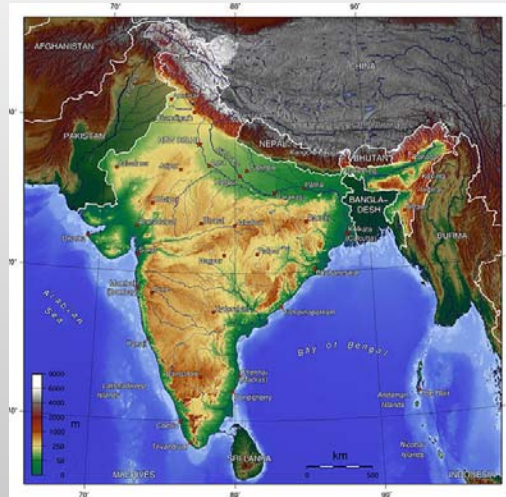




India's Emerging Services Sector



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October 21, 2010



Agenda

- Study scope
- Services in the Indian economy
- India's services trade
- Gravity model
- Directions for future research



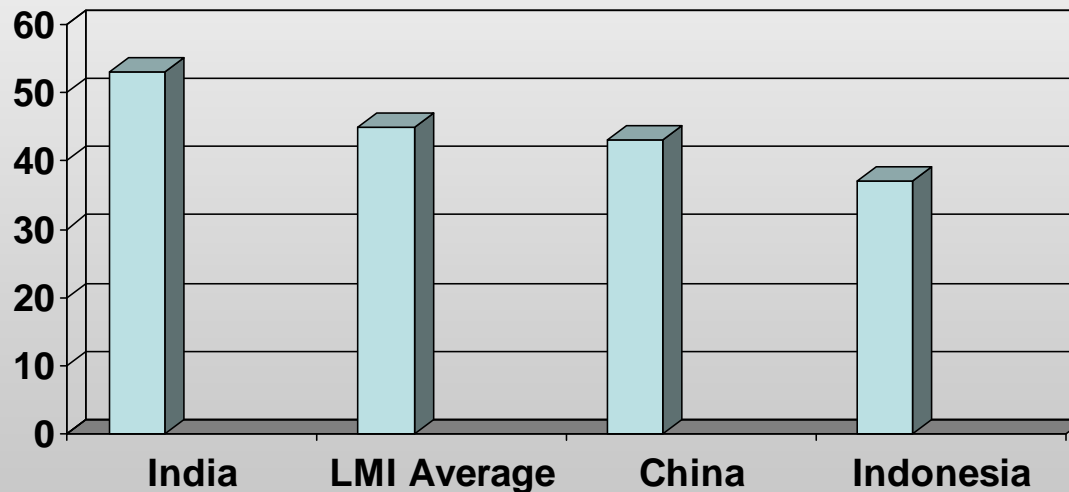
Study scope

- Services in the Indian economy
- International trade in services
- Empirical analysis
- Industry studies
 - IT-BPO, telecom, energy, air transport, education, and finance



Services' share of output is relatively large...

Services' Share of GDP, 2008



Source: World Bank



...and growing

Growth in value added (% per annum)

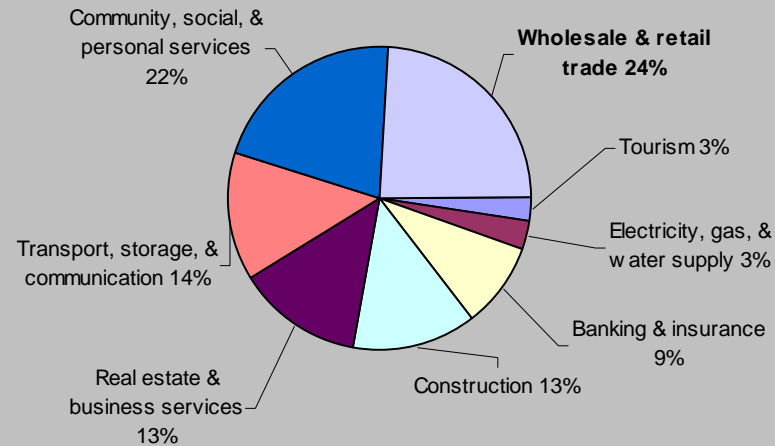
	1985	1990	1995	2000	2005	2008	CAGR, 1985–2008
Agriculture	0	4	-1	0	6	3	3
Manufacturing	3	5	15	8	9	4	6
Services	8	5	10	6	11	10	8

Source: World Bank



Wholesale and retail trade lead services output...

