Durbin-Watson stat	1.729398	
Prob(F-statistic)	0.482211			

As evidence from these regressions, there is no severe correlation between GDPGR and YPC. Thus, there is no presence of Wagner's Law within the data, and collinearity effects between YPC and Marginal Tax should not be controlled. The results of this regression can be found evident in the above scatterplot of YPC and GDPGR. It can be seen that 2014 is the only year with a significant correlation in the expected direction for Wagner's Law to be true. This points some evidence toward the notion that in 2014 there should be an increased emphasis on Wagner's Law than in the other time two time horizons. This finding is minimized, however, by YPC's unambiguous lack of significance among all three time horizons, when regressed against Marginal Tax. Thus, Wagners Law is not present within the data.

4.3 Methodology – Taxes on International Trade

With marginal tax controlled for, regressions were then conducted for international trade effects.

To first understand the underlying trend of the data over the three time horizons, scatterplots of YPC against Foreign Direct Investment as a % of GDP (FDI) were generated with the following results.



FDI is used as a proxy for international trade demand. As we can see from these graphs, there is a higher demand for international trade within lower income nations. Similarly, because the FDI measurement is a representation of each county's GDP composite groups, smaller nations so too depend more heavily on international trade than do larger nations. What is particularly interesting, is that from 1998 to 2014, there is no change in FDI for nations below 10,000 YPC (both years show a max of around 12% when excluding Azerbaijan in 1998, a min of around 0%, and an average of around 4%). Even though this relationship is constant between the two years, the economic growth as described in the GDPGR/YPC graphs above for the same period shows a substantial increase in GDPGR. Perhaps this is a lag effect from prior investments.

While this paper does not go on to explain this trend, this trend is evidence enough that FDI and YPC share a relationship, and may need to be controlled for. As a result, regressions were conducted for FDI against YPC, and Taxes on International Trade against YPC.

FDI – 1985

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	-1.08E-05	5.49E-05	-0.196757	0.8452
C	0.871968	0.331897	2.627222	0.0127
R-squared	0.001105	Mean dependent var	0.823281	
Adjusted R-squared	-0.027435	S.D. dependent var	1.327380	
S.E. of regression	1.345466	Akaike info criterion	3.483895	
Sum squared resid	63.35971	Schwarz criterion	3.570972	
Log likelihood	-62.45207	Hannan-Quinn criter.	3.514594	
F-statistic	0.038714	Durbin-Watson stat	2.329795	
Prob(F-statistic)	0.845155			

FDI – 1998

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	-1.36E-05	4.29E-05	-0.317473	0.7517
C	3.321496	0.442350	7.508751	0.0000
R-squared	0.001198	Mean dependent var	3.237459	
Adjusted R-squared	-0.010692	S.D. dependent var	3.269190	
S.E. of regression	3.286620	Akaike info criterion	5.240578	
Sum squared resid	907.3574	Schwarz criterion	5.297656	
Log likelihood	-223.3448	Hannan-Quinn criter.	5.263549	
F-statistic	0.100789	Durbin-Watson stat	1.987326	
Prob(F-statistic)	0.751673			

FDI - 2014

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	-3.06E-05	2.23E-05	-1.373498	0.1744
C	4.201552	0.465474	9.026400	0.0000
R-squared	0.028633	Mean dependent var	3.810475	
Adjusted R-squared	0.013455	S.D. dependent var	3.011857	
S.E. of regression	2.991526	Akaike info criterion	5.059279	
Sum squared resid	572.7506	Schwarz criterion	5.125632	
Log likelihood	-164.9562	Hannan-Quinn criter.	5.085498	
F-statistic	1.886497	Durbin-Watson stat	2.838370	
Prob(F-statistic)	0.174390			

Trade Tax – 1985

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	-0.001587	0.000306	-5.178095	0.0000
C	16.09786	1.854494	8.680459	0.0000
R-squared	0.433773	Mean dependent var	8.938540	
Adjusted R-squared	0.417595	S.D. dependent var	9.851036	
S.E. of regression	7.517863	Akaike info criterion	6.924979	
Sum squared resid	1978.139	Schwarz criterion	7.012056	
Log likelihood	-126.1121	Hannan-Quinn criter.	6.955678	
F-statistic	26.81267	Durbin-Watson stat	1.932538	
Prob(F-statistic)	0.000009			

