

**Proximate and distant implications of TRIPS  
compliance: India**

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# Proximate macro effects

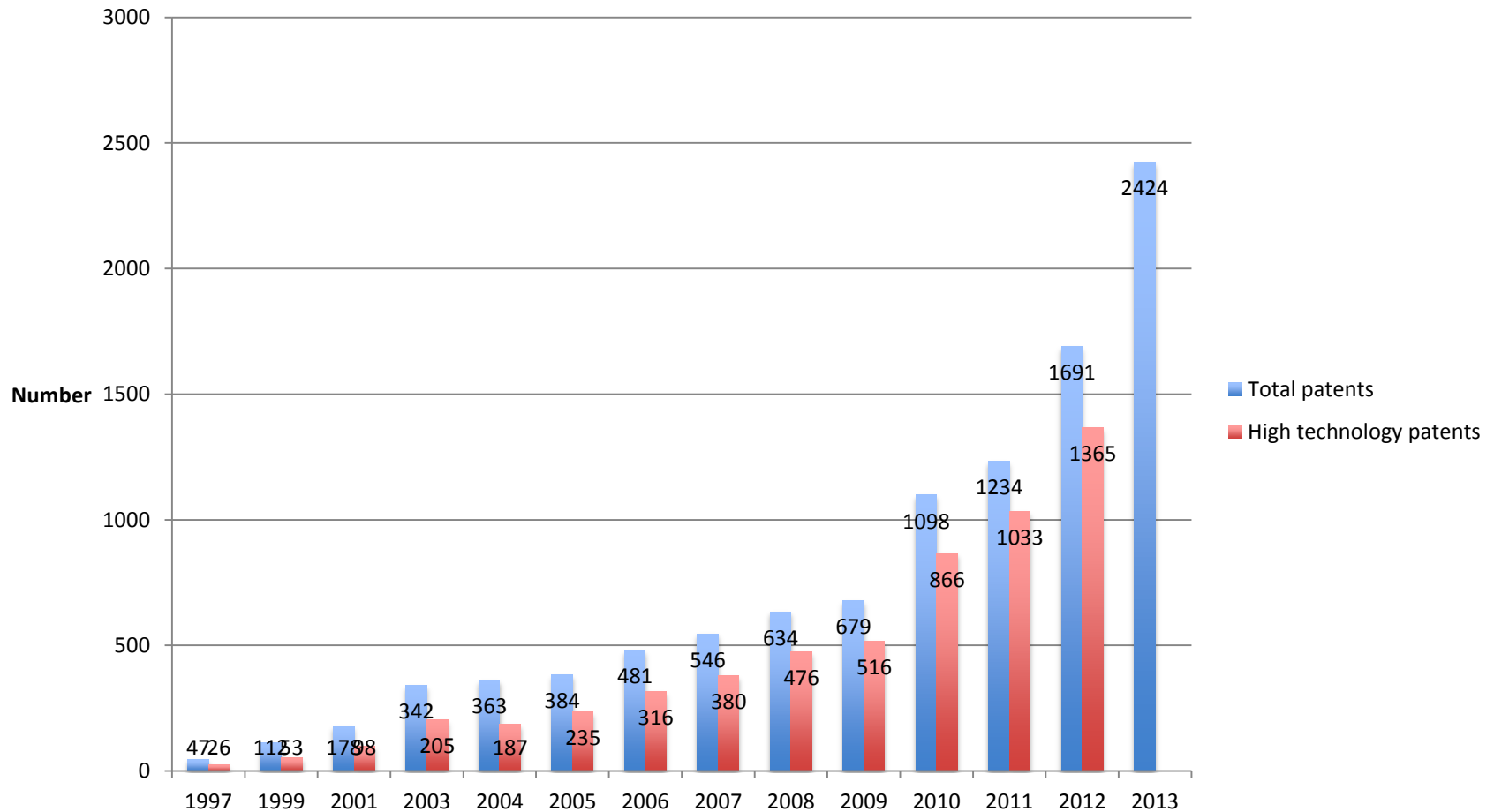
1. Increased emphasis on patenting: (a) Increased patenting in a variety of technologies both in India and abroad; (b) establishment of the PFC ( c )becoming a contracting party in the PCT; and (d) attempting to pass a bill incentivizing public R&D.
1. Patenting of incremental innovations in SMEs-utility models
2. More research on Neglected Tropical Diseases
3. Clarity in patenting of traditional knowledge, medicinal plants and micro organisms
4. Relationship between TRIPS compliance and foreign technology licensing- M&A in the pharmaceutical industry.
1. Growth of R&D outsourcing
2. Reform of the India Patent Office