Services output by industry, 2006-07

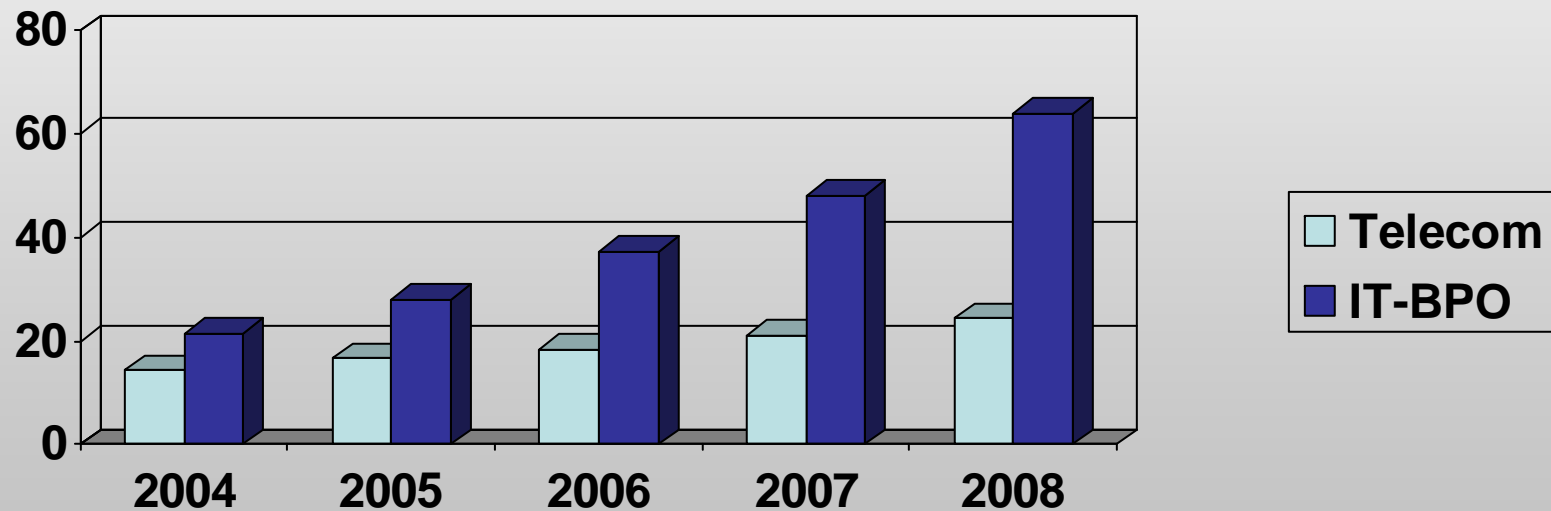


Source: CSO, National Accounts Statistics 2006-07



...but other industries are growing quickly

Revenues (US\$ billions)

