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Pravakar Sahoo & Ranjan Kumar Dash

UNIVERSITY OF ANTWERP
Faculty of Applied Economics

FACULTY OF APPLIED ECONOMICS

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Pravakar Sahoo[*]

Ranjan Kumar Dash[**]

India's exports of modern services have grown consistently over the last three decades and more so since 1991. Sustaining Modern Services Exports (MSEs), which in India enjoy comparative advantage, is important for sustaining service-led growth and maintaining stability on the external sector. In this context, we examine key drivers of India's surge in MSEs which have important implications for policy. The results reveal that endowment factors such as human capital, teledensity, financial development, physical infrastructure and institutions are the key drivers of India's MSEs along with the world demand, exchange rate and foreign direct investment. Therefore, India needs to focus on and speed up the ongoing reforms to improve supply side factors such as education, infrastructure, financial sector deepening, governance and broadband teledensity to improve competitiveness of India's modern services exports.

Key Words: India, Modern Services Exports, human capital, finance, infrastructure.

* Associate Professor, Institute of Economic Growth (IEG), Delhi University Enclave, Delhi. Email: pravakar@iegindia.org

** Fellow for Policy, Wadhwani Foundation, New Delhi-110009.

1. Introduction

The favourable impact of exports on economic growth through better resource allocation, efficient management style, economies of scale, and efficiency of production has been well established (Kruger 1975; Balassa 1978; Bhagwati 1982; Greenaway, and Sapsford, 1994; Srinivasan 1998; Awokuse 2003). Following the success of East Asian countries, India followed the export-led growth strategy in 1990s as a part of its structural adjustment programme comprising of liberalisation, privatisation and open economy policy. Empirical evidence also suggests that export-led growth strategy has been successful in India (Dhavan and Biswal 1999; Sahoo and Natraj 2001; Sahoo and Dash 2012). Like trade in goods, trade in services may increase the scale of domestic activity, resources allocation, employment opportunities and productivity growth through technology spillover effect (Mattoo et al. 2006; Dash and Parida 2011). In a recent study, Dash and Parida (2011) find that India's service sector-led growth since 1990s relates to higher growth in services trade.

India's exports since early eighties, more so since nineties, have been phenomenal. While export was contributing only around 7% of GDP till 1990-91, it has increased substantially over the last two decades reaching 24.64% in 2011-12. Increasing tradability of services allows the cross-border exchange of services, such as professional services, that previously required the close proximity of providers and consumers (World Bank 2010). Similarly, one of the major components responsible for India's success in aggregate exports is services exports which has increased from a mere 1.39% in 1990-91 to 7.73% of GDP[1] in 2011-12. The growth rate of services exports between 2000-01 and 2011-12 was nearly 881% in current prices which is far higher than the absolute increase of 140% in world total export in services during the same period.

Given the consistent deficit in goods trade, India has been increasingly depending on services exports for maintaining its external stability and growth. Much of India's services exports constitute exports of Modern Services Exports (MSE) such as software, business, financial and communication services. Modern services have been growing much faster than traditional services exports such as travel and transportation, in case of India. The share of modern services constitutes almost three-fourths of India's total services exports. India's economic reforms including in telecommunication, financial sector, and software sector (see Table 1 for details) increased digitized economic activities that have helped India connect with the rest of the world. Further, the post-liberalization period (1991 onwards) has been

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[1] This is in line with the change in the pattern of growth of the Indian economy which has been largely supported by the contribution of services sector (50% in 1990-91 to 66% GDP in 2011-12). The growth of services sector in India has also been dependent on India's services exports.

conducive for foreign investors, initially by raising foreign equity caps in many sectors, diluting provisions of the Foreign Exchange Regulation Act, and allowing automatic approvals (see Figure 1). These reforms along with availability of well-trained graduates and improved Information and Communication Technology (ICT) infrastructure have certainly helped India to reap benefits in the international services exports market.

India's share in the world services exports has gone up from 0.97% in 2000 to 3.1% in 2010, mostly due to software, business and financial services. However, it is believed that India could be a major player in the world's MSEs market—provided right policies are followed to use existing endowments factors. In this context, an attempt has been made to analyse determinants of India's MSEs. Though there are many studies analysing factors affecting total exports, manufacturing exports and total services exports, there is no such study which has comprehensively analysed the key drivers of India's surge in MSEs, both at aggregate and disaggregate levels.

2. Trends and Composition of Modern Services Exports: India and World

Three main components of the International Monetary Fund's (IMF's) BoP data in World services exports—transport, travel and other services—consistently increased in absolute terms from 2000 to 2010 in current value.[2] Importantly, the other service category (which includes categories 3–11 in UN's EBOPS) increased threefold from US$679 billion in 2000 to US$ 2019 billion during 2008, and stood at US$ 2021 billion in 2010 after the recovery. The sub-sectors that fuelled this increase are computer and information services, insurance, other business services, financial services, and royalties and fees. Although the volume of computer and information services increased 460%, the biggest impact was from other business services—which constitutes almost half of other services exports (item 3 to 11), i.e., US$ 920 billion out of US$ 2021 billion (2010). As a percentage of total services exports, three items formed the lion's share during 2010: transport (20.6%), travel (26%), and other business services (24.3%). The other eight sub-sectors of EBOPS shared the other 29%.

In case of India, the growth in the exports of goods and services was stronger in the 1990s and 2000s than in the 1980s (Figure 2). During the period 1990-2012, goods exports grew at 12% on average while services exports increased at 17% on average. Services exports as ratio

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[2] They slumped a little in 2009 due to the recession in the world economy, but recovered in 2010. The value of transportation export was US$ 341 billion during 2000, US$ 895 billion in 2008, and US$ 778 billion in 2010— after recovering from the recession in 2009. Likewise, the total value of travel export was US$ 556 billion during 2000, US$ 1060 billion in 2008, and US$ 982 billion in 2010. The value of transportation export was US$ 341 billion during 2000, US$ 895 billion in 2008, and US$ 778 billion in 2010—after recovering from the recession in 2009. Likewise, the total value of travel export was US$ 556 billion during 2000, US$ 1060 billion in 2008, and US$ 982 billion in 2010.

of total aggregate exports and goods exports have been increasing since early nineties (Fig-3). While modern services, which include software, business and financial services, etc. have been increasing in the total services exports, traditional services—travel and transportation—have been on a downward trend. The share of MSEs reached 72% of total services exports in 2011 compared to 30% in early nineties.

The share of exports of miscellaneous services—software, business, financial, and communication services—has grown markedly (Table 2 and Figure-4), from 27.04% during 1950-60 to around 72% of the total services exports during 2001-2011. Far-reaching reforms during the 1990s in telecommunications, IT, and the financial sector brought about this spectacular growth. Except goods not included elsewhere (G.n.i.e), all components of services exports experienced higher growth in the past decade. The most important components of miscellaneous services exports[3] (Table 2) are software services exports (its share increased from 60% in 2000 to 72% in 2011-12) and business services (share increased from 9% in 2000-01 to 25% in 2011-12). Although the share of financial services looks miniscule, it is expected that financial services shall become a strong contributing factor to India's growth in services exports in future, given its shares in the world services exports.

Concentration in world services exports and India's share: India's share in total world services exports has increased from 0.97% in 2000 to 3.1% in 2010 (Table 3). Its rank has risen from 26th to 10th among all countries exporting services. The share of the US, the top exporter, declined from 18% to 14.7%—indicating a small decrease in the concentration in world services exports as the number of countries with over 1% of total services trade decreased from 25 in 2000 to 23 in 2010. Except communication, construction and G.n.i.e,[4] India's share and rank have risen in transport, travel, insurance, finance, computer and information, license and fee, other business service, and personal cultural and recreational services exports (Table 3).