# What does patent data tell us?

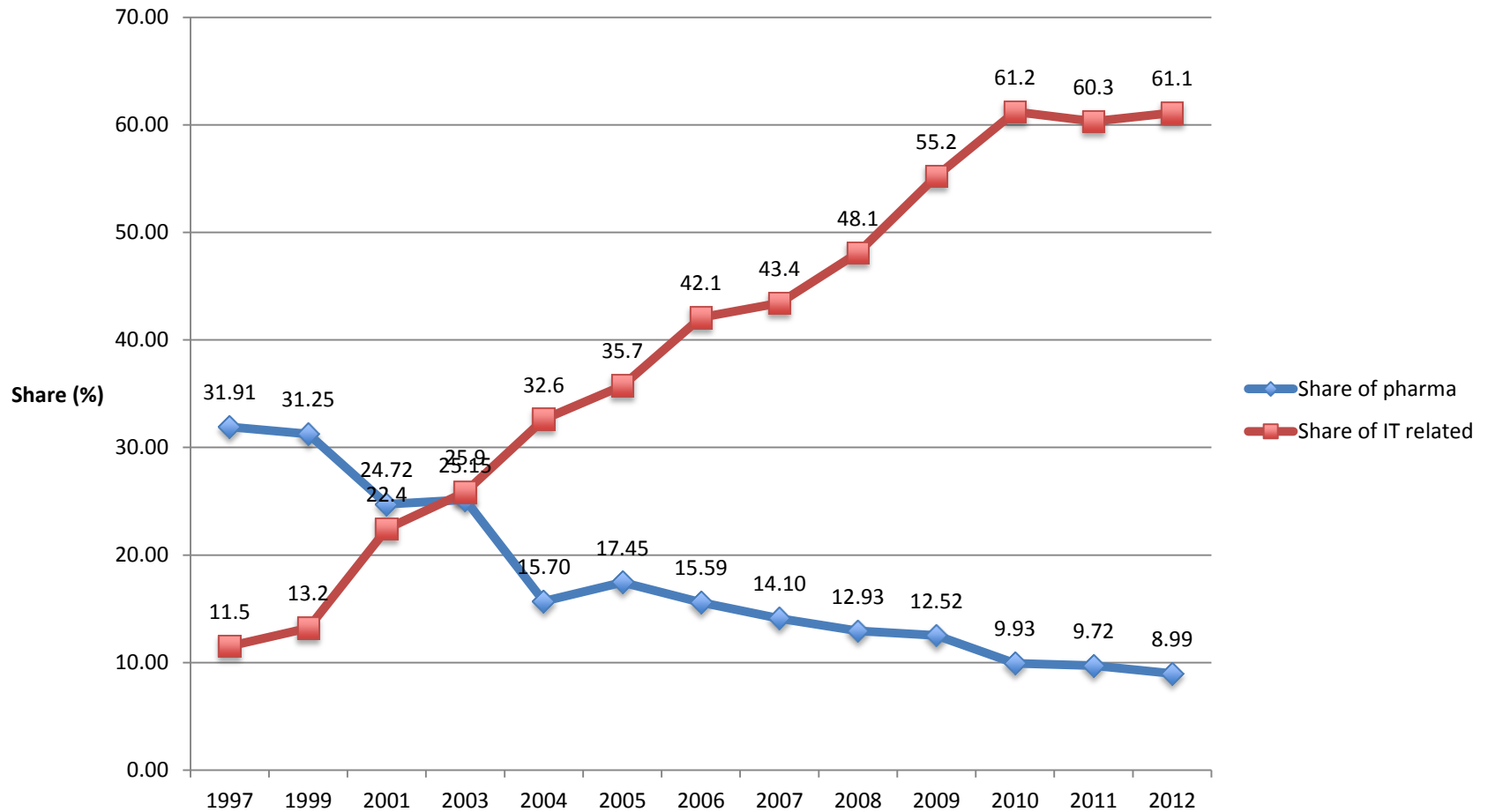
- (i) there have been significant increases in patenting by Indian inventors and the share of high technology patents in it has shown some sharp increases as well; and
- (ii) there has been a very discernible change in in the technological specialisation with pharma going down in importance and IT related patents showing a pronounced and increasing trend
- (iii) However most of these patents are owned by MNCs

# Trends in total and high technology patents by Indian inventors at the USPTO

(Number of utility patents granted)