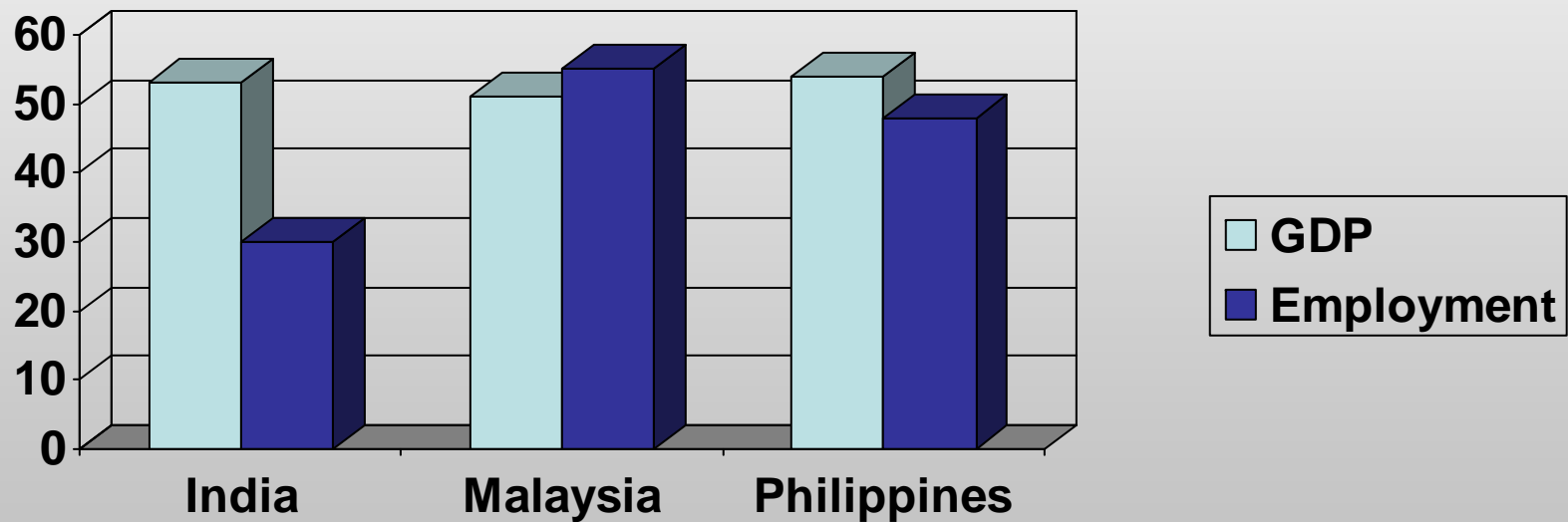


Sources: NASSCOM and Hot Telecom



Services' share of employment is lower than its share of output

Services' share of GDP and employment, 2005



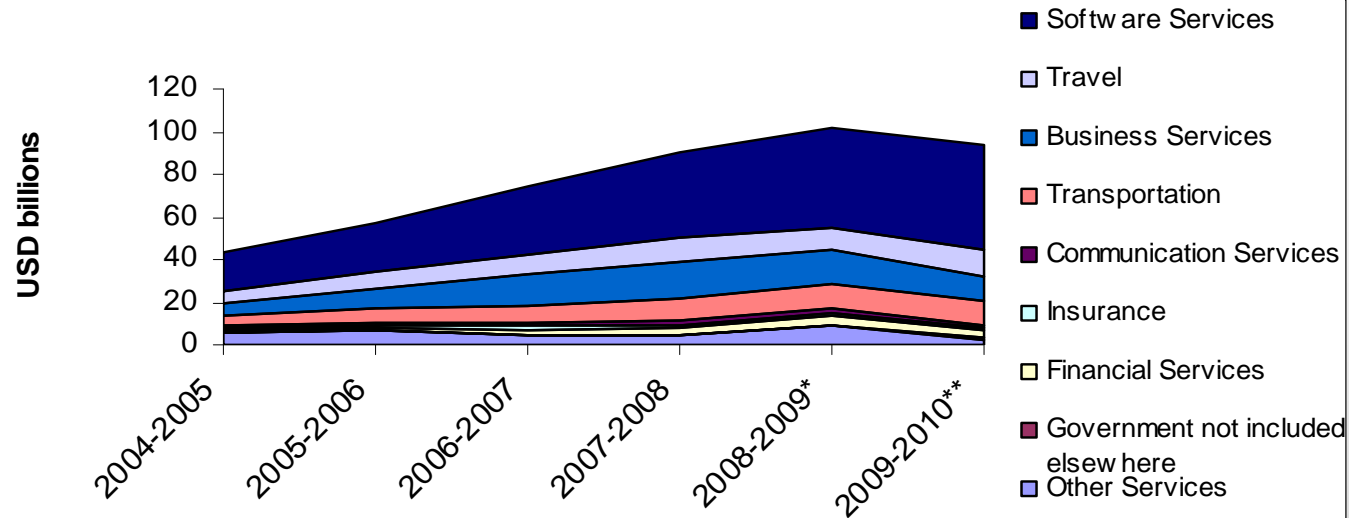
Source: World Bank



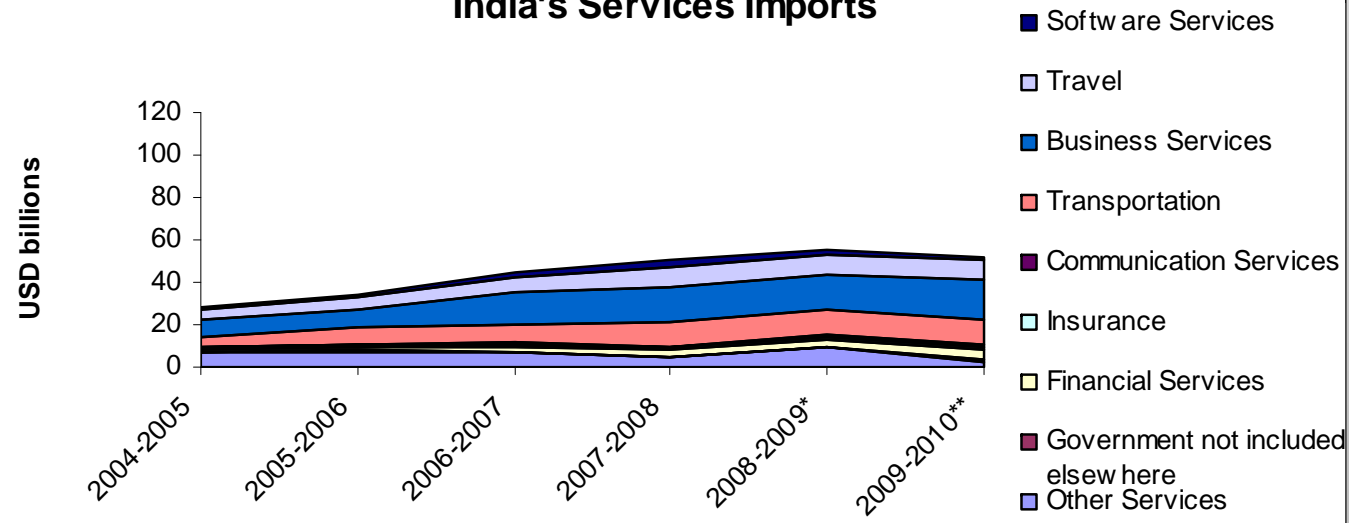
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India's Services Exports



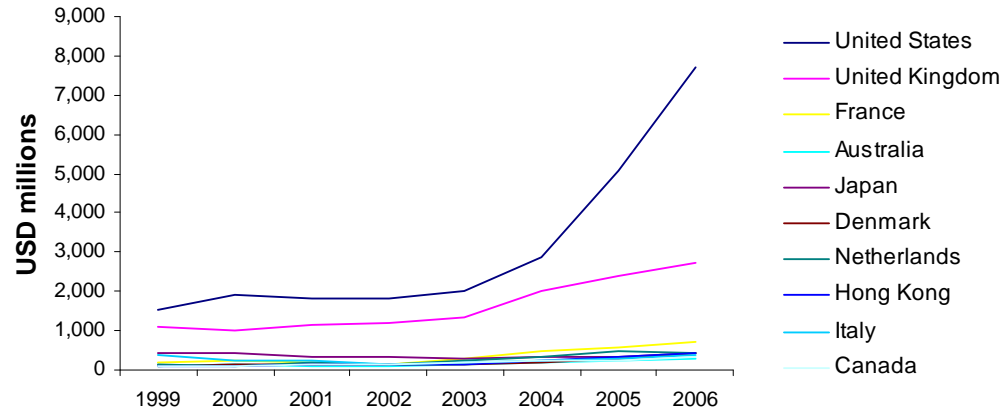
India's Services Imports



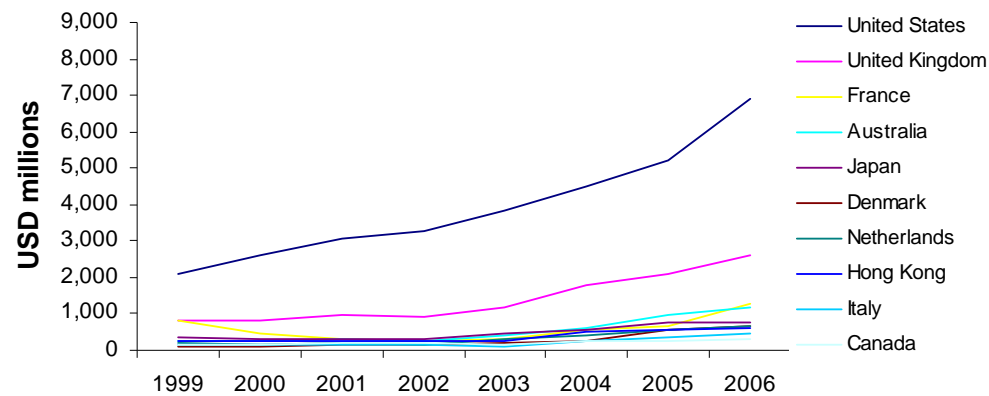
Source: RBI



India's Services Exports



India's Services Imports



Source: OECD



Market Liberalization

- GATS commitments in business services, communications, construction, financial services, health services, tourism
- FTAs with Sri Lanka and Singapore; member of South Asian Free Trade Area; negotiating services agreement with ASEAN

Significantly liberalized	Moderately liberalized	Restricted
Computer services Telecoms	Financial services Construction Health Air transport	Accounting Legal services Distribution

Source: *Mattoo, Mishra and Shingal 2004*



Empirical Analysis: Gravity Models



Gravity.
It's not just a good idea.
It's the Law.