The most concentrated sector in terms of share of the top exporter is license and fee, where the share of USA was 42% in 2010. Other sectors relatively more concentrated are computer and information services (the top exporter India's share was 26.9% in 2010) and finance (the top exporter USA's share was 26.3% in 2010). The three most concentrated sectors having a share more than 1% of world exports are license and fees (11 countries), computer and

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[3] The disaggregated data for these components are available for only a few years. RBI provides data for software services exports since 2000-01, and for other components since 2004-05. Therefore, it is not possible to analyse the trends of sub-sectors miscellaneous category before 2001.

[4] The poor performance in communication can be attributed to the world economic crisis that started in 2008, but the decline in construction and G.n.i.e has been consistent over the years, and may have been compounded by the recent slowdown in growth and business sentiments in India. Also, in communication services, the concentration in terms of share of the top exporter has decreased.

information services (13 countries), and finance (13 countries). These sectors can be termed the most concentrated sectors. In communication, the share of the top exporter (Grenada) in 2000 was 50.6%, which declined to 15.2% in 2010, though countries having a share of more than 1% have slightly increased from 16 to 19. In most sectors, while the top exporter's share has decreased, the number of countries with over 1% of total world exports in that sector has remained more or less stable. This reflects an important feature: competition from countries with skills is increasing for already established countries in that sector. These new competitors are eating away the shares of the top exporters. However, the new entrants into this above 1% club are relatively few, with some exceptions.

India not only enjoys trade surplus in services, but also comparative advantages in services exports. Between 1990 and 2011, the Revealed Comparative Advantages (RCA) index[5] for total services exports increased by 100 per cent. This increase in RCA of services was mainly on account of MSEs such as software exports (IT and BPO), communication and other business services like management, consultancy and telecommunication (see Fig 5). According to the World Bank (2004), India exhibits a strong RCA in services as compared to goods. More importantly, in recent times, India has marginally improved its competitiveness in traditional services such as travel and transport. The analysis of the composition, trend and patterns shows that India is doing better in MSEs category. The next step is to empirically analyse the factors that affect the MSEs of India.

3. Literature Review

Although there exists a vast literature on the determinants of goods exports, the literature on the determinants of service exports, particularly MSEs, is limited and a recent phenomenon. Therefore, the types of policies that can help support MSEs' growth are not widely known.

Barcenilla and Molero (2003) estimate the determinants of services export flows for 15 European countries over 1976-2000. Using the traditional demand function, the study finds that foreign income is one of the important variables, with the coefficient being more than 1 for 11 out of 15 countries. In addition to foreign income, price and exchange rate are important variables in explaining services exports. Kimura and Lee (2006) assessed the impact of various factors on bilateral services trade relative to that on bilateral goods trade, using the standard gravity model from 10 OECD member countries during 1999–2000. The

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[5] An RCA index for a sector is calculated by taking the share of the particular sector's export in that country's total export of goods and services, and dividing this by the ratio of global exports in this sector by the total exports of goods and services. An RCA index with value greater than unity indicates comparative advantage in the concerned sector

results show, among others, that geographical distance, cost of transport, and general economic liberalization are important for services trade.

Using the standard gravity model, Shepherd and Marel (2010) explore the determinants of services trade for APEC member countries during 1995-2008. The study finds that market size, members in regional trade agreement, distance, restrictive regulation, and common language are major determinants of service trade. Similarly, Shingal (2010) analyses various potential determinants of trade in services for 25 exporting and 53 importing countries for five years over 1999-2003. Shingal's main findings are that human capital, teledensity and trade restrictiveness variables have the biggest impact on bilateral services trade, and thus, should be the policy focus if the objective is to promote services trade.

Nyahoho (2010) examines the importance of factor intensity as a determinant of trade in disaggregated services. Human capital is clearly related to exports of computer and information services. Construction services and public works, royalties and licence fees, and computer and information services are positively linked to research and development intensity. Marel (2012) examines the determinants of comparative advantage in explaining services trade. Using a country sample of 23 OECD countries and panel fixed effects model, the study finds that factor endowments such as skilled labour force and ICT-related capital stock, institutions, and better regulatory framework are the major sources of comparative advantage in services trade.

Eichengreen and Gupta (2012) examined the determinants of the services export performance of 60 developing countries, including India, over 1980-2008. The study finds that, among other factors, per capita income of exporter country, size of the market, world demand of services exports, infrastructure development, FDI, goods export, and human capital are important factors that explain services exports. Srivastava (2006) investigates the casual relationship between FDI and services exports by using bi-variate framework for India, starting from 1991Q1 to 2001Q4. Result of this study confirms the presence of short-run un-directional granger causality from FDI to services exports in the Indian economy. Sandra and Pelin (2012) find that firm size, total factor productivity, and technology investments are significant factors for services exports of Indian firms. Wong et al. (2008) show evidence of bi-directional causality between inward FDI and the total trade volume in services for Singapore and Malaysia. The author attributes this positive relation to liberalized trade regime in both the countries.

Nasir and Kalirajan (2013) examine the determinants of modern export performance of South Asian and East Asian countries over 2002-08. Estimation results show that the

performance of emerging economies in South Asia and the ASEAN region in terms of the realization of export potential is considerably lower than that of North America and Europe. The results also show that the number of graduates and the ICT infrastructure in emerging countries are among the key factors for MSEs.

Most of these are cross-country studies and mostly examined the factors affecting total services exports, which may not be applicable to an emerging country such as India that has been doing better in MSEs. The present study tries to fill this gap by carrying out an India-specific study on determinants of MSEs.

4. Possible Determinants of Services Exports

Based on the above empirical studies, we find that services exports performance critically depends on human capital, world demand, exchange rate behaviour, the quality of the telecommunications network, infrastructure stocks, the quality of institutions, and FDI inflows. In this section, we briefly discuss these plausible and potential factors of MSEs of India.

World Demand/Income (SIMP/WY): The demand for MSEs increases in response to the income of the rest of the world, that is, higher the level of foreign real income, larger would be the demand for nation's MSEs[6], ceteris paribus (Pain and van Welsum 2004). The measurement of world demand variable has often varied across studies. Generally, three income measures are used in the literature—GNP or GDP, industrial production, and world demand for real imports of services. In this study, we consider both world demand for services imports (SIMP) and world income (WY).

Real exchange rate: The impact of relative price movements on exports of services depends on the size of the price elasticity. A stable real exchange rate is conducive to export expansion (Mouna and Reza 2001; Bailey et al. 1987). While an overvalued currency can undermine export competitiveness through a direct loss of price competitiveness for exporting firms, undervaluation of the currency can bolster export demand, competitiveness, enhance the incentives for export activities, and lead to diversification of exports[7] (Mouna and Reza 2001; Joshi & Little 1994; Edwards and Alves 2005; Biggs 2007).

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[6] Empirical results suggest that the average long-run income elasticities are found to be approximately more than 1, but there is a wide diversity of experiences (Pain and van Welsum 2004).

[7] International studies typically conclude that price elasticities for services are smaller than those found for merchandise trade. The overall price elasticity for services exports is typically around -0.2 to -0.4, with travel-related services being more elastic and business services relatively inelastic (Pain and van Welsum 2004).

Goods Exports: It is argued that an increase in goods exports, which includes mostly manufacturing exports, leads to a higher demand of services, due to the network effect. Further, the exports of services are linked closely with and arise due to the export of goods since services like transport, travelling, communication, and business services are used as inputs (Lodefalk 2013; Eichengreen and Gupta 2012). The use of knowledge-intensive business, and of financial, transport and communication services in manufacturing production has been found to be positively correlated with international trade in services (Hoekmanand and Mattoo 2008; Francois and Hoekman 2010).