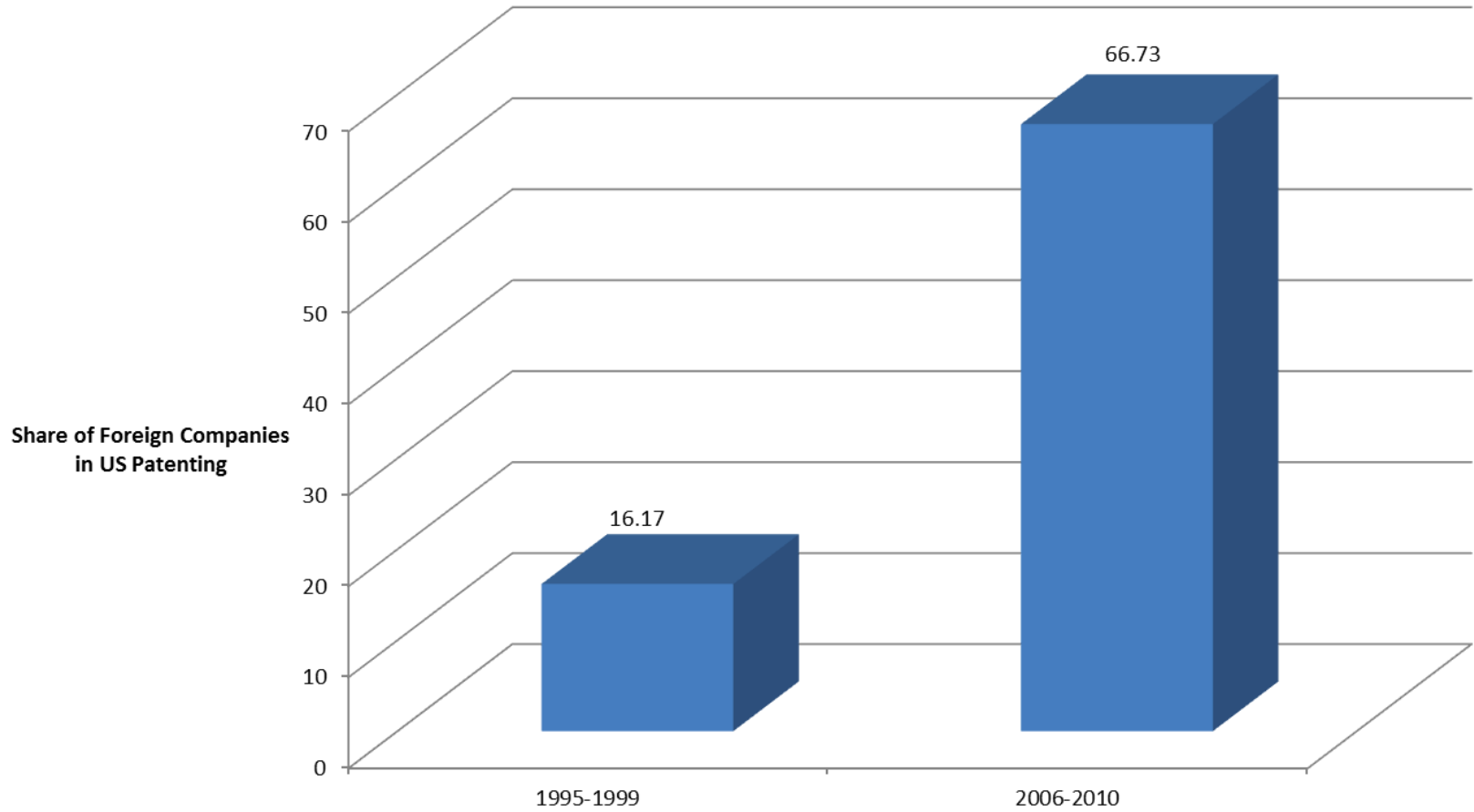
# Changing importance of pharma vs IT related patents (percentage shares)



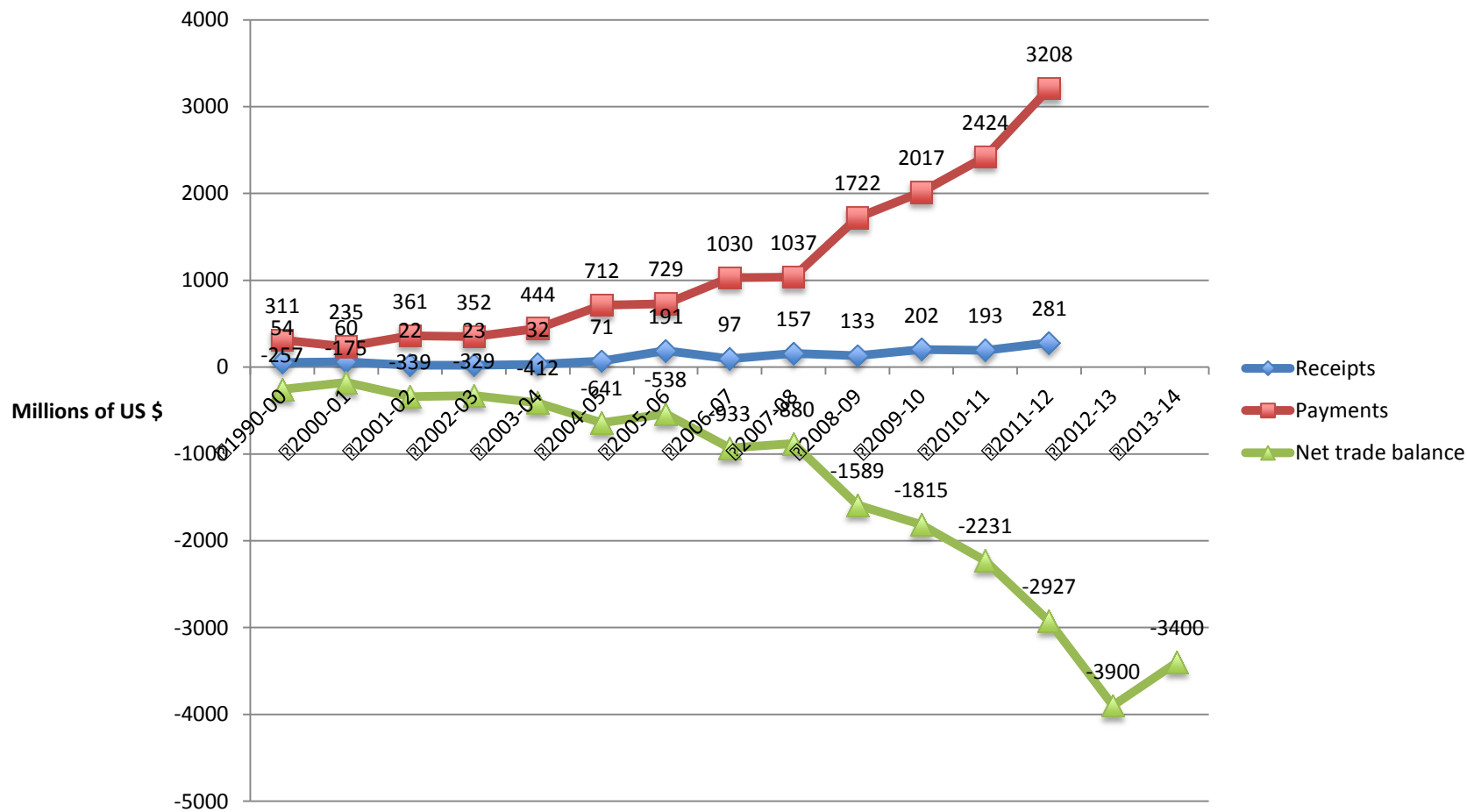
# Distribution of IT related patents at USPTO according to ownership