Trade Tax – 1998

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	-0.000629	0.000126	-4.979644	0.0000
C	14.61571	1.300291	11.24034	0.0000
R-squared	0.227919	Mean dependent var	10.74100	
Adjusted R-squared	0.218727	S.D. dependent var	10.93006	
S.E. of regression	9.661043	Akaike info criterion	7.397061	
Sum squared resid	7840.203	Schwarz criterion	7.454139	
Log likelihood	-316.0736	Hannan-Quinn criter.	7.420033	
F-statistic	24.79686	Durbin-Watson stat	1.947700	
Prob(F-statistic)	0.000003			

Trade Tax - 2014

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	-0.000201	6.78E-05	-2.965952	0.0042
C	10.07016	1.415348	7.114971	0.0000
R-squared	0.120841	Mean dependent var	7.502333	
Adjusted R-squared	0.107104	S.D. dependent var	9.626328	
S.E. of regression	9.096221	Akaike info criterion	7.283430	
Sum squared resid	5295.439	Schwarz criterion	7.349783	
Log likelihood	-238.3532	Hannan-Quinn criter.	7.309649	
F-statistic	8.796872	Durbin-Watson stat	2.923967	
Prob(F-statistic)	0.004238			

2014 was the only regression to show significance between YPC and FDI. This should come at no surprise given the similar results for YPC and GDPGR. From this data it seems as though YPC has had an increase in significance over the past couple decades. This trend is consistent when considering the economy as a whole (GDPGR) and one of its subgroups (FDI).

An almost shocking result was the extreme correlation between Taxes on International Trade and YPC for all three time horizons. This is more consistent with the collinearity effect that would be expected between international trade when considering a country's dependency for

it. As a result, it would be important to include YPC as a control for Taxes on International Trade.

After finding the necessary controls for Marginal Tax and Taxes on international Trade, the growth model is regressed. GDPGR is regressed against both Marginal Tax and Taxes on International Trade, with YPC present to control for endogeneity within international taxes.

GDPGR – 1985

GDPGR – 1998

GDPGR - 2014

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Variable	Coefficient	Std. Error	t-Statistic	Prob.	Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	0.000182	0.000137	1.326617	0.1937	YPC	7.18E-05	5.85E-05	1.270756	0.2074	YPC	-1.99E-05	1.79E-05	-1.111348	0.2707
_MARGINAL_TAX	-0.012912	0.065218	-0.197982	0.8443	MARGINAL_TAX	0.016951	0.041671	0.406772	0.6852	MARGINAL_TAX	-0.133684	0.053308	-2.507747	0.0148
TAXES_ON_INTERNATIONAL_T	0.089635	0.060401	1.484002	0.1473	TAXES_ON_INTERNATIONAL_T	0.065937	0.042987	1.533867	0.1289	TAXES_ON_INTERNATIONAL_T	0.081081	0.031573	2.568057	0.0127
C	1.924023	1.804945	1.065973	0.2942	C	1.384729	1.057812	1.309050	0.1942	C	5.230859	0.967173	5.408403	0.0000
R-squared	0.079752	Mean dependent var	3.308749		R-squared	0.033676	Mean dependent var	2.804726		R-squared	0.205528	Mean dependent var	3.191832	
Adjusted R-squared	-0.003907	S.D. dependent var	2.527593		Adjusted R-squared	-0.001678	S.D. dependent var	3.792194		Adjusted R-squared	0.167086	S.D. dependent var	2.426100	
S.E. of regression	2.532525	Akaike info criterion	4.798116		S.E. of regression	3.795374	Akaike info criterion	5.550838		S.E. of regression	2.214160	Akaike info criterion	4.486315	
Sum squared resid	211.6515	Schwarz criterion	4.972270		Sum squared resid	1181.199	Schwarz criterion	5.664994		Sum squared resid	303.9552	Schwarz criterion	4.619021	
Log likelihood	-84.76516	Hannan-Quinn criter.	4.859514		Log likelihood	-234.6860	Hannan-Quinn criter.	5.596781		Log likelihood	-144.0484	Hannan-Quinn criter.	4.538753	
F-statistic	0.953303	Durbin-Watson stat	2.325075		F-statistic	0.952548	Durbin-Watson stat	2.275546		F-statistic	5.346408	Durbin-Watson stat	1.274257	
Prob(F-statistic)	0.426230				Prob(F-statistic)	0.419243				Prob(F-statistic)	0.002435			

After this regression, it is apparent that the presence of Marginal Tax within the model creates an adverse effect on YPC. Even though the relationship between GDPGR and YPC should increase from 1998 to 2014, the inverse is true within the growth model. Above regressions of YPC on Marginal Tax also support the claim that the presence of Marginal Tax causes YPC to lose some of its significance.