Human Capital: Poor human capital hinders technology transfer and learning, and has been shown to hamper export growth and diversification in low-income countries (Hausmann, Hwang and Rodrik 2006). The empirical literature confirms that service sector performance critically depends on human capital, the quality of the telecommunications network, and the quality of institutions (Shingal 2010). A healthier and more skilled and educated workforce is likely to contribute to productivity, competitiveness, and higher services exports, particularly MSEs. Therefore, high human capital stock is positively related to the export capacity of the domestic economy.

Financial Development: Financial sector development is another important factor of export supply; for example, firms that can access finance at reasonable cost find it easier and cheaper to finance working capital needs (including trade financing) and investments in technical upgrading and new innovative activities, and can, therefore, export or export more (Biggs 2007; Aghion and Griffith 2005; Sahoo et al, 2013). If financial markets are underdeveloped and risks not diversified, firms' supply response is affected adversely. Therefore, it is expected that financial development is positively associated with services exports. In this study, we develop a financial development index[8], which includes bank branches per million population, bank credit as percentage of GDP, and M2 as a percentage of GDP, and is based on the studies by Bandiera et al. (2000) and King and Levine (1993).

Infrastructure Development: One of the major factors of services exports supply capacity is domestic infrastructure, particularly telecom and communication infrastructure. To sustain the rapid growth of MSEs, it is necessary to have well-functioning infrastructure, including electric power, road and rail connectivity, telecommunications, air transport, and

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[8] The first factor or principal component has an eigenvalue larger than one and explains over two-thirds of the total variance. There is a large difference between eigenvalues and variance explained by the first principal component and the next. Hence, we choose the first principal component for making a composite index of the combined variance of the different aspects of financial development captured by the three variables.

efficient ports[9] (UNCTAD 2005; Shingal 2010; Eichengreen and Gupta 2012; Sahoo et al, 2013). Here we develop a infrastructure development index by taking important infrastructure variables such as air freight transport (million tons per km), electric power consumption (kWh per capita), rail density (per 1,000 population), road density (per 1,000 population), energy use (kg of oil equivalent per capita), and total telephones lines (main line plus cellular phones) per 1,000 population.

Institutions: The quality of institutions and policies decisively determines if countries can benefit from globalization (Mattoo et al. 2008). In low-income countries, weak and missing institutions have been shown to limit the ability of firms to take advantage of new trading opportunities (Stiglitz and Charlton 2006; Méon and Sekkat 2006). In addition to the direct effect, institutions may also indirectly affect trade through their impact on other variables of trade flows—such as investment and productivity. Kimura and Lee (2006) suggest that trade in services is positively influenced by the quality of institutions as measured by the degree of corruption, complexity of export procedures, and rigidity in employment law or by the economic freedom index. In our case, we use an index of economic freedom in the world (scaled 0-10) from the Cato Institute.

Foreign Direct Investment: FDI influences supply-side determinants of MSEs, reflecting to some extent the quality of physical capital as well as worker skills and market penetration potential (De Gregorio 1992). However, the World Bank (1993) and Sharma (2003) note that the role of FDI in export promotion depends crucially on its motive: FDI may contribute to export growth if it is aimed at tapping export markets by exploiting a country's comparative advantage but not if it is aimed at capturing the domestic market (tariff-jumping type of investment). However, studies indicate that FDI have a positive effect on the export performance of host countries (UNCTAD 2005; Srivastava 2006; Wong et al. 2008; Eichengreen and Gupta 2012; Sahoo et al, 2013).

Services Trade Barriers (STB): The services sector encompasses a largely heterogeneous selection of activities and operates differently. This heterogeneity gives rise to a range of qualitative or non-tariff barriers (NTBs) to services trade (Hoekman and Braga 1997). Findlay and Warren (2000) show the importance of non-discriminatory barriers, i.e., barriers that restrict the supply of services by domestic and foreign producers equally. More importantly, barriers to trade in services are difficult to measure compared to tariff and non-tariff barriers to trade in goods[10]. In our case, we use the cumulative number of

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[9] Poor infrastructure facilities characterize most South Asian countries and impede their trade, competitiveness, and sustainable development (Jones 2006; Sahoo and Dash 2010).
[10] In the empirical literature, various studies have used different measures—for example, Grünfeld and Moxnes (2003) use the services trade restrictiveness index (STRI) developed by Findlay and Warren (2000), Kimura and

regional/multilateral trade agreements of India that help reduce the barriers to services exports. We expect a positive relation between reduction in trade barriers because of trade agreements and services export demand.

5. Methodology, Data Sources and Results

We finally estimate MSEs considering all possible determinants based on both theoretical and empirical literature. We also carry out two sub-categories of modern services exports such as Software, Communication and other services (SC); and Insurance and Finance (IF) separately. The final functions are given below:

$$
\begin{aligned}
MSER_t = {} & \alpha_0 + \beta_0 SIMP_t + \beta_1 RER_t + \beta_2 (INFRA / TEL)_t + \beta_3 (GTER / SCH)_t \\
& + \beta_4 (FINDEX / DBC)_t + \beta_5 GEXP_t + \beta_6 FDIY_t + \beta_7 INST_t + \beta_8 TA + u_t
\end{aligned}
\tag{1}
$$

$$
\begin{aligned}
SC_t = {} & \alpha_0 + \beta_0 SIMP_t + \beta_1 RER_t + \beta_2 (INFRA / TEL)_t + \beta_3 (GTER / SCH)_t \\
& + \beta_4 (FINDEX / DBC)_t + \beta_5 GEXP_t + \beta_6 FDIY_t + \beta_7 INST_t + \beta_8 TA + u_t
\end{aligned}
\tag{2}
$$

$$
\begin{aligned}
IF_t = {} & \alpha_0 + \beta_0 SIMP_t + \beta_1 RER_t + \beta_2 (INFRA / TEL)_t + \beta_3 (GTER / SCH)_t \\
& + \beta_4 (FINDEX / DBC)_t + \beta_5 GEXP_t + \beta_6 FDIY_t + \beta_7 INST_t + \beta_8 TA + u_t
\end{aligned}
\tag{3}
$$

The expected sign of the coefficients is: $\beta_0, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8 > 0$ and $\beta_1 < 0$.

The definition of the variables along with sample period and data sources is given below.

Variables, sample period and data sources

Variables	Definition	Sample period	Sources
MSER	Modern services (software, business, financial, insurance and communication) exports as ratio of GDP	1980-2011	WDI
SC	Software, Communication and other services as ratio of GDP	1980-2011	RBI
IF	Insurance and financial services as ratio of GDP		
SIMP	World Services Import net of India as ratio of World GDP	1980-2011	WDI
RER	Real Exchange Rate	1980-2011	WDI
INFRA	Infrastructure Index	1980-2011	WDI
GTER	Gross Tertiary Enrollment Ratio as proxy for human capital development	1980-2011	WDI
FINDEX	Financial Development Index consisting of bank credit to domestic sector, bank branches and	1980-2011	WDI and RBI

Lee (2006) use the Economic Freedom of the World (EFW) index, and Nasir and Kalirajan (2013) use regional/multilateral trade agreement that covers goods and services.

	broad money ratio		
GEXP	Goods Exports as ratio of GDP	1980-2011	WDI
FDIY	Inflows of Foreign Direct Investment as ratio of GDP	1980-2011	WIR
INST	Index of economic freedom in the world	1980-2011	Cato Institute
TA	Cumulative number of Free Trade agreements	1980-2011	Ministry of Commerce
DBC	Domestic Credit provided by Banks as ratio of GDP	1980-2011	WDI
TEL	Telecom Density	1980-2011	WDI

Note: WDI and RBI refer to World Development Indicators various years and Reserve Bank of India respectively.