	IT related patents (number)			Share (%)	
	Domestic	MNCs	Total	Domestic	MNCs
2008	17	97	114	14.91	85.09
2009	21	129	150	14.00	86.00
2010	51	245	296	17.23	82.77
2011	38	352	390	9.74	90.26
2012	54	461	515	10.49	89.51
2013	100	1268	1368	7.30	92.71

# Who are these Indian inventors patenting abroad?

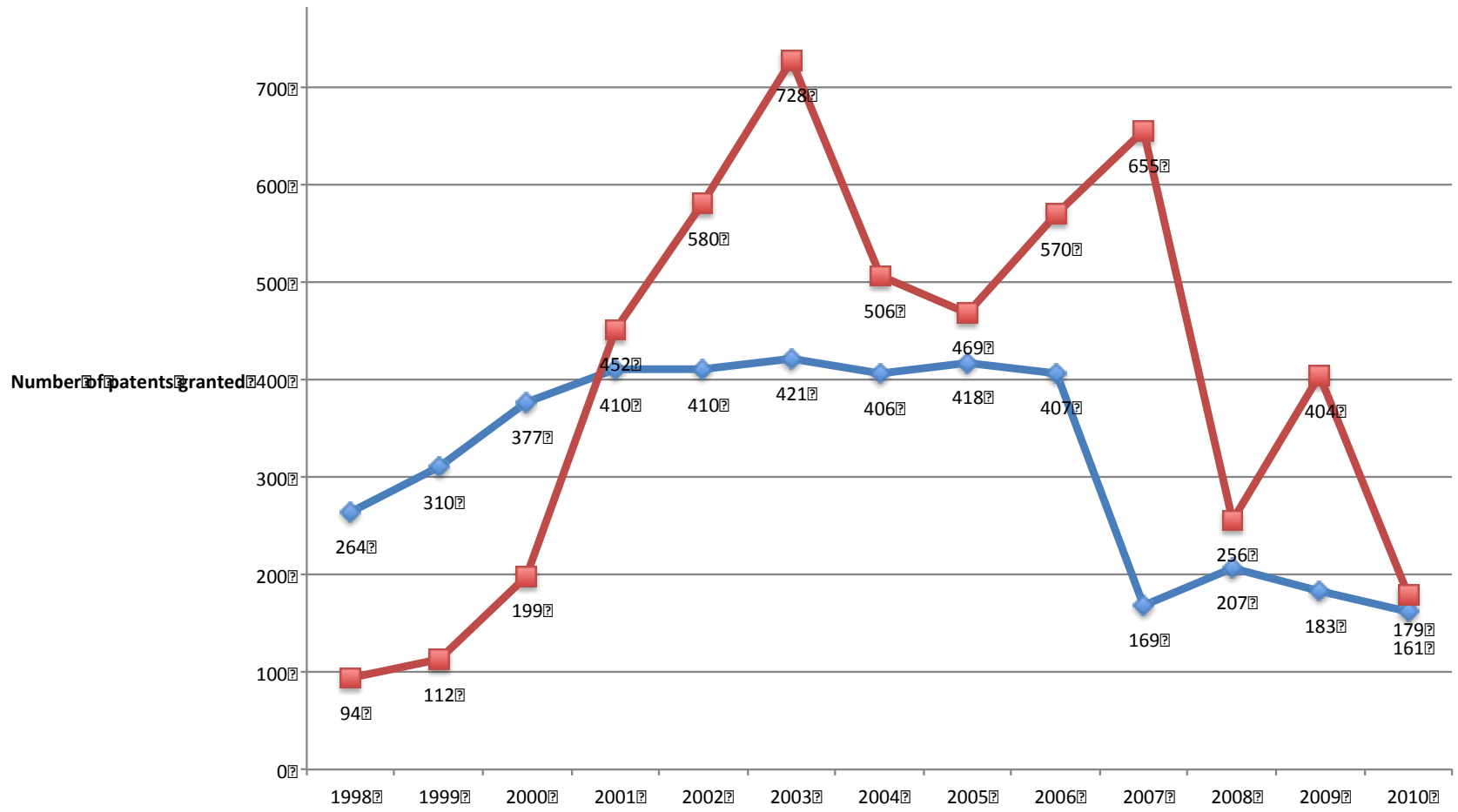


