The political economy of fiscal deficits and government production

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A R T I C L E   I N F O

A B S T R A C T

This paper studies how disagreement over which goods government should provide affects resource allocation in the public sector. An incumbent combines pre-determined capital with labor to produce different goods in the current period, and accumulates physical and financial capital for future production. Capital-labor complementarity determines how anticipated political turnover shapes governments' choice between saving in physical capital or financial assets. Turnover tends to render the stock of physical capital for public production too low and inefficiently combined with labor. The main cost of political turnover is production inefficiency in the public sector, not a suboptimal savings level.

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1. Introduction

A property of a well-functioning democracy is that current office-holders may be replaced through future elections. This might motivate incumbent politicians to use state variables, such as debt and capital, to affect the policies of their successors. How will then turnover affect resource allocation in the public sector?

To address this question I construct a theory which emphasizes the role of government as a producer. Consistently with the observation that wages and investments account for most of government expenditure, the provision of goods and services is assumed to require capital and labor as inputs.[1] Capital is a state variable determined by decisions in the past, whereas labor is a flow variable controlled by the current office holder. It follows that if capital and labor are complements in production, the future allocation of wage expenditure across different public goods will depend on current investment decisions. For instance, if an incumbent invests heavily in capital used for national defense, and little in public hospitals, the future productivity of military personnel increases relative to that of nurses. Conversely, the future allocation of wage expenditure will affect the returns to current investment. For instance, if an incumbent invests heavily in military equipment, while the successor prefers health services, then the returns to the incumbent's investments will be reduced by political turnover, as future decision-makers prefer to direct wage expenditures towards health personnel. Together, these two effects tend to raise an incumbent's valuation of financial assets relative to his valuation of physical capital, tilting total savings toward the former, and away from the latter means of storage.[2]

[1] For instance, Cavallo (2005) documents that in the U.S. since World War II, 63% of total government expenditure on consumption and investment was spent on labor, which arguably is best understood as an input to production rather than a final good. Only 21% was spent on privately produced goods and services, while 16% was spent on investment.

Beyond predicting underinvestment, a notable implication from the model is that political turnover leads to resource waste, as government production becomes too labor intensive and suffers from allocative mismatch of inputs. Ex post, governments allocate labor efficiently in the sense that production is on the production frontier given by existing capital. However, the allocation of public resources will be brought off the ex ante possibility frontier. If the identity of the decision-maker changes, production of the good that the previous policymaker prefers more strongly than the current policymaker will be too capital intensive, while production of the good that the successor prefers more strongly will be too labor intensive. More of both goods could be produced at no expense by re-allocating capital and labor.

This paper contributes to the rich literature on how political frictions affect public savings and investment. Particularly related are the studies of Tabellini and Alesina (1990), who argue that turnover motivates excess deficits, and Glazer (1989), who argues that anticipated turnover motivates excess investment as incumbents attempt to constrain their successors.[3] The framework I construct encompasses these models as special cases in terms of production technology; the former is equivalent to a setting where production requires labor only, the latter implicitly assumes perfect substitutability between capital and labor.[4] I conclude differently, because I allow for a degree of capital-labor complementarity that aligns with macro evidence such as Klump et al. (2007). Several other studies are also relevant. These include (Peletier et al., 1999; Besley and Coate, 1998; Bassetto and Sargent, 2006; Battaglini and Coate, 2007; Azzimonti, 2012; Bai and Lagunoff, 2011), who all study politico-economic determinants of investment. However, none of these consider heterogenous capital over which politicians have opposing preferences. Beetsma and van der Ploeg (2007) consider such heterogeneity, but because they assume that capital does not require future inputs in order to yield returns, turnover causes excess deficitsand overinvestment for the same reasons as in Glazer (1989). To my knowledge, the only other analysis which emphasizes how complementarity ties together policy over time is given by Watkins and Bohn (2011), who analyze how precommitted spending programs, such as health insurance, can be used to influence the future size of government.[5]

One way to evaluate the relevance of the complementarity mechanism I emphasize, is to consider the impact of re-election probability on investment. Three empirical papers shed light on this effect. Darby et al. (2004) find that across countries, investment is lower when turnover is higher. Azzimonti (2012) shows that across US states, investment is higher in states where electoral advantage is stronger. Using a panel of Norwegian municipalities, Fiva and Natvik (in press) find that when re-election probabilities increase, investment falls. These findings favor the predictions under capital-labor complementarity, rather than models that implicitly assume substitutability. Moreover, the extensive literature on privatization, summarized by Megginson and Netter (2001), indicates that production is less labor intensive when in the hands of the private rather than the public sector. Particularly convincing evidence is provided by Azmat et al. (2012), Dewenter and Malatesta (2001) and La Porta and López-de-Silanes (1999).[6] This pattern fits well with my study's prediction that government production will be excessively labor intensive.

While the listed evidence is consistent with my model, the mechanism I emphasize is not the only one that can explain it. In particular, models where turnover reduces incumbents' valuation of future public wealth and infrastructure raises the tax base, as in Besley and Coate (1998) and Azzimonti (2011), also imply that turnover reduces investment. My model, where capital raises the productivity of public labor, should be seen as a complementary explanation of why turnover reduces public investment. Which of the two mechanisms is the more relevant will depend on the type of capital one has in mind. My study relates to the considerable share of public capital which requires publicly financed labor and other current expenditures to yield returns. Examples here are national defense and public health care.[7] For infrastructure investment like roads, my model might be less relevant.

Regarding public debt, my model contrasts with that of Tabellini and Alesina (1990) and other studies where turnover raises discounting. These predict that turnover will cause deficits, while my framework predicts very timid effects on deficits, and potentially even that turnover will cause surpluses. Hence, my model cannot explain the common perception that governments excessively accumulate debt. However, while explaining high government debt is desirable, it should be

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[2] Unless otherwise is explicitly stated, the term "capital" in this paper refers to capital used in production of public goods. To avoid confusion with financial capital, i.e. bond holdings in this paper, I will sometimes also use the term "physical capital" to describe capital used for public production.

[3] These arguments are also referred to in economic textbooks, such as Romer (2001) and Persson and Tabellini (2000). Furthermore, strategic debt accumulation due to turnover has been embedded in theoretical frameworks to investigate related economic topics such as sovereign debt repayment, as considered by Amador (2009). Another classical model here is Persson and Svensson (1989) who argue that conservatives might strategically increase debt, whereas liberals will reduce it.

[4] Glazer (1989) considers the choice of purchasing durable or non-durable public goods, which my production model captures as the special case where capital and labor are perfect substitutes. Tabellini and Alesina (1990) consider only purchases of non-durable public goods, which is equivalent to the special case where labor is the only input to government production.

[5] Strategic investments also feature in the political business cycle literature, where it has been hypothesized that investments are particularly visible to voters, and therefore will be increased in order to raise support before elections (Drazen and Eslava, 2010; Rogo, 1990). Again the prediction is overinvestment.

[6] Azmat et al. (2012) find that privatization reduced labor intensity of the network industries in the OECD. Dewenter and Malatesta (2001) find a positive association between government ownership an labor share using both an international cross-section of privately and government owned firms, and a time series of firms that privatize. La Porta and López-de-Silanes (1999) document massive reductions in employment, and large increases in investment relative to employment, following privatizations in Mexico.

[7] For instance, capital in military defense is arguably best considered as an input to the provision of national security services, rather than as a good in itself. Over the past 30 years, direct investments in defense have constituted about two thirds of major physical capital outlays, and around 1% of GDP, in the United States, according to the US Government Printing Office (www.gpo.orgHistorical Table 9.3).