Cointegration Procedure: We test for unit roots in each series before estimating models, as it involves time series data. The stationarity property of each series is tested by using the Augmented Dickey-Fuller (ADF) unit root test[11]. The result of ADF unit root test is given in Table 4. Since we have a combination of I(1) and I(0) variables and given that we have only 32 observations, we use Autoregressive Distributed Lag (ARDL) cointegration analysis.

ARDL Co-integration: We use ARDL method developed by Pesaran et al. (2001) to find out long-run relationship among the relevant variables. This procedure is good to use for stationary variables as well as for a mixture of I(0) and I(1) variables. The ARDL bound test is based on the Wald-test (F-statistic). The asymptotic distribution of the Wald-test is non-standard under the null hypothesis of no cointegration among the variables. Two critical values are given by Pesaran et al. (2001) for the cointegration test. The lower critical bound assumes all the variables are I(0), meaning that there is no cointegration relationship between the examined variables. The upper bound assumes that all the variables are I(1), meaning that there is cointegration among the variables. When the computed F-statistic is greater than the upper bound critical value, then the H_0 is rejected (the variables are cointegrated).

The augmented ADRL model can be written as follows:

$$\alpha(L)y_t = \mu_0 + \sum_{i=1}^{k} \beta_i(L)x_{it} + u_t \qquad (4)$$

where $\alpha(L) = \alpha_0 + \alpha_1 L + \alpha_2 L^2 + ... + \alpha_t L^t$, $\beta(L) = \beta_0 + \beta_1 L + \beta_2 L^2 + ... + \beta_t L^t$, μ_0 is a constant, y_t is the dependent variable, and L is the lag operator such that $L^i x_t = x_{t-i}$. In the long-run

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[11] First, we test unit root by assuming there is no trend but only intercept. Then, we test stationarity by assuming time trend in the variable.

equilibrium $y_t = y_{t-1} = y_{t-2} = ... = y_o$ and $x_{it} = x_{it-1} = x_{it-2} = ... = x_{io}$. Solving for y we get the following long run relation:

$$y = a + \sum_{i=1}^{k} b_i x_i + \gamma_t \tag{5}$$

where:

$$a = \frac{\mu_o}{\alpha_o + \alpha_1 + ... + \alpha_t}$$

$$b_i = \frac{\beta_{io} + \beta_{i1} + \beta_{i2} + ... + \beta_{it}}{\alpha_o + \alpha_1 + \alpha_2 + ... + \alpha_t}$$

$$\gamma_t = \frac{u_t}{\alpha_o + \alpha_1 + \alpha_2 + ... + \alpha_n}$$

The error correction (EC) representation of the ARDL method can be written as follows:

$$\Delta y_t = \Delta \hat{\alpha}_o - \sum_{j=2}^{p} \hat{\alpha}_j \Delta y_{t-j} + \sum_{i=1}^{k} \hat{\beta}_{io} \Delta x_{it} + \lambda ECM_{t-1} + \mu_t \tag{6}$$

where $ECM_t = y_t - \hat{\alpha} - \sum_{i=1}^{k} \hat{b}_i x_{it}$, error correction term estimated the long-run equilibrium relationship (equation (5)), Δ is the first difference operator and λ is a parameter indicating the speed of adjustment to the equilibrium level after a shock. A two-step procedure is used in estimating the long-run relationship. In the first step, we investigate the existence of a long-run relationship predicted by theory among the variables in question. The short and long-run parameters are estimated in the second stage if the long-run relationship is established in the first step.

Results Analysis: The result of the ARDL cointegration test is presented in Table 5. cointegrating regressions have been run for aggregate MSEs as well as for sector-specific exports, viz., Software, Communication and other services (SC); and Insurance and finance (IF) separately. There is a long-run relationship or cointegration among the variables when MSEs (and also SC and IF) is the dependent variable because their F-statistic exceeds the upper bound critical value (3.50) at 5% level (Table 5). Thus, the null of non-existence of stable, long-run relationship is rejected in favour of long-run stable relation. Given the small sample size of only 32 observations, we have considered maximum 2 lags and the lags are selected on the basis of AIC. These results also warrant proceeding to the next stage of estimation. Having found the long-run relationship between services exports and other

variables, we estimate cointegrated regression or determinants of services exports. The result is presented in Tables 6, 7 and 8.[12]

Determinants of Modern Services Exports: The long-run estimates of MSEs estimated by ARDL model are presented in Table 6. The results show that as expected, the world imports as a proxy for world demand for services exports (SIMP) has a positive significant effect on MSEs from India. The coefficient of SIMP is greater but less than one, indicating that 1% increase in world demand will lead to less than 1% increase in India's services exports to world. Therefore, MSEs from India are more likely to be affected by external shocks, such as any changes in economic activity in major export destination markets. This is in line with previous empirical studies (Pain and van Welsum, 2004; Eichengreen and Gupta 2012). The coefficient of real exchange rate (RER) is found to have a negative impact on MSEs as appreciation of domestic currency adversely affects MSEs. It is well known that the appreciation of the real exchange rate (RER) reduces export (Joshi & Little 1994; Srinivasan 1998; Sharma 2003), hence, a negative link between the appreciation of RER and export demand is expected. However, compared to demand effect, the price effect is much smaller. In addition, the impact of goods exports (GEXP) on services export is positive and significant, indicating the spillover impact of goods impact on MSEs in India. This is because, countries that export more goods also export more services, due perhaps to network effects and the fact that the exports of services are linked closely with and arise due to the export of goods (Eichengreen and Gupta 2012). The coefficient of goods exports is less than one, indicating one unit increase in goods exports would lead to less than one unit increase in MSEs.

Supply side factors or endowment factors such as infrastructure stock (INFRA), telecom density (TEL), human capital (GTER), financial development (FINDEX) and FDI have expected signs. The coefficients of INFRA stocks have positive impact on MSEs as better infrastructure stocks such as telecom, transport and power not only reduce cost of trade but increase competitiveness in the international markets. Infrastructure also facilitates in improving the education and training system that produces skilled labour, thereby inducing MSEs. Alternatively, telecom penetration (TEL) rate has positive impact on MSEs. India had telecom revolution after this sector was open for private investment since mid-1990s (Table 1 for details and Figure 1). This has also been reflected in services exports. On the other hand, financial development as measured by domestic credit by banking sector as well as financial development index has positive impact on services exports in India. This is because financial

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[12] Diagnostic test indicates that the serial correlation, ARCH effect and heteroscedasticity are not a problem. Further, Ramsey test also suggests there is no misspecification problem for the model. Adjusted R^2 is also very high, indicating the model fits the data very well.

development reduces the variable costs of exporting services (i.e. freight and transportation costs), thereby increasing the competitiveness of MSEs (Beck 2003; Baltagi, 2009). Therefore, access to finance at reasonable cost can be important for MSEs for India. India adopted wide range of reforms in financial sectors over last decades resulting in increased availability of financial institutions and financial instruments (see Table 1).

Availability of human capital is vital for MSEs and this has been supported by the results. The coefficient of tertiary secondary enrolment ratio (GTER) is positive and significant in all specifications. Therefore, we find that success of Indian MSEs is attributed to the high quality and large pools of human capital at lower cost. Further, the impact of FDI is positive and statistically significant. It is a well-known fact that a FDI inflow leads to higher exports, both goods and services, since FDI increases export competitiveness by increasing physical capital as well as worker skills and market penetration potential (UNCTAD 2005; Zhang 2006). In recent years, services sector accounts for around 60% of total FDI inflows in India (Sahoo et al. 2013) and this has a favourable impact on MSEs (Dash and Parida 2011). Similarly, the coefficient of index of economic freedom which is the proxy for institution quality is positive and significant. This is because better institution improves the confidence of importer of services. The literature suggests that the quality of institutions positively influences trade in services (Lennon 2006; Kimura and Lee 2006). Finally, regional trade agreements (TA) have positive impact on MSE as they increase services exports through trade and investment liberalisation. In the end of 2011, India had 24 multilateral and bilateral trade agreements with different countries and regional economic blocks.