# Receipts, payments and net trade balance in the use of intellectual property rights



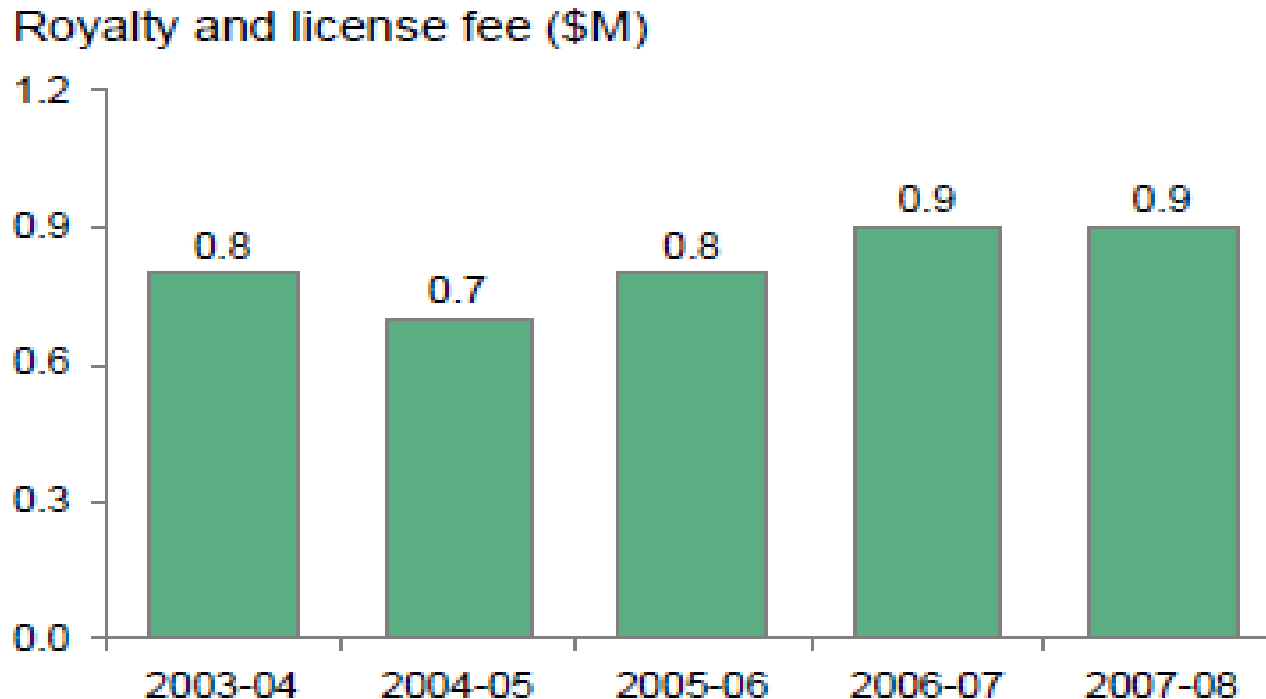


# Trends in foreign and domestic patent applications by CSIR, 1998-2010



# But royalty and license fee received has been stagnant

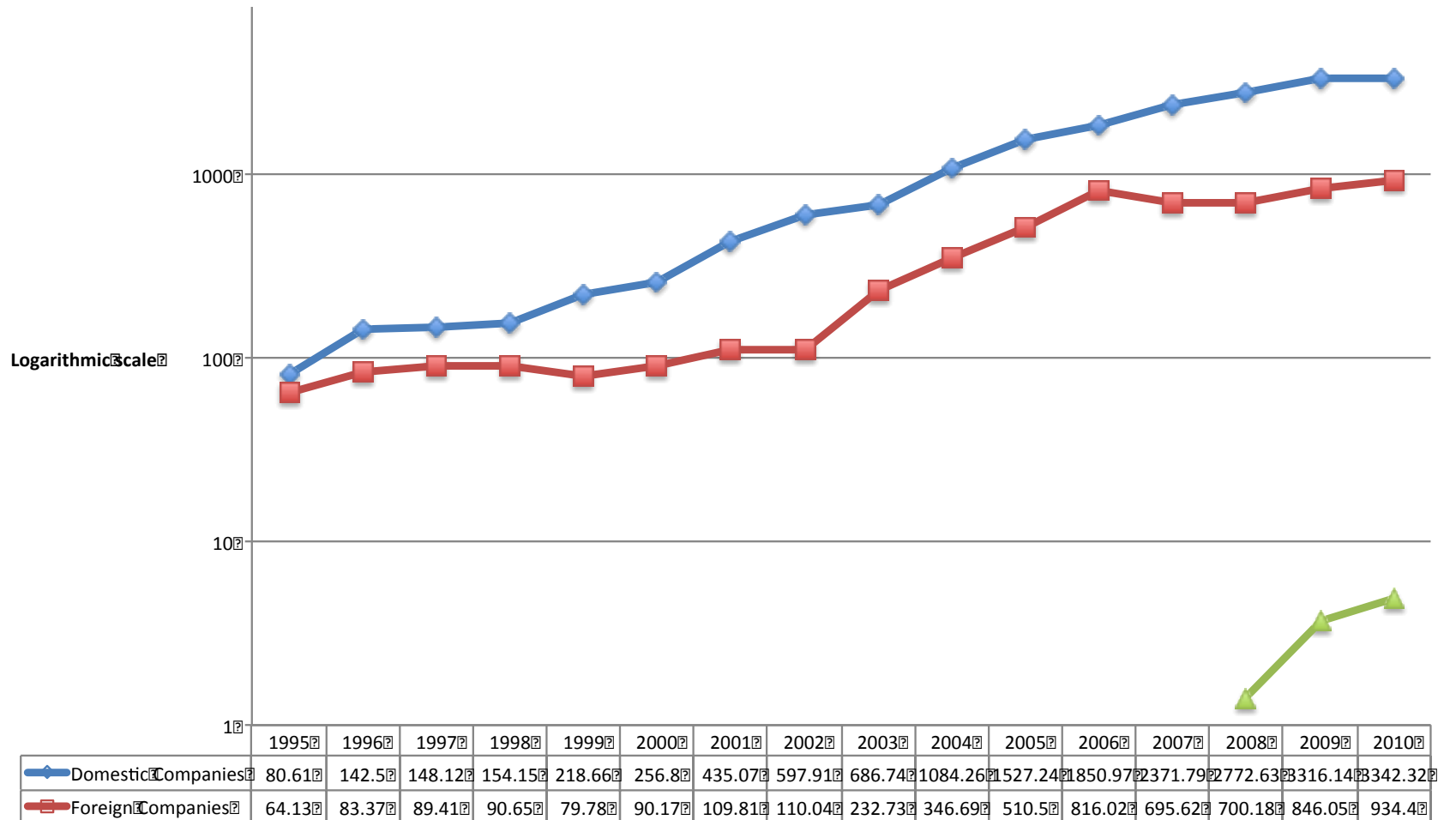
## Earnings from technology commercialization for NRDC<sup>1</sup>



# Other instances of emphasis on patenting

- Establishment of the Patent Facilitating Centre in 1995
