

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

Re-examining the Effects of Tax Policy on Economic Growth

A thesis presented in partial fulfilment of the
requirements for the degree of
Master of Business Studies
in
economics (MBS economics).

At Massey University, Albany,
New Zealand.

Completed: June 2010

Author:

Willem Bosman

Student ID: 02315538

bosmanwillem@hotmail.com

Supervisors:

Dr K.P. Arin

k.p.arin@massey.ac.nz

Dr O.F. Reich

o.f.reich@massey.ac.nz

Re-examining the Effects of Tax Policy on Economic Growth

Willem Bosman*

*Graduate student, Department of Economics and Finance

Massey University, Auckland, New Zealand

Email: bosmanwillem@hotmail.com

Abstract

Using a novel panel dataset of 65 countries for the period 1973-2000, this paper attempts to reconcile the conflicting evidence provided by the current literature on the effects of different tax categories on long-term economic growth. The effects of both top and average, personal and corporate income tax rates as well as the level of tax progressivity on growth are tested while controlling for other possible determinants of growth. The empirical results provide evidence for the distortionary effects of personal income taxes and tax progressivity on long run economic growth, but no robust evidence for any linear effect of corporate tax rates on long term economic growth is found. There is however, evidence for a non-linear effect of corporate taxation on economic performance. The sample splitting estimations also yield thresholds above which progressivity becomes harmful for growth but below which there is no significant effect. The thresholds associated with the respective decades seem to follow the average degree of progressivity rather closely and could be indicative of international tax competition.

Keywords: Tax Policy, Progressivity, Economic Growth, Threshold Estimation.

JEL Classification: E16, H30, O31, O40

Contents

<i>Abstract</i>	1
Figures.....	5
1. Introduction.....	6
2. Previous literature.....	10
3. Data.....	19
4. Methodology.....	25
5. Results from OLS and Panel Estimations.....	28
6. Dealing with endogeneity.....	47
7. Progressivity.....	49
7.1 Introduction.....	49
7.2 Empirical evaluation of the effects of tax progressivity.....	58
7.3 Discussion of some limitations and ideas.....	60
8. Testing for the presence of critical thresholds.....	62
8.1 Introduction.....	62
8.2 Critical threshold methodology.....	63
8.3 Results of regressions testing for the non-linearities in the top corporate income tax rate.....	68
8.4 Results for the non-linearities in personal income tax progressivity.....	76
8.5 Discussion of results for the sample splitting regressions.....	84
9. Conclusion.....	86

Tables

Table 1: Tax rates used by Widmalm (2001)	13
Table 2: Summary of Widmalm (2001), Padovano and Galli (2002) and Lee and Gordon (2005).....	18
Table 3: Summary statistics for the tax variables.....	20
Table 4: Summary statistics for the dependent variable and the control variables.	21
Table 5: Data excluded for lack of data regarding primary and tertiary variables respectively.....	22
Table 6: Summary of the countries used in this study as well as the Lee and Gordon (2005) and the Widmalm (2001) studies.	23
Table 7: Expected coefficient signs for the independent variables.....	28
Table 8: OLS (robust) with average tax rates (Table 1 of 2)	29
Table 9: OLS (robust) with average tax rates (Table 2 of 2)	30
Table 10: OLS (robust) with top tax rates (Table 1 of 2)	32
Table 11: OLS (robust) with top tax rates (Table 2 of 2)	33
Table 12: Two-way fixed-effects with average tax rates (Table 1 of 2). ...	35
Table 13: Two-way fixed-effects with average tax rates (Table 2 of 2). ...	36
Table 14: Two-way fixed-effects with top tax rates (Table 1 of 1).	38
Table 15: Two-way random-effects with average tax rates (Table 1 of 2).40	
Table 16: Two-way random-effects with average tax rates (Table 2 of 2).41	
Table 17: Two-way random-effects with top tax rates (Table 1 of 2).....	43
Table 18: Two-way random-effects with top tax rates (Table 2 of 2).....	44
Table 19: Summary of the results for OLS and two-way fixed and random-effect regressions.....	46
Table 20: Arellano-Bond regressions.....	48
Table 21: Summary of the progressivity measures	55
Table 22: Results for Arellano-Bond regressions with progressivity.	59
Table 23: Definition of the time periods used for the sample splitting analysis.....	65
Table 24: Summary of arithmetic means of the top corporate income tax rate and income growth by decade	66
Table 25: Control vectors	66

Table 26: Sample splitting results, testing for a split in the top corporate income tax rate using control vector 1.	70
Table 27: Summary of the coefficients from regressions testing the estimated split in top corporate tax rate using control vector 1.	72
Table 28: Comparison of OLS and Two-Way Fixed-Effects regressions of the overall dataset and the two subsets for a split in the top corporate tax rate.....	74
Table 29: Table for the comparison of OLS and Two-Way Fixed-Effects regressions of the lagged overall dataset and the two subsets.....	75
Table 30: Sample splitting results summary, Reversed Lee Gordon Progressivity measure with control vector 2.....	78
Table 31: Summary of the coefficient from regressions testing the estimated split in the Reversed Lee Gordon Progressivity measure with control vector 3	81
Table 32: Table for the comparison of OLS and Two-Way Fixed-Effects regressions of the overall dataset and the two subsets.	82
Table 33: Table for the comparison of OLS and Two-Way Fixed-Effects regressions of the lagged overall dataset and the two subsets.....	83

Figures

Figure 1: Top corporate income tax rate using decade one and control vector 1	68
Figure 2: Top corporate income tax rate using decade two sample and control vector 1	69
Figure 3: Top corporate income tax rate using decade three sample and control vector 1	69
Figure 4: Top corporate income tax rate using overall sample and control vector 1	69
Figure 5: Top corporate income tax rate using lag of overall sample and control vector 1	70
Figure 6: Reversed Lee Gordon Progressivity measure using decade one sample and control vector 3.....	76
Figure 7: Reversed Lee Gordon Progressivity measure using decade two sample and control vector 3.....	77
Figure 8: Reversed Lee Gordon Progressivity measure using decade three sample and control vector 3.....	77
Figure 9: Reversed Lee Gordon Progressivity measure using overall sample and control vector 3.....	78
Figure 10: Reversed Lee Gordon Progressivity measure using lagged overall sample and control vector 3	78