Determinants of Software and Communication (SC) exports: Having analysed the determinants of aggregate MSEs, we next estimate the determinants of software and communication (SC) services which is the major component of modern services exports. Results are presented in Table 7. It is clear from Table 7 that software and communication exports are influenced by endowment factors like infrastructure stocks, human capital, financial sector development and better institution along with world services import, real exchange rate, goods exports and foreign direct investment.

Stock of physical infrastructure boosts SC services as infrastructure like telecom, transport, power etc. helps in developing human capital and the productivity of the skilled manpower. Alternatively, telecom density or telecom penetration rate has a positive impact on services exports as telecom is the lifeline of ICT and communication services. The success of India's software services is mainly due to telecom revolution in India with wide telecommunication network at low cost. Similarly, availability of skilled labour as proxied by gross tertiary enrolment improves software and communication services export in India. The magnitude of

human capital impact is higher for SC sector exports compared to aggregate MSE. Further, the impact of FDI investment has a positive impact on SC services exports as FDI promotes exports by augmenting worker skills and market penetration potential. In addition, the index of economic freedom which is the proxy for better institutional quality has positive influence on SC services, since better institution improves the confidence of importer of services. As in the case of total modern services, the impacts of regional trade agreements have favourable impact on SC services. In this context, the industry association for India's software services, National Association of Software and Services Companies (NASSCOM), has given Indian IT and ITeS companies a unified voice, and played an instrumental role in the industry's policy-making process (Goswami et al. 2008). NASSCOM has signed several trade contracts with countries such as Ireland, Israel, Mexico, Morocco and Singapore to diversify Indian software exports beyond Japan, Western Europe and North America.

Determinants of Insurance and Financial (IF) Exports: Finally, we estimate the long-run coefficients of IF exports. The results (Table 8) indicate that the impact of world demand is positive and significant, but the magnitude of the coefficient is smaller compared to MSEs and SC services. Similar is the case with the coefficient of RER. The coefficient of infrastructure index is positive but not statistically significant. IF services may not be too much dependent on physical infrastructure but on communication, logistics, institution and financial services. Telecom penetration has positive impact on the exports of IF services. Further, human capital improves the exports of IF services as they are more dependent on human capital in terms of skills. Goods exports also boost IF services but the magnitude of goods export on IF services is much smaller compared to SC services.

The coefficient of financial development is positive and significant. The financial sector reforms that started in mid-eighties and more so since early nineties interlinked India's financial sector with the rest of the world, leading to more IF services exports. In addition to this, the index of economic freedom, which is the proxy for better institutional quality, has positive influence on IF services as it improves the confidence of importer of services. Other import variables such as FDI and regional trade agreements do not have any significant impact on IF services exports.

6. Conclusion

In sum, we find that India's MSEs are determined by endowment factors like human capital, and physical infrastructure stocks and financial development along with world demand, exchange rate and goods exports. Though SC exports do depend on world demand,

infrastructure and real exchange rate, it is more influenced by human capital, telecommunication, FDI and quality of institutions. Similar is the result for insurance and finance, emphasizing the role of human capital, institutions and governance. The large pool of skilled labour along infrastructure development and sustained reforms in financial sector, telecommunication and software sectors helped India achieve the substantial growth in MSEs.

In the last few years, the world economy is growing at a moderate pace and this might limit the growth of manufacturing and services exports of India. Therefore, India needs to focus on the supply side factors such as the development of human capital, infrastructure, financial sector and broadband teledensity to sustain its comparative advantages in MSEs. Infrastructure development such as energy availability, transportation and communication reduces the trade and transaction cost, and India must focus on these sectors to make MSEs competitive. In addition, further trade and financial liberalization, and removal of FDI caps in areas like health, education, and financial sectors is required to achieve sustained services exports. India's software exports are concentrated in a few developed countries, and these countries are expected to grow at a moderate rate in coming decades. Therefore, India needs to diversify software exports by targeting developing countries.
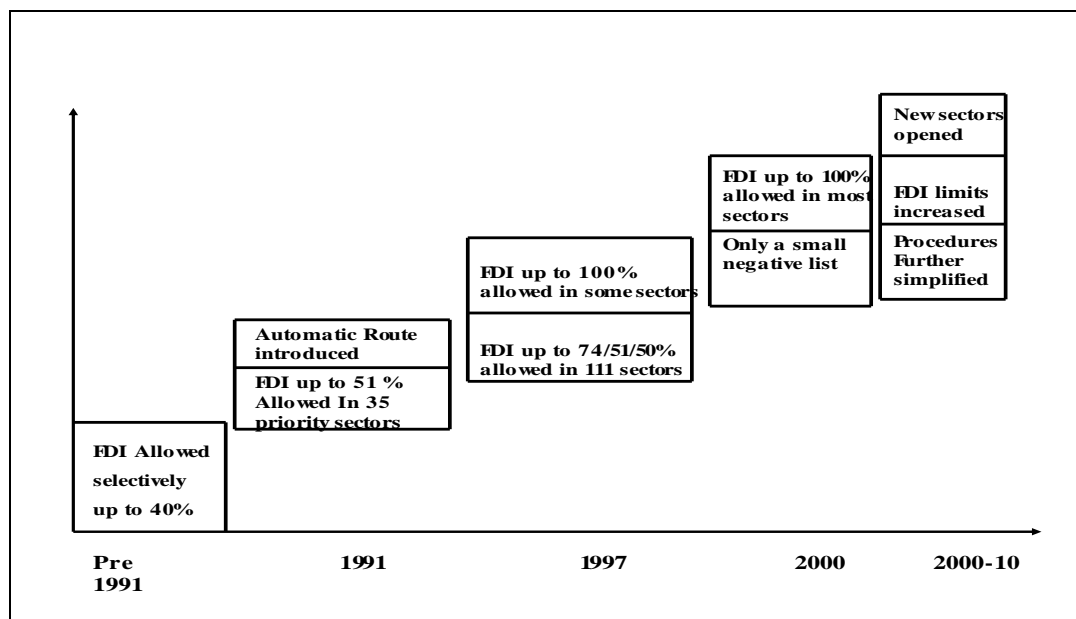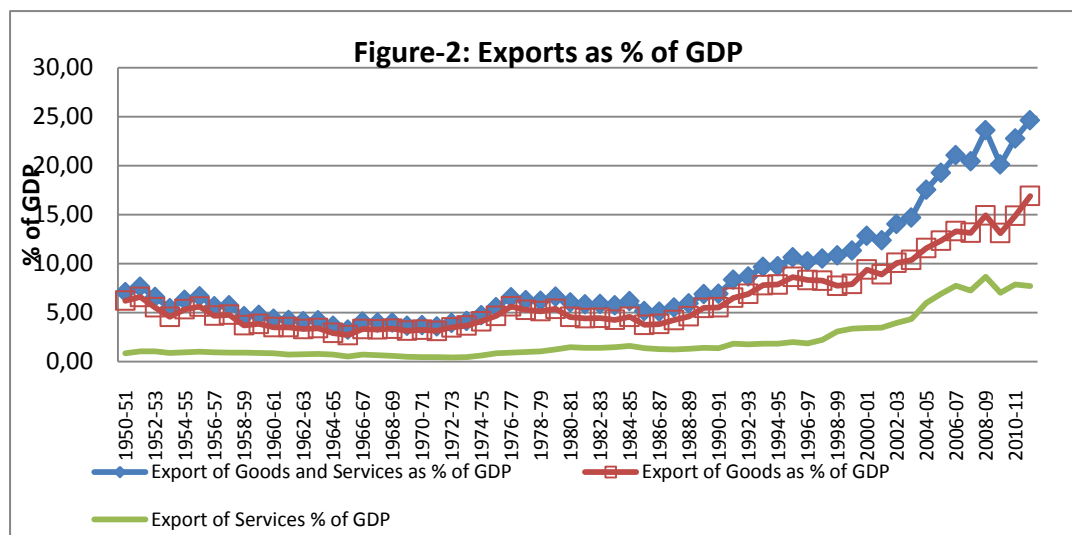
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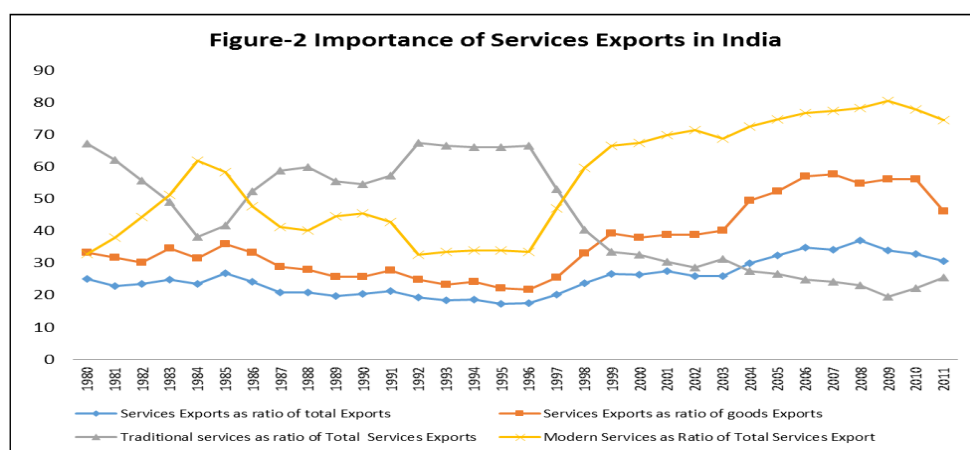
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Figure-1: Evolution of FDI policy in India

