



Selective decentralized leadership



Emilson Caputo Delfino Silva

Department of Marketing, Business Economics & Law, University of Alberta, Edmonton, Alberta T6G 2R6, Canada

ARTICLE INFO

Article history:

Received 15 January 2014

Revised 26 June 2014

Available online 14 July 2014

JEL classification:

C72

D62

D72

D78

H41

H77

R5

Keywords:

Policy commitments

Multiple public goods

Federations

Decentralized leadership

ABSTRACT

This paper examines the efficiency of decentralized leadership where regional governments contribute to the provision of multiple regional and national public goods. Unlimited decentralized leadership is inefficient because regional governments have incentives to overspend resources in the provision of regional public goods. Selective decentralized leadership is socially efficient if commitments are restricted to regional contributions to national public goods, since in this case regional governments face “correct” incentives when they contribute to national and regional public goods. The model applies to different types of national public goods. Aggregation technologies include the orthodox summation, and nonlinear and asymmetric transformation functions.

© 2014 Elsevier Inc. All rights reserved.

1. Introduction

Federations everywhere provide a multitude of public goods and services. Sub-central (i.e., regional) governments provide public goods and services that yield intra-jurisdiction benefits such as public works, fire protection, various types of law enforcement activities (e.g., private property protection) and various types of pollution abatement activities (e.g., smog reduction). Yet, regional governments also make contributions to national public goods and services, and this fact represents an important overlap in mandate across regional governments. For example, regional governments contribute to the advancement of knowledge through investments in higher education, to the preservation of biodiversity through efforts to protect fauna and flora, to the improvement of quality of life in the nation through investments in regional infrastructure and in activities that attract foreign direct investment, to the preservation of cultural values through investments to maintain historical monuments and museums, etc. Other types of contributions are natural consequences of human mobility. As individuals visit jurisdictions other than those in which they reside, they interact with residents of these other jurisdictions and may contribute to

the spread of infectious diseases or terror activities, as well as to the diffusion of social values such as goodwill, patriotism, honesty and law abidance. The social values, which are typically thought as some of the outcomes produced by primary and secondary education, are positive attributes that enhance national cohesion. In addition, some other types of national transboundary benefits result from reductions of harmful mobile substances, by-products of consumption or production activities, such as emissions of greenhouse gases.

A particularly important instance of overlap in mandate is the recent wave of regional commitments to policies that set targets for reductions in emissions of greenhouse gases or expansions in the production of renewable energy, or improvements in energy efficiency. In 2006, California introduced the “Global Warming Solutions Act,” which commits the state to reduce its greenhouse emissions to 1990 levels by 2020.¹ In 2007, the government of Alberta created its “Specified Gas Emitters Regulation,” which subjects facilities emitting more than 100,000 tons of carbon dioxide per year to an emissions trading scheme.² In 2008, the government

¹ See <http://www.arb.ca.gov/cc/ab32/ab32.htm/>.

² See http://www.qp.alberta.ca/1266.cfm?page=2007_139.cfm&leg_type=Regs&isbncln=9780779738151.

E-mail address: emilson@ualberta.ca

of British Columbia implemented the “Revenue-Neutral Carbon Tax,” with the objectives of encouraging British Columbians – households, business and industry – to reduce both their utilization of fossil fuels and their greenhouse gas emissions.³ Quebec’s cap and trade system, released in 2012, established a greenhouse gas emission reduction target of 20% by 2020 relative to 1990 levels.⁴ In the European Union, Germany’s “Energy Concept of 28 September 2010” establishes that by 2020: (i) renewable energy sources must be responsible for at least 18% of gross final energy consumption; (ii) electricity consumption must fall by 10% relative to the 2008 level; and (iii) greenhouse emissions must fall by 40% relative to 1990 levels, among other targets.⁵

The policy commitments described above, which are good examples of decentralized policy leadership within federal structures, are one of the main sources of motivation for this paper. Another source of motivation comes from the fact that sub-central policy commitments appear to be limited to some types of public goods provided by regional governments. As the last recession has demonstrated, regional governments everywhere have modified several of their regional policies (affecting many types of public goods such as the quality of tertiary education, law enforcement, and public infrastructure) in order to better cope with the negative shock. This paper examines the following two related questions:

1. Should regional governments be allowed to commit to policies that regulate the provision of some but not all types of public goods?
2. If selective decentralized leadership is desirable, what are the main characteristics of public goods whose provision regional government should commit?