- Becoming a contracting party in PCT in 1999
- Attempting to pass a bill on *Protection and Utilisation of Public Funded Intellectual Property (PUPFIP) Bill, 2008* before the upper house of India's parliament, the Rajya Sabha

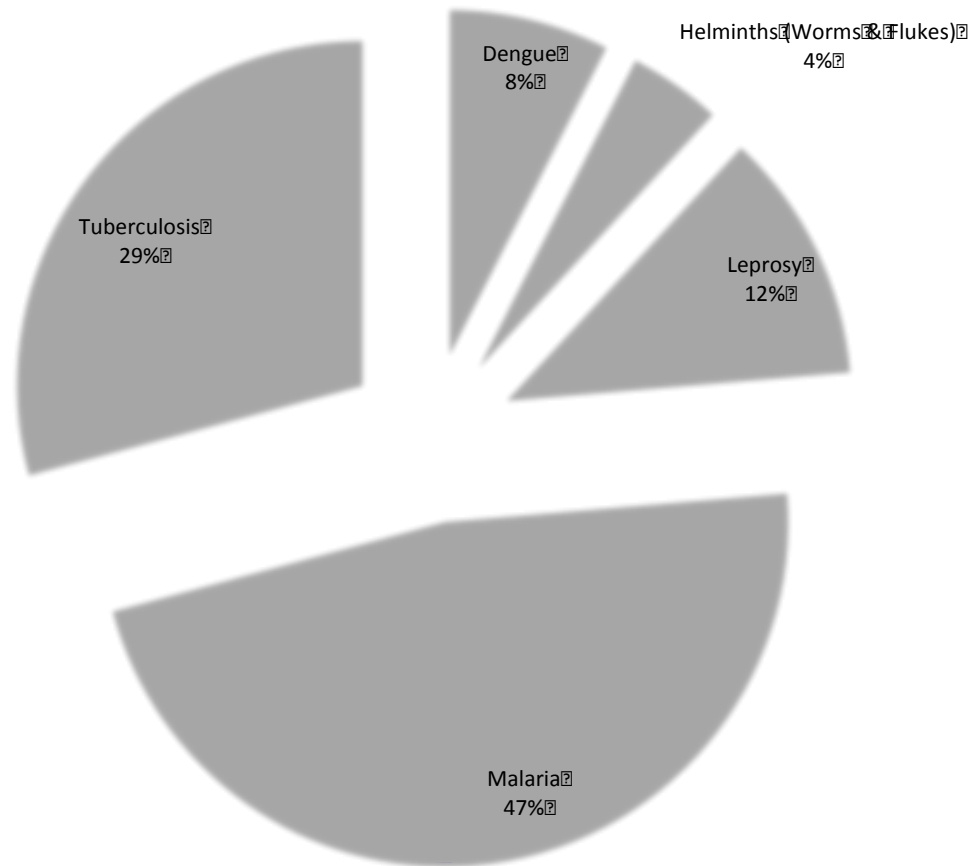
# Public R&D on NTDs is very low, but it has shown sharp increases