				New sectors opened
			FDI up to 100% allowed in most sectors	FDI limits increased
		FDI up to 100% allowed in some sectors	Only a small negative list	Procedures Further simplified
	Automatic Route introduced	FDI up to 74/51/50% allowed in 111 sectors		
	FDI up to 51 % Allowed In 35 priority sectors			
FDI Allowed selectively up to 40%				
Pre 1991	**1991**	**1997**	**2000**	**2000-10**

20

Figure-2: Exports as % of GDP

Legend: Export of Goods and Services as % of GDP, Export of Goods as % of GDP, Export of Services % of GDP

Figure-3: Importance of services exports in India

Figure-2 Importance of Services Exports in India

Figure 4: Components of India's services exports

Components of Services Export as Share (%) of total service Exports (Decadel Average)

Legend: Travel, Transportation, Insurance, G.n.i.e Receipts, Miscellaneous Receipts

X-axis: 1950-60, 1961-70, 1971-80, 1981-90, 1991-2000, 2001-11
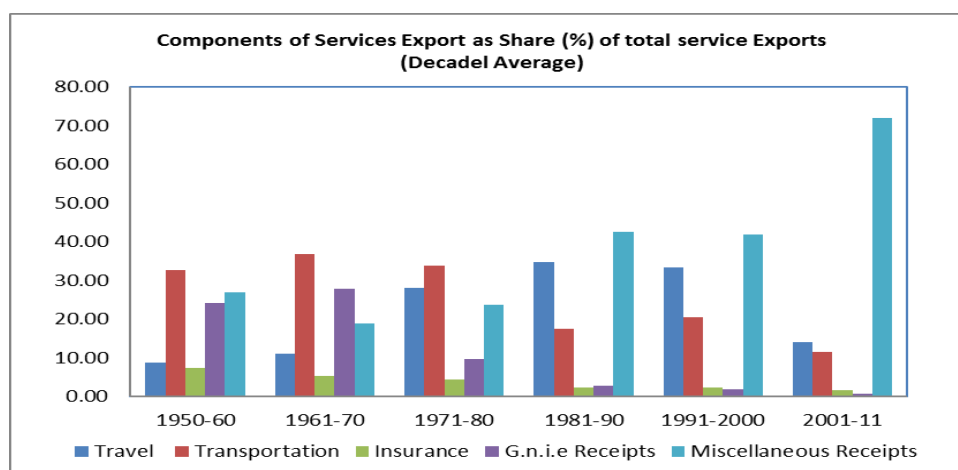
Figure 5: India's comparative in services exports

India's Revealed Comparative Advandatages in Services Exports

Computer, communication and other — insurance and finance — transport — travel — Total
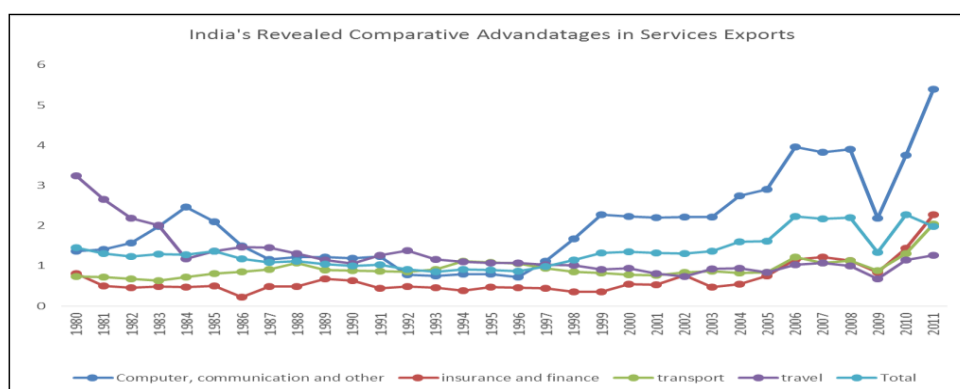
Table-1: Major services reforms In India: Financial sector, telecom and software industry