This study revisits the normative merits of decentralized leadership in settings in which sub-central governments make policy commitments knowing that the central government will make interregional income transfers after it observes the decentralized commitments.⁶ The federal structure present in the European Union has been cited by many students of fiscal federalism as a good example of decentralized leadership because the member states are endowed with power to commit to the provision of public goods and services, to tax policy and collection, and the center is endowed with instruments (through the Structural and Cohesion Funds) to implement redistribution across member nations with the objectives of promoting convergence of the least developed member nations and regions, of improving competitiveness and job creation, and of strengthening cooperation among member states.⁷ Income redistribution is also an important function carried out by the central government in many other federations, such as the United States, Canada, Brazil and Australia, to cite just a few.

The model here differs substantially from the models used in the decentralized leadership literature in one important respect: it contains multiple types of public goods. Previous works did not investigate whether it is socially desirable to limit decentralized

policy commitments in federations because they assumed that regional governments provide only one type of public good (even though the type of public good provided varied across some papers). In this paper, each region provides regional public goods (i.e., public goods whose consumption benefits are restricted to residents of the regions in which they are provided) and makes non-negative contributions to different types of national public goods. The model allows for standard national public goods (such as national defense or reduction of greenhouse gas emissions where aggregation technologies are appropriately described as summation of regional contributions) as well as for other types of national public goods whose aggregation technologies may be nonlinear or involve asymmetric regional contributions. For instance, it seems plausible to argue that some of the national outcomes associated with surveillance of infectious diseases and terrorist activities may well be characterized by nonlinear aggregation functions of efforts exerted by regional governments. In particular, the surveillance efforts of regional public health agencies produce various national public health outcomes, and these national outcomes may be appropriately characterized by what Cornes (1993) called the “weaker-link” (i.e., Cobb–Douglas) aggregation technology.⁸

This paper demonstrates that a federation featuring selective decentralized leadership may allocate resources efficiently. In such a federation, regional governments do not commit to provision of regional public goods. They commit to contributions to national public goods only. It is also shown that if regional governments are able to commit to contributions to both national and regional public goods the subgame perfect equilibrium is inefficient. The reason for the inefficiency is that the regional governments have incentives to overspend resources in the provision of regional public goods when they anticipate that the center’s income-transfer scheme will equalize marginal utilities of income across regions. The essence of the argument is that regional governments do not distinguish between regional and national public goods in such a case. Qualitatively, the incentive that leads regional governments to acknowledge the national benefits associated with their contributions to national public goods is the same incentive that leads them to overprovide the regional public goods. The center’s redistribution mechanism reduces the perceived marginal cost of contributions. Each region faces an equal share of the true marginal cost of provision. Such inefficient incentive does not arise when policy commitments are made for contributions to national public goods only, since in this case the regional governments face correct incentives for contributions to national and regional public goods. For contributions to national public goods they face an equal share of the true marginal cost of provision. For contributions to regional public goods they face the true marginal costs of provision.

This paper is organized as follows. Section 2 describes the model and examines the socially efficient allocation, and the selective decentralized leadership game. Section 3 provides concluding remarks.

2. Model

Consider a federation that contains $J \geq 2$ regions and regional governments. There is also a central government. The federation features decentralized leadership: the regional governments can credibly commit to a limited (or unlimited) menu of regional

³ See <http://www.fin.gov.bc.ca/tbs/tp/climate/A1.htm>.

⁴ See http://www.mddefp.gouv.qc.ca/changements/plan_action/pacc2020-en.pdf.

⁵ See: http://www.germany.info/Vertretung/usa/en/06_Foreign_Policy_State/02_Foreign_Policy/05_KeyPoints/ClimateEnergy_Key.html.

⁶ For papers that consider interregional income transfers, see, e.g., Silva and Caplan (1997), Caplan et al. (2000), Aoyama and Silva (2008, 2010, 2014), Akai and Sato (2008), Akai and Silva (2009), Silva and Yamaguchi (2010) and Boadway et al. (2013). Other papers have considered the impacts of fiscal equalization in decentralized leadership settings – see, e.g., Goodspeed (2002), Aronsson (2010), Breuillé et al. (2010) and Aronsson and Persson (2012). The last set of papers did not consider situations under which the center implements interregional income transfers. In such circumstances, decentralized leadership generates incentives for inefficient behavior at the regional level.

⁷ See http://europa.eu/legislation_summaries/glossary/structural_cohesion_fund_en.htm.

⁸ Other than the standard pure national public good (whose level is equal to summation of individual contributions), the literature has examined two classes of public goods that produce interregional consumption spillovers (see, e.g., Cornes (1993), Wellisch (1994), Akai and Sato (2008), Silva and Yamaguchi (2010) and Caplan and Silva (2011)). The first class is what Cornes and Sandler (1996) call “general consumption externalities.” The second class is what Cornes and Sandler call “impure public goods.” The national public goods considered here fit into the first category.

Download English Version:

<https://daneshyari.com/en/article/970663>

Download Persian Version:

<https://daneshyari.com/article/970663>

[Daneshyari.com](https://daneshyari.com)