The prevailing trend for Taxes on International Trade, on the other hand, shows that there is a consistently positive relationship between economic growth and international fiscal policy. What is surprising, is that even when accounting for YPC disparity, there is still an economic benefit to raise trade taxes.

Both of these claims are further supported once a growth model containing only GDPGR, YPC, and Taxes on International Trade was regressed with the following results:

GDPGR – 1985

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	0.000184	0.000135	1.359919	0.1828
TAXES_ON_INTERNATIONAL_T	0.093624	0.056131	1.667959	0.1045
C	1.642126	1.093485	1.501736	0.1424
R-squared	0.078659	Mean dependent var	3.308749	
Adjusted R-squared	0.024463	S.D. dependent var	2.527593	
S.E. of regression	2.496485	Akaike info criterion	4.745250	
Sum squared resid	211.9029	Schwarz criterion	4.875864	
Log likelihood	-84.78712	Hannan-Quinn criter.	4.791297	
F-statistic	1.451370	Durbin-Watson stat	2.322886	
Prob(F-statistic)	0.248396			

GDPGR – 1998

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	7.27E-05	5.61E-05	1.295592	0.1987
TAXES_ON_INTERNATIONAL_T	0.064612	0.042648	1.515026	0.1336
C	1.662272	0.804273	2.066801	0.0419
R-squared	0.031726	Mean dependent var	2.804726	
Adjusted R-squared	0.008394	S.D. dependent var	3.792194	
S.E. of regression	3.776245	Akaike info criterion	5.529598	
Sum squared resid	1183.582	Schwarz criterion	5.615215	
Log likelihood	-234.7727	Hannan-Quinn criter.	5.564055	
F-statistic	1.359762	Durbin-Watson stat	2.252321	
Prob(F-statistic)	0.262380			

GDPGR – 2014

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YPC	-2.79E-05	1.83E-05	-1.524073	0.1325
TAXES_ON_INTERNATIONAL_T	0.059942	0.031678	1.892216	0.0631
C	3.098762	0.480022	6.455456	0.0000
R-squared	0.124943	Mean dependent var	3.191832	
Adjusted R-squared	0.097163	S.D. dependent var	2.426100	
S.E. of regression	2.305226	Akaike info criterion	4.552623	
Sum squared resid	334.7861	Schwarz criterion	4.652153	
Log likelihood	-147.2366	Hannan-Quinn criter.	4.591952	
F-statistic	4.497641	Durbin-Watson stat	1.340264	
Prob(F-statistic)	0.014933			

Only two out of six statistics are considered insignificant in these models. Even still, the t-Statistic of the two is very close to being considered significant. Taking this into account, the regression show consistency with the previous findings that Wagner's Law is not present until 2014. Furthermore, there is a noticeable trend of diminishing magnitude for international taxes. Yes it is true that even when controlling for YPC disparity there is a positive effect on economic growth when increasing international trade taxes. However, this positive effect has been deminishing over the past couple of decades.

5.0 Conclusion

This paper finds that the tax rate on international trade is significantly positively correlated with economic growth in a cross-sections data set of 37, 66, and 66 countries during 1985, 1998, and 2014, respectively, while controlling for income per capita. This correlation was found to be decreasing in magnitude over the three examined time horizons. The estimates from the most recent year (2014) show that increasing the tax rate for international trade by 10 percentage points can increase the annual growth rate by about .6%. In 2014 estimates that include the marginal tax rate within the model, the effect on economic growth increases to .8% for every 10 percentage point increase in the tax rate for international trade. Marginal taxes were

too found statistically significant in the 2014 estimate and suggests that a 10 percentage point increase to marginal tax rates would cause a 1.3% decrease in the annual growth rate.

Looking at the trend of the regressed statistics over the three time horizons shows evidence that international trade tax's beneficial effect is diminishing. Regressions of GDPGR against YPC show that international trade is still extremely risky when investing in lower income nations. Similar to a casino, the winner in international trade, as this data suggests, is not the player of the game, rather the facilitator of the process. Outside investors have, on average, invested and gotten the same economic returns within low income nations in 2014 as they did in 1985. What the positive magnitude of the international tax regression shows us is that the only consistent winners in international business are the ones who help facilitate this gamble, ie the national government itself. What the trend of diminishing magnitude is showing us is that more countries might be catching onto this trend, and as a result the positive effects of adding pressure to international trade may soon die out.

Future explorations into this topic should include much more conventional growth models like the ones explored by Lee and Gordon [2004]. Perhaps also separating the data into two income specific groups (High and Low) could yield more a more accurate outlook for a large income nation like the United States. Yet as it is now, this paper fully supports the Trump administration's proposed initiative to increase the international trade tax.

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