Financial sector reforms	Telecom policy	Software policy
1. Nationalization of Banks in 1969 and 1980. 2. Interest rate liberalization from 1992 including cash reserve ratio (CRR). Basle Accord capital standards were adopted in April 1992. 3. The abolition of Capital Control Issue (CCI) Act 1947, in 1992. 4. Foreign Institutional Investors (FIIs) were allowed to invest in India security and debt markets in 1993. 5. Reduction in statutory liquidity ratio (SLR). 6. Domestic companies were allowed to access foreign financial markets 1993. 7. Private banks including foreign banks were allowed to operate in India since 1993. 8. Exchange rate reforms in 1993. Convertibility of rupee for current account transactions with acceptance of Article VIII of the Articles of Agreement of the IMF. 9. Phasing out directed credit system. After the 1994 amendment of the Banking Regulation Act, Public Sector Banks were allowed to offer up to 49% of their equity to the public. 10. Modernization of Trading and settlement systems for capital markets in 1994. 11. Establishment of uniform prudential norms and standards broadly along the lines recommended by the Basle Committee on Banking Supervision in 1996. 12. Setting up of Clearing Corporation of India Limited (CCIL) to act as a central counter party for facilitating payments and settlement system relating to fixed income securities and money market instruments. 13. Foreign Exchange Regulation Act (FERA), 1973 is replaced by the market friendly Foreign Exchange Management Act, 1999. 14. Future trading in stock market commenced in 2001. 15. Implementation of Basel II India since 2009.	1 In 1985, the Department of Telecom (DoT) was separated from Indian Post & Telecommunication Department. 2 Telecom equipment manufacturing de-licensed in 1991. 3 National Telecommunications Policy (NTP) in 1994 which brought changes in the following areas: ownership, service and regulation of telecommunications infrastructure. 4 First mobile telephone service started on non-commercial basis in 1995. 5 Internet introduced in India in 1995. 6 Autonomous body (Prasar Bharti) was established in 1997 to take care of the public service broadcasting. 7 TRAI (Telecom Regulatory Authority of India) was set up in 1997 to reduce the interference of Government in deciding tariffs and policy making. 8 Reduction in licence fees for cellular service providers and increased the allowable stake to 74% for foreign companies in 2000. 9 Under National Telecom Policy 1999 - migration from fixed licence fee regime to revenue. 10 Sharing and Corporatization of telecom services - formation of BSNL. 11 FDI up to 100% allowed in Telecom manufacturing, ISPs without gateways, 12 Infrastructure provider (IP) - I, Call centres and IT enabled service. 13 National Telecom Policy 2012 - abolition of roaming free, single national licence, inter-circle Mobile Number Portability (MNP), increase in the broadband download speed of 256 Kbps to 512 Kbps by the end of 2012 and subsequently to 2 Mbps by 2015, and higher speeds of at least 100 Mbps thereafter. Convergence of services like voice, data, video, Internet, and VAS. 14 De-linking licenses issuances & spectrum allocations, and availability of spectrum at market prices.	1 Establishment of NASSCOM in 1988. 2 Establishment of Software Technology Park (STP) in 39 locations across India in 1990. STPs enjoy a number of benefits that include exemptions from service tax, excise duty and rebate for payment of Central sales tax. 3 Income tax exemption from profits of software exports in 1991. 4 Import duty on computer software were reduced to nil from 114 per cent in 1991. 5 The Information Technology Act 2000 created legal procedures for electronic transactions and e-commerce. 6 The Special Economic Zones (SEZ) scheme was enacted by the Government of India in 2005. Under the scheme, the exemption from income tax is tapered down over 15 years from the date of commencement of manufacture. According to the SEZ Approval Board of India, the maximum number of SEZs have been approved for the IT-ITeS sector. 7 Information Technology Investment Regions (ITIRs) were notified in 2008 in order to address the sector's infrastructure needs.

Source: Authors compilation from various sources.

Table 2: Miscellaneous services export and its components
(As % of Total)

Year	Misc Service Export as % of Total Service Export	Software Serv Export as % of Total Misc Service Export	Business Service Export as % of Total Misc Service Export	Financial Service Export as % of Total Misc Service Export	Communication Service Export as % of Total Misc Service Export	Other Services Exports as % of Total Misc Service Export
2000-01	60.23	64.6	9.5	0.9	2.6	22.4
2001-02	64.35	68.5	12.4	1.2	3.3	14.5
2002-03	68.68	67.3	14.4	1.4	3.9	13.0
2003-04	66.88	71.4	18.4	1.8	4.9	3.5
2004-05	70.79	57.9	16.8	1.7	4.5	19.1
2005-06	73.02	56.0	22.2	2.9	3.7	15.2
2006-07	74.87	56.7	26.4	5.6	4.1	7.2
2007-08	74.21	60.1	25.0	4.8	3.6	6.5
2008-09	77.34	56.2	22.7	5.4	2.8	12.9
2009-10	73.84	70.3	16.1	5.3	1.8	6.6
2010-11	75.89	55.0	23.9	6.5	1.5	13.1
2011-12	71.98	60.7	25.3	5.8	1.6	6.6

Source: Hand Book of Statistics on Indian Economy, 2011-12, RBI.

Note: For business service, financial service and communication service, data for the period 2000-01 to 2003-04 has been extrapolated from the subsequent data.

Table 3: Share and rank of India in world service export

Year	Number of countries with share above 1%	Top exporter country	Top exporter's share	India's share	India's rank
Total Service Export					
2000	25	USA	18.3	1.0	26
2010	23	USA	14.7	3.1	10
Transportation (205) Export					
2000	23	USA	13.3	0.6	32
2010	26	USA	9.2	1.7	17
Travel (236) Export					
2000	20	USA	18.1	0.6	30
2010	26	USA	13.7	1.7	18
Communication (245) Export					
2000	16	Grenada	50.6	1.9	10
2010	19	Grenada	15.2	1.4	14
Construction (249) Export					
2000	18	Japan	20.6	1.9	13
2010	18	China	17.6	0.6	24
Insurance(253) Export					
2000	16	Grenada	21.3	0.9	18
2010	17	UK	23.0	1.8	12
Finance(260) Export					
2000	12	USA	24.6	0.4	22
2010	13	USA	26.3	2.2	9
Computer and Information (262) Export					
2000	12	USA	18.4	17.1	2
2010	13	India	26.9	26.9	1
License and Fee (266) Export					
2000	8	USA	61.9	0.6	24
2010	11	USA	42.9	1.7	33
Other Business (268) Export					
2000	22	USA	13.3	0.6	40
2010	25	USA	9.2	1.7	15
Personal, Cultural and Recreational (287) Export					
2000	19	Turkey	20.9	0.3*	36
2010	22	UK	16.2	1.4	18
G.n.i.e (291) Export					
2000	16	USA	20.1	1.9	10
2010	20	USA	24.8	0.8	28

Source: UN Service Trade Data, http://unstats.un.org/unsd/servicetrade/default.aspx

* Data available since 2004-05 for India.

Table 4: Unit root test for using ADF test (India)

Variables	At level with constant	Optimal lag	At level with constant and trend	Optimal lag	At first difference with constant	Optimal lag	Order of integration
MSER	0.42	2	-1.30	1	-6.54*	0	I(1)
IF	-0.46	1	-1.81	1	-4.23*	1	I(1)
SC	0.40	1	-1.28	1	-6.74*	0	I(1)
SIMP	0.40	2	-1.23	1	-4.69*	1	I(1)
GTER	2.41	2	1.55	2	-3.05*	1	I(1)
GEXP	-.0.83	2	2.54	2	5.15*	0	I(1)
FDIY	-1.33	1	-3.68	1			I(0)
DBC	-0.21	1	-023	3	-4.45*	2	I(1)
FINDEX	-0.40	2	-1.33	2	-3.42	0	I(1)
INFRA	0.76	3	-0.86	3	-5.20*	1	I(1)
RER	-2.02	3	-2.18	2	-3.71*	0	I(1)
INST	-0.79	2	-3.78	2			I(0)
TEL	-0.80	1	-1.49	2	-3.35*	1	I(1)
TA	3.61	2	1.57	2	-2.94*	1	I(1)

*denotes rejection of null of unit root at 5% level.

Table 5 ARDL Co-integration test (1980-2011)

Dependent variable	F-stat	5% Critical value#	Result
MSER	5.62*	3.50	Rejection of null of no co-integration
IF	8.02*	3.50	Rejection of null of no co-integration
SC	6.84*	3.50	Rejection of null of no co-integration

Notes: The order of ARDL is selected on the basis of Akaike Information Criteria (AIC). # denotes upper bound critical values with seven independent variables. *denotes rejection of null hypothesis of no co-integration in favour of co-integration.