A basic gravity model

$$\ln IM_{ij} = \beta_1 + \beta_2 \ln Y_i + \beta_3 \ln Y_j + \beta_4 \ln D_{ij} + \varepsilon_{ij}$$

- i = country i
- j = country j
- IM = imports
- Y = GDP
- D = distance



Our additional variables

- A = adjacency
- CL = common language
- SFDIR = services FDI restrictiveness index
- REM = remoteness



Services FDI Restrictiveness Index

Foreign Ownership	
No foreign equity allowed	1
1–19% foreign equity allowed	0.6
20–34% foreign equity allowed	0.5
35–49% foreign equity allowed	0.4
50–74% foreign equity allowed	0.2
75–99% foreign equity allowed	0.1
Screening and approval	
Investor must show economic benefits	0.2
Approval unless contrary to national interest	0.1
Notification (pre- or post-establishment)	0.05
Operational Restrictions	
Board of directors/managers	
majority must be nationals or residents	0.1
at least one must be national or resident	0.05
Duration of work permit for expatriates	
less than one year	0.1
one to two years	0.05
three to four years	0.025
Other operational restrictions	up to 0.1
Total (capped at 1.0)	Between 0 and 1
<i>Source: Golub, "Openness to Foreign Direct Investment in Services," 2009.</i>	



Remoteness





$$REM_i = \Sigma d_{im} / y_m$$

- d_{im} = country i 's distance from all trading partners
- y_{im} = GDP of i 's trading partners



Our models

Panel regression (random effects), 2000-06

$$\ln IM_{jit} = \beta_1 + \beta_2 \ln Y_{it} + \beta_3 \ln Y_{jt} + \beta_4 \ln D_{ij} + \beta_5 A_{ij} + \beta_6 CL_{ij} + \beta_7 SFDIR_i + \beta_8 \ln REM_{it} + \beta_9 \ln REM_{jt} + \beta_{10} Y01 + \beta_{11} Y02 + \beta_{12} Y03 + \beta_{13} Y04 + \beta_{14} Y05 + \beta_{15} Y06 + \varepsilon_{ij}$$

Ordinary Least Squares (OLS), 2004

$$\ln IM_{ji} = \beta_1 + \beta_2 \ln Y_i + \beta_3 \ln Y_j + \beta_4 \ln D_{ij} + \beta_5 A_{ij} + \beta_6 CL_{ij} + \beta_7 SFDIR_i + \beta_8 \ln REM_i + \beta_9 \ln REM_j + \varepsilon_{ij}$$



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Dependent variable— ln(Services Imports)

	Random effects	OLS
Services FDI restrictiveness	-1.373 ‡ (-3.85)	-1.314 ‡ (-3.41)
ln (importer's GDP)	0.914 ‡ (29.62)	0.850 ‡ (25.73)
ln (exporter's GDP)	1.809 ‡ (16.64)	0.987 ‡ (25.51)
ln (distance)	-1.214 ‡ (-16.9)	-0.996 ‡ (-12.44)
ln (importer's remoteness)	0.186 † (2.03)	0.012 (0.12)
ln (exporter's remoteness)	0.746 ‡ (6.94)	0.121 (1.43)
Adjacency	0.096 (0.61)	0.272 (1.26)
Common language	1.177 ‡ (7.3)	1.163 ‡ (6.84)
Constant	-45.664 ‡ (-19.66)	-33.396 ‡ (-14.46)
Number of observations	4,455	858
R-squared	0.737	0.700

‡ significant at the 1 percent level

† significant at the 5 percent level



Potential effects of liberalization

India's SFDIR score: 0.38

	Liberalization to mean SFDIR score (0.24)	Liberalization to minimum SFDIR score (0.04)
	Increase in imports (percent)	Increase in imports (percent)
Random effects	19.2	46.7
OLS	18.4	44.7



Directions for Future Research

- In-depth examination of other industries
- Political economy of protectionism and liberalization
- Other trade effects
- Welfare effects



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Thank you

