Determinants of inter-State agricultural trade in India

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Abstract

Determinants of trade among various Indian states have been poorly studied in the literature. In this paper, we examine the nature of agricultural trade among Indian states and identify why certain states export more than others, and what governs trade among these Indian states. Using data provided by the Directorate General of Commercial Intelligence and Statistics (DGCIS) for years 2005, 2008, 2011 and 2014, we employ cross-section as well as panel gravity analysis to identify the impact of trade costs and other factors in determining intra-India trade. Contrary to traditional findings, we observe that exporter's size does not significantly affect exports to other Indian states. We also find that subsidies hurt trade and trade costs measured by deviations from the law of one price have a significant negative impact on the overall trade between Indian states.

Keywords: Inter-State trade, Agriculture trade, India, Gravity model, Trade costs.

JEL Classification: F14, H71, H77

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1. Introduction

Trade and its effects on the Indian economy have been a popular topic in the Indian economic literature (e.g. Chand and Sen, 2002; Krishna and Mitra, 1998; Topalova and Khandelwal, 2011; Topalova, 2007). After the liberalization of its economy in 1991, the country has undergone massive structural changes with increased focus on principles of privatization and liberalization. Consequently, at present, international trade accounts for almost 38 per cent of India's GDP (World Bank, 2014)[1] and the country ranks among the 12th largest traders in the world with total trade rising at more than 20 per cent per annum (World Bank, 2014). As a response to these changes, studies have focused on determinants of bilateral and multilateral trade (Srinivasan and Archana, 2009), trade's impact on growth (Modak and Mukherjee 2014), poverty and inequality (Topalova, 2007; Topalova, 2010) and mainly on productivity (Krishna and Mitra, 1998; Das, 2003; Mahadevan, 2003) among others.

While much has been said about the success or the lack thereof in India's international trade front, very little work has been done to study the internal trade in India. India is a conglomeration of States that exhibit a variety of climatic, socio-economic, and ethno-cultural diversity. Owing to the immense sizes and diversity of the local economies and considerable potential for trade, understanding the drivers of trade between the States in India therefore, constitutes an important exercise. However, attention in this regard (even by the State apparatus) has been sporadic and sparse highlighted by the fact that as of yet, Government of India does not even collect inter-state trade data on road transported goods.[2] What is known, however, is that internal trade in India is plagued by assortment of restrictions related to diversity in controls, and lack of uniformity in standards and taxing structures, and therefore, considerable room for improvement exists to improve facilitation of trade among various States in India itself (Behera, 2006).

The problems in inter-State trade, especially in the agricultural sector in India has been well documented (Behera, 2006; FAO, 2005). The Planning Commission estimated that in 2001-2002, share of internal trade in GDP was less than 13 per cent (Planning Commission, 2004).

[1] The corresponding figure for 1974 was 10.66 percent of GDP.
[2] As reported in the Economic Times of March 13 2013 where the Director General of Directorate General of Commercial Intelligence and Statistics quotes, "we presently compile data on interstate trade through railways, river, air and sea. Statistics of interstate movement of goods by road is not collected by any agency and has never been done before" (Dhoot 2013).

The Report of the Working Group on Agricultural Marketing Infrastructure, Secondary Agriculture and Policy required for Internal and External Trade highlighted that incidences of state and local taxes, collection of market fees by government agencies and existence of various laws have been prohibitive towards internal trade in India (Planning Commission, 2011). While these studies clearly highlight poor legal and marketing infrastructure of internal trade in India, they do not really help us understand factors that influence trade between various states.

It is now widely accepted that barriers to trade are just one component of the factors that determine trade. The traditional gravity model expects that "interaction between large economic clusters is stronger than between smaller ones, and nearby clusters attract each other more than far-off ones" (Van Bergeijk and Brakman, 2010). More recently, literature has moved away from traditional size and distance models to include other (non) economic factors such as socio-cultural and linguistic similarities (Campbell, 2010), institutional and political differences (Möhlmann et al., 2009), differences in productivity and technological development, among others. Therefore, while it is necessary to examine the nature of the trade barriers and their costs while trading between Indian states, it is also equally important to understand what factors drives trade between those states. Also it is important to identify the extent of difference these factors make in order to provide policy recommendations that can help in overcoming them.

This paper tries to address this gap in literature. The study is structured as follows. Section 2 describes the existing literature and elaborates on the primary research gap and the research question of the current study. Section 3 contains a discussion on the methodology applied in the study as well as a description of the data sources along with their potential limitations. Results and their interpretations are detailed in Section 4. Finally, conclusions are provided in Section 5.

2. Related literature

The idea of federalism and its economic importance are old. It is argued that federalism and ensuing decentralization means that local governments and consumers have better information and therefore, make better decisions (Hayek, 1945), and competition among States leads to more efficient resource allocation (Tiebout, 1956). Besides the gains from the efficiencies of resource allocation, however, is the additional prospect of creating a common market enabling all constituencies to utilize their respective comparative advantages in a geographical area otherwise separated by jurisdictional boundaries (Bagchi, 2002). In that sense, trade among States remains a crucial element in utilizing the gains from decentralization and specialization. In India, in particular, gains from specialization especially in the field of agriculture are massive. There are 15 different agro-climatic zones in the country capable of producing vast array of crops and livestock.[3] In the presence of common markets, agricultural specialization can therefore, lead to significant gains from trade to farmers across the country.

The Constitution of India under Article 301 stipulates that “subject to the other provisions of this Part, trade, commerce and intercourse throughout the territory of India shall be free” (as cited in Bagchi, 2002). However, the role of trade in India’s internal trade policy, especially in agriculture, has often intertwined – and at times contradicted – with its pursuit of food security. For a long period of time, and perhaps still today, India pursued a strategy of self-sufficiency in food production instead of following policies that enhanced productivity and efficiency in the sector. As it was so clearly elucidated by Dr. Manmohan Singh (as cited in FAO, 2005, p. 3):

“To a large extent our policy framework and investment priorities for agriculture were designed for addressing the issue of food security in the country and not really for a more balanced growth in agriculture. Since these policies have roots in the economy of shortages there is an excessive focus on controls on storing and trading agricultural products.”

Consequently, the existing policies related to trade in agriculture, within and outside India, have been beset with various distortionary strategies where market signals do not necessarily incentivize farmers in production as well as trade of agriculture goods (FAO,