Table 6: Estimated result of modern services (MSER): ARDL model

Variables	Model-1	Model-2	Model-3	Model-4	Model-5	Model-6
Constant	-2.63** (-3.26)	-3.13** (-4.36)	-1.32** (-3.06)	-2.21* (-2.46)	-5.81** (-3.71)	-1.28** (-5.23)
SIMP	0. 41* (2.54)	0.35* (2.64)	0.37* (1.99)	0.22 (1.63)	0.26* (2.74)	-
RER	-0.04** (-4.06)	-0.08** (-8.34)	-0.08** (-10.21)	-0.07** (-3.38)	-0.15** (-5.50)	-0.10** (-8.50)
INFRA	1.04* (2.67)	-	-	-	-	-
TEL		0.05** (4.04)	0.09** (6.42)	0.12* (2.28)	-	0.17** (3.34)
DBC	0.08** (4.79)	0.04** (5.45)	-	0.03* (1.97)	0.07** (5.07)	-
FINDEX	-	-	0.46** (6.55)	-	-	0.23** (3.05)
GTER	0.18* (2.36)	0.35** (7.09)	0.31** (7.36)	0.25** (6.67)	0.17* (2.07)	0.25** (5.07)
GEXP	0.41** (6.49)	0.32** (5.39)	0.27** (6.17)	0.26* (2.24)	0.52** (4.52)	0.28** (4.02)
FDIY	-	-	-	0.36* (2.16)	-	
INST	-	-			1.45** (3.06)	
TA	-					0.22* (4.06)
MSC	(3,3,2,2,0,0,3)	(3,1,2,2,1,1,3)	(3,3,2,1,2,1,3)	(2,1,2,2,2,0,2,0)	(3,1,3,1,3,3,3)	(3,1,1,2,3,0,3)
	Adj. R²=0.96, S.E=0.32, DW stat=2.41 LM =1.05 ARCH =0.95 Reset-1.21	Adj. R²=0.97, S.E=0.23, DW Stat=2.18 LM =1.42 ARCH=1.43 Reset-1.75	Adj. R²=0.96, S.E=0.15, DW stat=2.04 LM =1.06 ARCH=1.28 Reset-2.43	Adj. R²=0.94, S.E=0.33, DW stat=1.79 LM =0.54 ARCH=0.86 Reset-1.59	Adj. R²=0.94, S.E=0.27, DW stat=2.15 LM =0.98 ARCH=1.08 Reset-1.94	Adj. R²=0.95, S.E=0.09, DW stat=2.21 LM= 1.47 ARCH=1.56 Reset-1.06

Notes: *** and ** denotes significant at 1%, 5% and 10% level respectively. Figures in parentheses are t-ratio. MSC=model selection criteria.

Table 7: Estimated result of software and communication (SC): ARDL model

Variables	Model-1	Model-2	Model-3	Model-4	Model-5	Model-6
Constant	-2.37** (-3.53)	-3.04** (-5.08)	-1.07** (-1.77)	-4.67* (-2.31)	-2.41** (-3.16)	-2.41** (-3.16)
SIMP	0. 49** (4.90)	0.27* (2.04)	0.16 (1.23)	-	0.29* (2.41)	-
RER	-0.04** (-5.94)	-0.07** (-8.57)	-0.08* (-2.17)	-0.09** (-4.81)	-0.10** (-5.12)	-0.09** (-7.03)
INFRA	1.41* (2.05)	-		-		
TEL		0.17** (4.42)	0.15* (2.90)	0.25* (2.71)	-	0.22* (2.86)
DBC	0.07** (4.06)	0.04** (4.41)	-		0.09** (3.09)	0.08** (3.09)
FINDEX			0. 54** (5.17)	0.29* (2.09)	-	-
GTER	0.29** (3.54)	0.39** (7.32)	0.31** (4.28)	0.45** (10.46)	0.33** (5.36)	0.45** (9.24)
GEXP	0. 41** (4.65)	0.24** (5.91)	0.35** (4.48)	0.31** (3.48)	0.21** (4.25)	0.24** (4.33)
FDIY				0.48* (2.41)	=	-
INST					0.63* (2.16)	-
TA						0.28* (3.26)
MSC	(3,1,0,2,0,0,0)	(3,1,2,1,1,1,0)	(3,3,3,3,3,2,1)	(2,2,0,3,3,3,2)	(3,1,2,1,3,3,3)	(3,3,2,3,3,3,2)
	Adj. R²=0.98, S.E=0.12, DW stat=2.55 LM =2.05 ARCH =0.45 Reset-0.87	Adj. R²=0.96, S.E=0.17, DW Stat=2.27 LM =2.15 ARCH=1.24 Reset-2.02	Adj. R²=0.97, S.E=0.21, DW stat=2.23 LM =1.62 ARCH=0.5 Reset-1.89	Adj. R²=0.93, S.E=0.20, DW stat=2.14 LM= 0.24 ARCH=1.74 Reset-1.04	Adj. R²=0.94, S.E=0.45, DW stat=2.04 LM= 1.24 ARCH=1.54 Reset-1.77	Adj. R²=0.97, S.E=0.18, DW stat=2.25 LM= 0.66 ARCH=0.79 Reset-1.44

Notes: *** and ** denotes significant at 1%, 5% and 10% level respectively. Figures in parentheses are t-ratio.

Table 8: Estimated result of insurance and finance (IF)

	ARDL					
Variables	Model-1	Model-2	Model-3	Model-4	Model-5	Model-6
Constant	-0.20** (-3.26)	-0.18* (-2.26)	-0.17** (-2.13)	-0.15** (-2.44)	-0.06 (-0.74)	0.06 (1.74)
SIMP	0.08** (3.16)	0.07* (2.16)	0.04** (2.54)	0.06** (2.10)	-	0.07** (2.65)
RER	-0.04** (-4.05)	-0.03* (-4.61)	-0.02** (-3.15)	-0.05* (-2.04)	-0.09** (-2.10)	-0.03** (-4.04)
INFRA	0.11 (1.24)					-
TEL		0.12** (3.87)	0.08** (4.07)	0.06** (3.37)	0.09** (3.01)	0.09* (2.23)
DC	0.13* (2.37)	0.09** (3.37)	-	0.13* (2.49)	0.08** (2.99)	
FINDEX	-	-	0.12* (2.35)		-	0.16* (2.81)
GTER	0.04* (2.01)	0.07* (2.25)	0.04* (2.04)	0.03** (4.14)	0.02 (1.21)	0.02* (2.21)
GEXP	0.05** (7.53)	0.06** (4.53)	0.04* (3.27)	0.03* (2.52)	0.09** (5.49)	-
FDIY				0.08 (0.85)	-	-
INST					0.09* (2.62)	-
TA					-	0.02 (0.62)
MSC		(0,3,2,3,3,3,1)	(1,0,0,1,0,0,2)	(2,2,0,2,3,0,2)	(1,2,2,0,2,1,2)	(2,3,1,3,2,2,0)
	Adj. R²=0.94, S.E=0.05, DW stat=2.13 LM =0.52 ARCH=0.06 Reset-1.24	Adj. R²=0.96, S.E=0.26, DW Stat=2.24 LM =0.57 ARCH=0.28 Reset-1.91	Adj. R2=0.96, S.E=0.19 DW Stat=2.12 LM =1.39 ARCH=18 Reset-1.45	Adj. R2=0.94, S.E=0.25 DW Stat=2.09 LM =0.65 ARCH=2.06 Reset-1.87	Adj. R2=0.94, S.E=0.25 DW Stat=2.09 LM =0.65 ARCH=2.06 Reset-1.87	Adj. R2=0.94, S.E=0.25 DW Stat=2.09 LM =0.65 ARCH=2.06 Reset-1.87

Notes: *** and ** denotes significant at 1%, 5% and 10% level respectively. Figures in parentheses are t-ratio.