

Confidence in Financial Institutions, Expectations and Public Debt

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Abstract

This paper uses cross country regression analysis on a large set of countries to consider two hypotheses. The first is that increased public debt as a percentage of the economy reduces confidence in financial institutions. The second is that increased public debt relative to the economy lowers economic expectations. If it is true that increased public debt reduces expectations or diminishes confidence in financial institutions, then it will lower investment. As a consequence, not only will there be lower present aggregate demand resulting in lower current economic output and employment as a result of higher public debt, but there will also be lower future economic growth. The findings of the paper are consistent with both hypotheses.

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1 Introduction

The European debt crisis has brought public debt into the forefront of public consciousness in countries throughout the world. Raising revenue through taxation is becoming more difficult given the justifiable fear that higher taxes will lead international business to locate elsewhere. The expansion of public debt is being used by governments in an attempt to sustain revenues and maintain government expenditure in the face of globalization and its associated growth and proliferation of multinational corporations. There are potential problems any economy with public debt accumulation. While an

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obvious problem is that excessive debt accumulation can ultimately lead to financial collapse, public debt may also have negative repercussions working through psychological forces. To be specific, one of the channels through which public debt may have a negative effect on macroeconomic activity is through its potential detrimental impact on confidence in financial institutions. Still another is through its possible adverse effect on future economic expectations.

As economics is a social science that deals with people, psychology is always of consequence for the healthy functioning of an economy. Economic activities, production, investment, and consumption are undertaken by real human beings that base their decisions and their behavior on subjective psychological states. Two very important components of individual psychological make-up are confidence in financial institutions and expectations regarding the future condition of the economy.

The paper is divided into five parts. The first part spells out the reasoning behind the anticipated relationships between the variables within the framework of a simple model. The second section provides a brief look at some of relevant literature. The third looks at the actual variables that are used in the empirical analysis and identifies their sources. The fourth section, the essential part of the paper, shows the results of cross country regressions of confidence in institutions on the percentage of public debt to GDP, and of economic expectations on the percentage of public debt to GDP. The final section ends by providing a few concluding remarks.

2 Some Background Literature

Employing the 2001 Australian election study, a survey of Australian voters, Bean uses regression analysis with survey respondents as observations to look at confidence in political institutions (and confidence in media and security institutions) on ten different socio-economic variables (Bean 2003). He finds that age, occupation, class, party identification, and church attendance appear to be important for confidence in political institutions but that gender, education, urban residence, religious denomination, and union membership do not appear to matter for confidence in political institutions.

The way social services are provided, by the government or privately, may affect trust in government. Cammett and Lynch look at health care for 40000 individuals and 22 western and eastern European countries using the European Social Survey from 2006-2007 (Cammett and Lynch 2009). Modeling with a multi-level hierarchical linear model which can control for both national and individual characteristics, they find that greater private provision of health care services has a small net positive effect on trust in government institutions.

Demidova looks at potential determinants of political trust in institutions for both OECD and for transitional countries (Demidova 2012). Utilizing the fifth wave of the World Value Survey from 2007 through 2008, she runs ordered logit regressions of trust in assorted public institutions on a number of individual characteristics such as age, sex, and marital status, along with a few macroeconomic variables. Among her various findings are that income and having a family increase confidence, but unemployment and corruption reduce confidence in institutions.

Stevenson and Wolfers look at whether trust in different institutions varies with the business cycle (Stevenson and Wolfers 2011). Their annual time series regressions for the U.S. of trust on unemployment indicate that unemployment has an impact on confidence

in both government and financial institutions.

Shin does an analysis of South Korea using the Asia Barometer Survey for 2003 to look to see whether confidence in public institutions depends on socially trusting personality characteristics, on participatory political culture, or on institutional performance (Shin 2006). He concludes that socially trusting personality seems to be unrelated to confidence in institutions, that participatory culture has a selective impact on different public institutions, and that government performance is a key determinant of confidence in public institutions.

Employing a multilevel modeling approach on survey data of the National Center for State Courts for 1999 consisting of 1026 respondents, Kelleher and Wolak do a comprehensive investigation of the sources of public confidence in state legislatures, state governors, and state courts in the areas of political processes, representation, and performance (Kelleher and Wolak 2007). A sprinkling of some of their findings include that professionalism, employment, and education have a negative effect on confidence in state legislatures, that corruption negatively effects confidence in governors and state courts, that income inequality negatively effects confidence in governors and state legislatures, that African Americans have less confidence in all three branches of state governments, and, of special interest for the present study, that the health of state budgets has a positive effect on confidence in state legislatures.

