

## Abstract

The past 25 years have witnessed an unprecedented proliferation in the number of PTAs (Preferential Trade Agreements) across the world. From about 23 PTAs (physical number of PTAs, counting goods & services together) notified to the WTO in 1990 (GATT, then), the number rose to 86 in 2000 and crossed 280 in 2016. This rise in the number of PTAs has been accompanied by an increasing diversity in the nature of their members and their scope in terms of inclusion of 'newer' and 'deeper' provisions. Over the years, the scope of PTAs has deepened, with the inclusion of chapters and provisions pertaining to areas such as investment, sanitary and phytosanitary measures, competition, services, IPRs, government procurement, e-commerce and labour mobility, among other issues. These 'deeper' disciplines, traverse well beyond the traditional PTAs which only covered goods trade and aimed at lowering tariffs.

Alongside the proliferation of PTAs is another phenomenon, the emergence of global value chains (GVCs) and international production networks (IPNs) as firms have fragmented their production process across geographies in order to exploit the competitive advantage of different locations. Against this backdrop of rising GVCs and IPNs, 'deeper integration' assumes importance. Multiplicity and non uniformity of rules and standards across borders increase the costs of trade and production and PTAs can play a critical role in standardizing rules and regulations across member nations.

Literature on the impact of PTAs on trade flows between countries is quite extensive (Tinbergen(1962), Aitken(1973), Trefler (1993), Frankel (1997), Klausing (2001), Hertel(2001), Zarzoso et al. (2003), Baier & Bergstrand (2007) etc.,). Most of these studies, however, treat the existence or non existence of PTAs between member states as a binary variable and do not focus on the nature of the PTA. There is a dearth of studies that analyze their impact taking into account the depth and breadth of PTAs as captured by their disciplines and provisions. Further, most of the earlier studies, only assess the impact of a PTA on trade in final goods and do not capture the extent of participation of countries in GVCs & IPNs.

This thesis attempts to address the aforementioned gaps in the existing literature by first understanding the nature of "New Age PTAs" in terms of their depth, breadth and geographic orientation and second by assessing the implications of the evolving nature of these arrangements for value added trade and participation in GVCs and for trade prospects in specific sectors. The thesis consists of three papers that are connected by the underlying theme of PTAs and their impact on value added trade and sectoral trade.

The first paper is descriptive in nature and provides a broad overview about the evolving landscape of PTAs and trade flows over the years. It tracks the 'waves of regionalism' (Bhagwati, 1999 & Carpenter, 2009) that have clustered the economies into regional (later

inter-regional) blocs. It highlights the patterns of PTAs over time across various dimensions including the level of development of member countries (North-North, North-South and South-South PTAs); their regional composition; their scope in terms of coverage of issues such as services, investment, government procurement, etc. The discussion of the evolving nature of PTAs is juxtaposed with the evolving nature of trade flows among member and non-member countries, among developed and developing countries, within and across regions, for goods and services, both.

Building on the global context of PTAs and trade flows highlighted in the first paper, in the second paper, we empirically estimate the impact of 'deeper' PTAs on trade in the context of value chains and production networks. For this, we use an intensive panel data set constructed by us, for value added trade and PTAs. The value added trade data set is based on the OECD's- TiVA (Trade in Value Added) Database, which covers 61 countries (accounting for 90 per cent of world trade, 2015) and 34 industrial sectors from ISIC Revision. To characterize the nature of PTAs, we use a dataset created by the WTO, which coded 55 PTAs, signed during the time period 1958-2010. We make additions to this existing dataset by replicating a similar coding scheme for 32 PTA texts, wherein we construct indices that measure the depth of PTAs. We use an augmented gravity equation, to study the impact at aggregated and disaggregated level for selected sectors, namely, textiles, automotives, basic metals and chemicals, to assess how industry-specific characteristics may shape the impact of a deeper PTA. We observe, that 'deeper' PTAs cause the value added trade between countries to rise by a higher amount. Also, 'deeper' and 'new age' PTAs have a much higher impact on value added trade in sectors such as automotives which have long and complex value chains spread across many firms and are intensive in innovation and investment. These results hold key implications for policy making for Governments as well as for firms in making investment decisions. We also assess if the impact of a 'deeper' PTA varies depending upon the level of development (North-North, North-South & South-South) of the member countries.

The third and the final paper, is qualitative in nature and specifically examines India's IT-IT enabled services trade with Japan and Korea. India has consistently performed well in this sector, experiencing a trade surplus, with exports rising from US \$ 40 bn in 2000 to US \$ 107 bn in 2016-17 (Electronic and Computer Software Export Promotion Council, India), highlighting India's competencies in this sector. The Asia-Pacific market came out to be experiencing highest growth at 7.8% in 2017(NASSCOM). However, trends in India's IT-IT enabled services trade with the Asia-Pacific region, indicate that it accounts for a very small share of India's exports. In particular, Korea and Japan, two developed Asian countries with which India signed trade agreements, in 2009 and 2011 respectively, continue to account for a negligible share. This points towards the inability to reap benefits from the existent synergies between India's globally acknowledged competence in knowledge and skilled based service industry, and Japanese and Korean expertise in innovation and manufacturing. This paper

makes use of in-depth interviews and discussions with industry experts, industry associations as well as government officials in India, Japan and Korea to understand whether these PTAs have had any effect on the Indian IT-IT enabled services exports to these markets, the opportunities and challenges present in penetrating these markets and steps that can be taken with these partners as well as domestically, by the Governments and firms to strengthen bilateral business relations in this sector. Based on the findings, this paper aims to provide recommendations on how to better leverage deeper and broader PTAs and realize the expected benefits in sectors such as IT & IT-enabled services where India is competitive.