Linkage of Intergovernmental Transfer and Delagation of Power

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Abstract

The purpose of this paper investigates the optimal tax and optimal transfer scheme in three-level of government model. One of the important problems in local public economics is the tax competition problem. It is divided into the following two main classes. Firstly, it is the horizontal externality problem, which is a well-known, the spillover of public good and horizontal tax competition. Secondly, it is the vertical externality problem, which arises from co-occupancy of a common tax base. The pioneering study of vertical tax externality is Boadway and Keen (1996). In their paper, both levels of government use labor income taxation to finance their expenditures on public goods, and the federal authority can reallocate resourced lump-sum within the public organization. Our paper extends the Boadway and Keen (1996)'s two-level government model to three-level model. The main findings of this paper are twofold. Firstly, when labor migration is prohibited, despite the intergovernmental transfer scheme, both governments must subsidize labor. Secondly, when labor migration is allowed, federal and regional government may impose labor tax.

Key words; Three-level government, Fiscal gap, Vertical tax competition.
JEL Classification: H21, H71, H77

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Introduction

The purpose of this paper investigates the optimal tax and optimal transfer scheme in three-level of government model.

One of the important problems in local public economics is the tax competition problem. It is divided into the following two main classes. Firstly, it is the horizontal externality problem, which is a well-known, the spillover of public good and horizontal tax competition. Secondly, it is the vertical externality problem, which arises from co-occupancy of a common tax base.

The study of vertical externality has been less noticed until Keen (1998). This is that it has been thought the role of federal government is considered the income-reallocation and the internalization of horizontal externality. However, while federal government takes strategic behavior as with local government, it is pointed that both government behaviors may lead to inefficient allocation.

This paper focuses on the vertical transfer and the vertical tax competition problem. The pioneering study of this problem is Boadway and Keen (1996). In their paper, both levels of government use labor income taxation to finance their expenditures on public goods, and the federal authority can reallocate resourced lump-sum within the public organization. Their most important result is that the federal government should choose its labor income tax set to equal zero if it wants to internalize the vertical externality, meaning that all revenues from distortionary taxation are collected by the local governments. As a consequence, the authors argue that pure efficiency considerations may call for a negative fiscal gap[1].

In order to verify these results, Martinez-Lopez (2008) extends this model to public input model, and Kotsogiannis and Martinez (2008) extend to ad valorem tax model. As a result, they argued that fiscal positive gap may occur to contrary Boadway and Keen (1996).

Our paper extends the Boadway and Keen (1996)'s two-level government model to three-level model. Three-level type model has been studied by Aronsson and Wikstrom (2001). They examine that the optimal policies under two different assumptions regarding economic behavior: (i) Nash competition among localities, regions, and a federal government, and (ii) Stackelberg behavior where it is assumed that higher level governments act as leaders. They argued if the each government behaves as Nash competitors, the optimal policy can be pursued by intergovernmental transfer that induce the governments to solve the social optimization problem. If, on the other hand, some government behaves a Stackelberg leader, the optimal policy can be sustained with an intergovernmental transfer scheme. Thus, despite the presence of vertical externalities, multileveled tax policy may not be a problem as long as the central government can coordinate the tax policy by proper choice of intergovernmental transfer

[1] Boadway and Keen (1996) argued that positive fiscal gap may occur with horizontal tax competition.

schemes. However, because Aronsson and Wikstrom (2001) assume that (i) wage rate is exogenously given, and (ii) production sector is ignored, it cannot treat horizontal tax competition. Thus, our paper extend Boadway and Keen (1996) ‘s paper to three-level model involving production sectors.

The main findings of this paper are twofold. Firstly, when labor migration is prohibited, despite the intergovernmental transfer scheme, both governments must subsidize labor without labor migration. Secondly, when federal and regional government make decisions with tax competition, it is possible that there is positive fiscal gap between local and regional governments and there is negative fiscal gap between local and federal governments.

The plan of this paper is as follows. Section 2 presents the three-level model and derives the social optimal solution. Section 3 derives stackelberg game solution in a three-level model without migration. Section 4 derives stackelberg game solution in a two-level model without migration. Section 5 and Section 6 derives stackelberg game solution in a two-level model with migration. And Section 7 concludes.

Results

The purpose of this paper investigates the optimal tax and optimal transfer scheme in three-level of government model. Our paper extends the Boadway and Keen (1996)’s two-level government model to three-level model.

The main findings of this paper are twofold. Firstly, when labor migration is prohibited, despite the intergovernmental transfer scheme, both governments must subsidize labor without labor migration. Secondly, when federal and regional government make decisions with tax competition, it is possible that Optimal fiscal gap is a positive between federal government and state governments. And optimal fiscal gap may be a negative between regional governments and state governments.