3 The Model

The model consists of two similar equations each accompanied by a single partial derivative. The equations and the partial derivatives are as follows.

$$C = f(D, \mathbf{O}) \quad \delta C / \delta D < 0 \quad (1)$$

$$E = f(D, \mathbf{O}) \quad \delta E / \delta D < 0 \quad (2)$$

C, the left hand variable in the first equation represents confidence in financial institutions, while the left hand variable for the second equation, E, represents future expectations with regard to the economy. D, the key variable of interest in the study, is public debt relative to the economy. \mathbf{O} is a set of additional potential determinants of confidence and expectations. The partial derivatives merely reiterate the two key hypotheses of the paper in mathematical form. The partial on the first equation, $\delta C / \delta D < 0$, indicates that public debt relative to the economy has a negative effect on confidence in institutions when adjusting for other relevant variables. Similarly, the partial derivative of the second equation, $\delta E / \delta D < 0$, theorizes that economic expectations are negatively related to public debt.

Public debt is predicted to be negatively related to confidence in financial institutions because increases in public debt increase the probability of financial collapse. Excessive public debt precipitates financial crisis. Since financial crisis have a devastating potential effect on the real economy, expectations on the future state of the real economy move in the opposite direction to the movement in public debt. In addition, debt accumulation increases the chances that the government may engage in other unhealthy economic activity such as monetizing the debt and causing inflation. What's further, to the extent that successful conduct of fiscal policy is hampered by debt accumulation, debt accumulation dampens future expected economic conditions.

Besides public debt, three other variables are considered as potential determinants of confidence and expectations. They are freedom, economic performance, and public trust. Both Confidence and expectations are expected to be positively related to each of these variables.

Freedom of choice is expected to enhance expectations and overall confidence, including confidence in financial institutions, for a number of reasons. First greater freedom is associated with greater creative and innovative activity. These in turn lead to improved long run economic performance as they are major drivers of economic growth and long run productivity gains. Second, as individuals know themselves better than anyone else, greater freedom of choice leads to a more efficient allocation of resources. People like to do what they are good at doing, and given a choice, they tend to choose to do what they like. Lastly, repression, the dampening of freedom by coercive government action, is typically employed in the face of potential political and social instability. Repression not only wastes government resources that could be used for socially productive endeavors such as education and infrastructure, but it is a signal of problematic future conditions. The second variable, economic performance is expected to bolster economic expectations. Expectations are about the future. Human beings do not know the future. Hence, they must be predicted. These predictions are typically based on what we know-the present and the past. It is natural that expectations with regard to the future state on the economy are based on the known actual experience of the economy. Therefore, it is theorized that expectations with regard to the economy are positively related to recent actual economic performance. Expectations regarding tomorrow's economic conditions are buoyed given favorable recent economic experience, as these experiences are projected to continue into the future, but they are dampened when current economic experience is less palatable. Similar to economic expectations, overall confidence, confidence in the economy and in financial institutions, is also likely to be positively influenced by economic performance. This occurs both through the direct effect of better economic performance on confidence, and, indirectly, through its beneficial effect on expectations. Confidence depends on present success in the activities in which people are engaged, and present success moves with present economic performance. Confidence also moves with positive expectations, as more positive expectations give greater confidence that actions undertaken today will have favorable outcomes in the future.

The third and final variable is public trust. Just as with freedom and economic performance, both confidence in financial institutions and expectations with regard to the economy are anticipated to be positively related to public trust. Public trust is important because government is a major player in political and economic activity. If a government fails to maintain political stability, an economy cannot properly function. Good government policy is favorable to business and economic undertakings, while poor economic policy, poor government, hampers economic activity. The greater the public trust the more people believe government is, and will continue to be, a positive force for the economy, and, thus, the better will be their present confidence and their future economic expectations.

4 The Data

The gauge of confidence in financial institutions is the percentage of surveyed people answering yes to the question of whether they have confidence in financial institutions or banks. The data is downloaded from the Legatum Institute (Legatum Institute 2012). Most of the data are from the year 2010. The original source of the Institute's data is the Gallup World Poll (Gallup 2012).