# Patenting of incremental innovations

- Recent attempts in India to have a policy on utility models (the draft of the new IPR policy recommends its introduction)
- Given that utility patents are better suited to protect IPRs for incremental inventions especially by MSMEs, this is a welcome step.

# Disease-wide distribution of public R&D on Neglected Tropical Diseases, 2008-2010



# **Clarity on patenting of traditional knowledge, medicinal plants and microorganisms**

- Establishment of the Traditional Knowledge Library (TKDL)
- The establishment of the TKDL has helped India to resolve patents that were issued abroad for technologies that were based on traditional knowledge
- Biological Diversity Act 2002
- Technical Expert Group on Patent Laws 2009

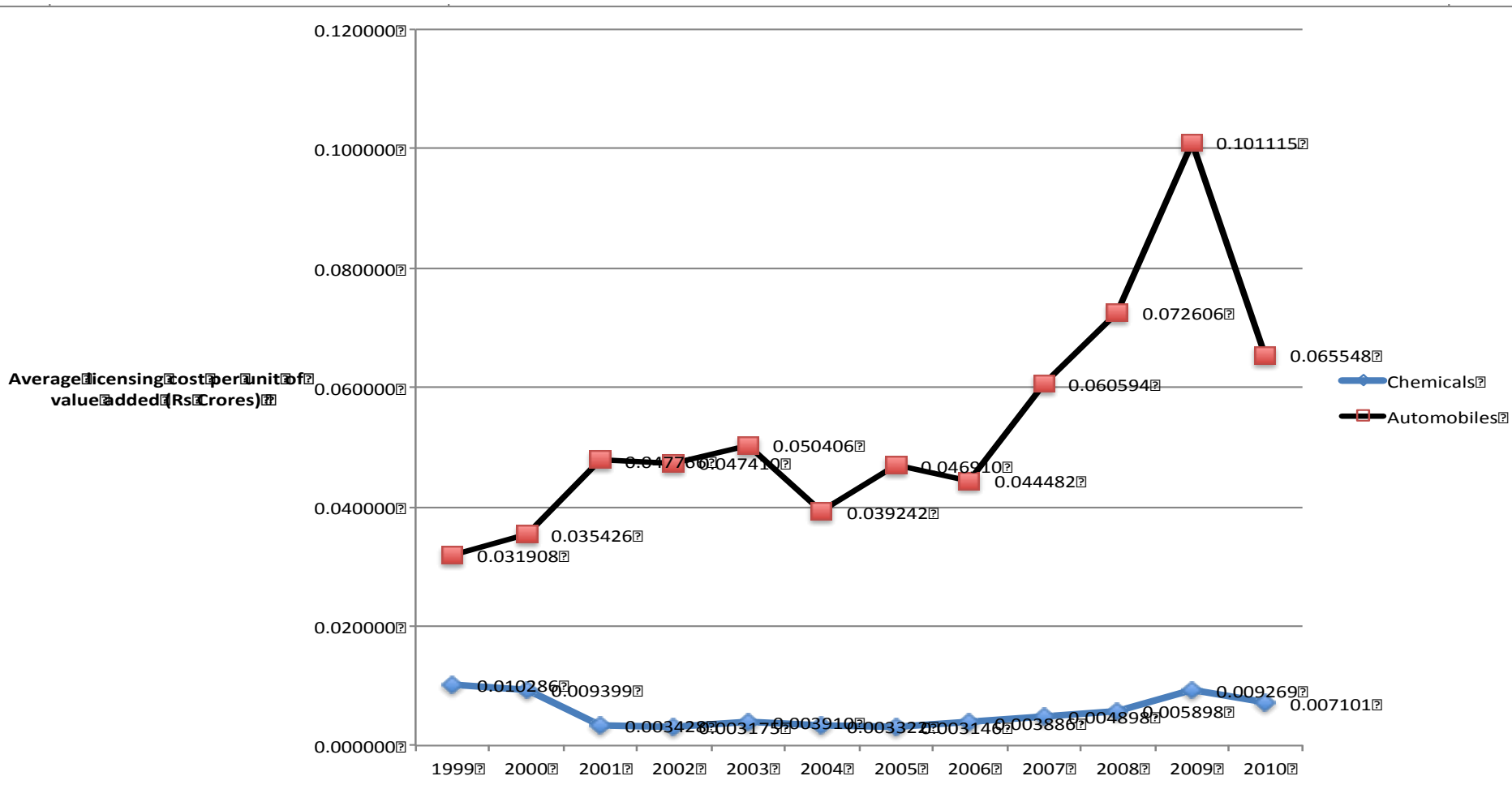
# TRIPS and disembodied technology licensing

