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The impact of government expenditure on economic growth: How sensitive to the level of development?

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Abstract

Previous studies generally find mixed empirical evidence on the relationship between government spending and economic growth. In this paper, we re-examine the causal relationship between government expenditure and economic growth by conducting the panel Granger causality test recently developed by Hurlin (2004, 2005) and by utilizing a richer panel data set which includes 182 countries that cover the period from 1950 to 2004. Our empirical results strongly support both Wagner's law and the hypothesis that government spending is helpful to economic growth regardless of how we measure the government size and economic growth. When the countries are disaggregated by income levels and the degree of corruption, our results also confirm the bi-directional causality between government activities and economic growth for the different subsamples of countries, with the exception of the low-income countries. It is suggested that the distinct feature of the low-income countries is likely owing to their inefficient governments and inferior institutions.
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1. Introduction and background

The relationship between government expenditure and economic growth has been an ongoing issue in debates on economic development. The celebrated "Wagner's ([1883] 1958) law" postulates that government spending is income elastic and that the ratio of government spending to

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income tends to grow with economic development. Moreover, the public goods and services provided by the government for non-military purposes, such as education, infrastructure, and laws, are often regarded as important factors for economic growth.

The effects of economic growth on government expenditure have been examined by many empirical studies using various testing procedures and different measures of government spending (e.g., Peacock & Scott, 2000). Since the 1990s, it has become a common practice to test Wagner's law using times-series techniques such as unit-root and co-integration tests (Narayan, Nielsen, & Smyth, 2008). Using the Swedish data, Henrekson (1993) finds no support for Wagner's law; he also notes that earlier findings from time-series studies may be spurious because they did not pre-test the stationarity properties of the data. In contrast, Akitoby, Clements, Gupta, and Inchauste (2006) find support for Wagner's law by applying the co-integration method to a sample of 51 developing countries.

On the other hand, a number of studies have tested for the influence of government activity on economic growth assuming that an inverted-U relationship exists between the scale of government and economic growth (e.g., Ram, 1986; Dar & AmirKhalkhali, 2002). Hansson and Henrekson (1994) utilize disaggregated data and find that government transfers, consumption and total outlays have negative effects, while educational expenditure has a positive effect, and government investment has no effect on private productivity growth. In a framework of endogenous growth, Barro (1990) predicts that the unproductive governmental spending will lower the growth rate of GDP, while the the effect of productive government expenditure on the growth rate of GDP is ambiguous, depending on how the government behaves and on whether the expenditure ratio is too little or too much. Some subsequent research also confirms the detrimental effect of the public sector on economic growth (e.g., Barro, 1991).

The existing empirical studies in general suggest that Wagner's law may hold for developed countries, but less likely so for developing countries (Akitoby et al., 2006). On the other hand, another strand of literature suggests that government spending could have a positive effect on economic growth if it involves public investment in infrastructure, but could have a negative effect if it involves only government consumption. Yet, previous studies have not reached a consensus on the relationship between government spending and economic growth, owing to their differences in the specification of econometric models, the measurement of government expenditures, and the selection of samples (e.g., Agell, Lindh, & Ohlsson, 1997).

As pointed out by Abu-Bader and Abu-Quar (2003), typical regressions for explaining government spending or economic growth generally focus on the associations between government spending and economic growth, rather than providing insight into the direction of causality. One popular approach to investigating the causal relationships between the two variables has been using the tests á la Granger (1969). Over the past decades many studies have applied the Granger causality tests to test the causal relationship between government spending and economic growth.

Halicioğlu (2003) applies the Granger causality tests to the Turkish data over 1960–2000 and finds neither co-integrated nor causal relationships between per capita GDP and government spending shares. In contrast, several studies find evidence on the Granger causality running from national income to government expenditure, and thus provide support for Wagner's law (e.g., Abu-Bader & Abu-Quar, 2003). In particular, Dritsakis (2004) provides evidence on such a causal relationship for Greece and Turkey. By applying the unit-root, co-integration, and the Granger causality tests to panel data, Narayan et al. (2008) find that Wagner's law is supported by the panel of sub-national data on China's central and western provinces, but is rejected by the full panel consisting of all Chineses provinces. Using the U.S. data since 1792, Guerrero and Parker