The index of economic expectations is the average of answers to the question, "Right now, do you think that economic conditions in the city or area where you live, as a whole, are getting better or getting worse?" The potential answers to this question range from a low value of one, getting worse, to a high value of three, getting better. Again the data comes directly from the Legatum Institute, and, again, the Institute's underlying source is the Gallup World Poll. For the most part the data are from the year 2010.

The indicator of public debt is the percentage of public debt to GDP for the year 2008. The numbers come from the dataset on public debt by Jaimovich and Panizza (Jaimovich and Panizza 2010). Public debt is identified by the variable name PUBLICDEBTTGDP. The proxy for freedom is the percentage of respondents answering satisfied to the survey question, "In your country, are you satisfied or dissatisfied with your freedom to choose what you do with your life?" Just as in the case of confidence and expectations, the data come directly from the Legatum Institute, most of the data are for 2010, and Legatum's source is the Gallup World Poll. It is given the variable name FREEDOM.

The measure of economic performance is the five year average of the annual percentage growth in GDP per capita from 2005 to 2009. The data is taken from the Legatum Institute. In this case the Institute's data are obtained from the World Bank (World Bank 2012). Economic performance is given the variable name GROWTH.

Lastly, the political trust measure is the public trust in politicians of the Global Competitiveness Report of the World Economic Forum (World Economic Forum 2009). It comes from answers to the survey question, "how would you rate the level of public trust in the ethical standards of politicians in your country?" Public trust in politicians is a weighted average of the answers to the question from 2009 through 2010. It ranges in value from a low of one to a high of seven. In the paper, it is assigned the variable name PUBLICTRUST.

5 The Cross Country Empirical Findings

Table I shows the results of cross country regressions using ordinary least squares of confidence in financial institutions on the percentage of public debt to GDP and other variables.

Table I is composed of five columns. The first lists the five potential explanatory variables. Each of the four remaining columns shows the results of a single regression. The equations are numbered in the first row. The top value in the body of the table for any given variable entering an equation is the estimated coefficient. Underneath the estimated coefficient is the individual t-statistic (in parenthesis). A single asterisk appears under the individual t-statistic if the variable is significant at the one percent level or better in an equation, and two asterisks appear if it is significant at the five percent level of significance or better. The last two rows of the table show the r-squared values and the number of countries entering the equations.

Table I contains four equations. The first equation shows the regression of index of confidence in institutions on percentage of public debt to GDP (PUBLICDEBTTOGDP) alone. The second adds, as an additional explanatory variable, the gauge of freedom (FREEDOM). The third regression equation adds the economic performance measure GROWTH, and, finally, the fourth equation tacks on the public trust measure PUBLICTRUST.

Table 1: Cross country regressions of confidence in financial institutions on the percentage of public debt to GDP and other variables

	(1)	(2)	(3)	(4)
CONSTANT	70.78 (18.82) *	37.41 (4.65) *	29.96 (3.48) *	27.23 (3.15) *
PUBLICDEBTTOGDP	-2.53 (-3.55) *	-3.55 (-5.14) *	-3.03 (-4.20) *	-3.31 (-4.49) *
FREEDOM		.526 (4.59) *	.540 (4.79) *	.452 (3.73) *
GROWTH			1.44 (2.18) **	1.78 (2.57) **
PUBLICTRUST				3.20 (2.34) **
RSQ	.106	.256	.288	.345
N	108	108	108	102

The results lend strong support to the idea that public debt has a negative effect on confidence in financial institutions. The percentage of public debt to GDP (PUBLICDEBTTOGDP) is negative and significant at the one percent level of significance or better when used as the sole explanatory variable (equation (1)), and when used in combination with other explanatory variables (equations (2),(3) & (4)). When used alone in equation (1), it explains over ten percent in the variation of confidence in financial institutions in a cross country sample of 108 countries.

Furthermore, a look at the estimated coefficient on PUBLICDEBTTOGDP indicates that the magnitude of the effect of public debt on confidence in institutions is not small. Looking at the very smallest estimated coefficient on PUBLICDEBTTOGDP in absolute value terms of the four equations in table I that occurs in the first equation, suggests that a one percentage point increase in PUBLICDEBTTOGDP leads to over a two and a half percentage point decrease in the percentage of people having confidence in financial institutions.

All the other explanatory variables also behave well. Just as expected, the index of freedom (FREEDOM), the gauge of economic performance (GROWTH), and the measure of the extent of public trust (PUBLICTRUST) all have positive signs. Freedom is positive and significant at the one percent level or better in the equations it enters, and GROWTH and PUBLICTRUST are positive and significant at the five percent level or

better in the equations that they enter.

Table II shows that same set of four regressions of table I using expectations on the economy instead of confidence in institutions as the dependent variable. The results, in this case lending credence to the hypothesis that public debt has a negative effect on economic expectations, are similar to those of table I. Once again, PUBLICDEBTGDP is positive and significant at the one percent level or better in each of the four equations. Once again, the three other independent variables are positive and highly significant when they appear in an equation.

Table 2: Cross country regressions of economic expectations on the percentage of public debt to GDP and other variables

	(1)	(2)	(3)	(4)
CONSTANT	2.22 (23.98) *	1.33 (6.84) *	1.15 (5.50) *	1.13 (5.72) *
PUBLICDEBTTOGDP	-.051 (-2.87) *	-.078 (-4.64) *	-.064 (-3.69) *	-.071 (-4.17) *
FREEDOM		.014 (5.04) *	.014 (5.26) *	.009 (3.31) *
GROWTH			.036 (2.25) *	.036 (2.26) **
PUBLICTRUST				.139 (4.42) *
RSQ	.072	.253	.288	.387
N	108	108	108	102

6 Conclusion

It appears that excessive public debt lowers confidence in financial institutions and reduces expectations with regard to future economic activity. Not only does too much public debt make it harder and harder to employ fiscal policy in economic downturns, but, in addition, it is likely to be a general drag on economic activity and to make downturns more severe through its adverse effect on confidence and expectations.

References

- [1] Bean, Clive S., Citizen Confidence in Social and Political Institutions in a Changing World, (2003), In Bradley, Rebecca, Lyddon, Jeff, & Buys, Laurie (Eds.) *Social change in the 21st Century*, Brisbane: Queensland University of Technology, (2003), <http://eprints.qut.edu.au/114/1/Beanclive.pdf>, August 13, 2012.
- [2] Cammett, Melani and Julia Lynch, Does Non-State Provision of Social Services

- Promote or Undermine Citizen Trust in Government? The Case of Health Care in Europe, (2009), <http://www.polisci.upenn.edu/~jflynch/Cammatt-LynchNSPJan2009.pdf>, August 15, 2012.
- [3] Demidova, Olga A., Determinants of Public Trust towards Major Political Institutions in Countries with Economies in Transition and in the OECD Countries: the Comparative Analysis, (2012), <http://extranet.isnie.org/uploads/isnie2012/demidova.pdf>, August 17, 2012.
- [4] Gallup, *Gallup World Poll*, <http://eu.gallup.com/Poll/118471/World-Poll.aspx>, August 2, 2012.
- [5] Jaimovich, Dany and Ugo Panizza, Public Debt around the World: A New Data Set of Central Government Debt, (2010), *Applied Economics Letters*, 17(1), 19-24, The data is available on-line at the web site for the Inter-American Development Bank, http://www.iadb.org/research/pub_desc.cfm?pub_id=dba-005, 1/15/2010.
- [6] Kelleher, Christine A. and Jennifer Wolak, Explaining Public Confidence in the Branches of State Government, *Political Research Quarterly*, 60(4), 2007, 707-721.
- [7] Shin, Myungsoon, Confidence in Public Institutions and Democracy in South Korea, *Korea Observer*, 37(2), (2006), 277-304.
- [8] Stevenson, Betsey and Justin Wolfers, Trust in Public Institutions over the Business Cycle, CESIFO working paper **3389**, (2011), <http://www.ifo.de/portal/pls/portal/docs/1/1202066.PDF>, August 18, 2012.
- [9] Legatum Institute, *The 2011 Legatum Prosperity Index*, (2011), <http://www.prosperity.com/prosperiscope/>, August 1, 2012.
- [10] World Economic Forum, *Global Competitiveness Report 2009-2010*, (2009), http://www.ioe-emp.org/fileadmin/user_upload/documents_pdf/globaljobscrisis/generaldocs/gendocs_wefreport.pdf, 5/20/2011.
- [11] World Bank, *World Development Indicators*, <http://data.worldbank.org/data-catalog/world-development-indicators>, August 2, 2012