	FDI cases	Foreign technology licensing agreements	Ratio of licensing agreements to FDI
1991	289	661	2.29
1992	692	828	1.20
1993	785	691	0.88
1994	1062	792	0.75
1995	1355	982	0.72
1996	1559	744	0.48
1997	1655	660	0.40
1998	1191	595	0.50
1999	1726	498	0.29
2000	1726	418	0.24
2001	1982	288	0.15
2002	1966	307	0.16
2003			
2004			
2005		90	
2006		86	
2007		81	

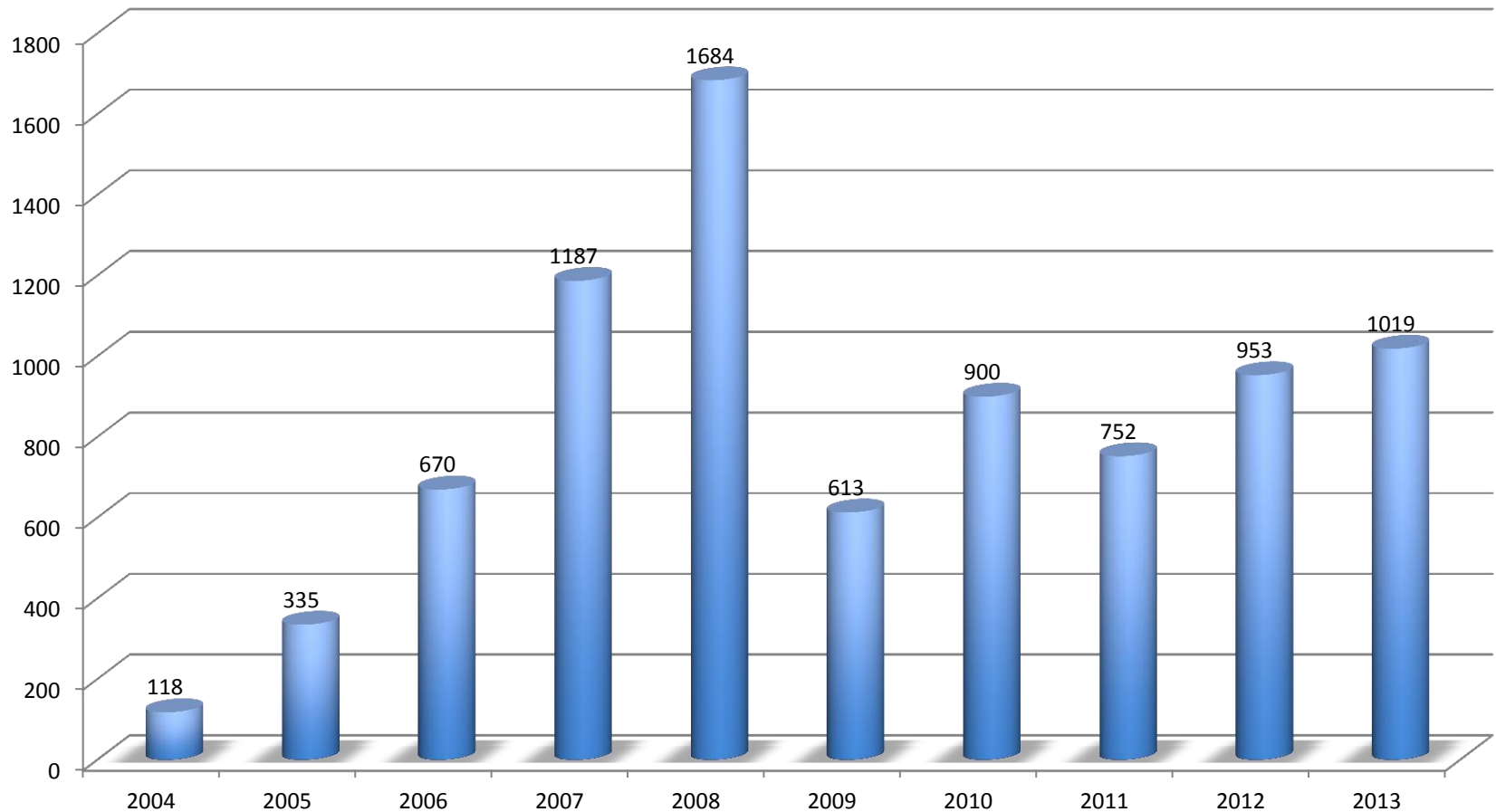


# Trends in licensing of technologies in Indian Industry: Automobile vs the Chemicals industry

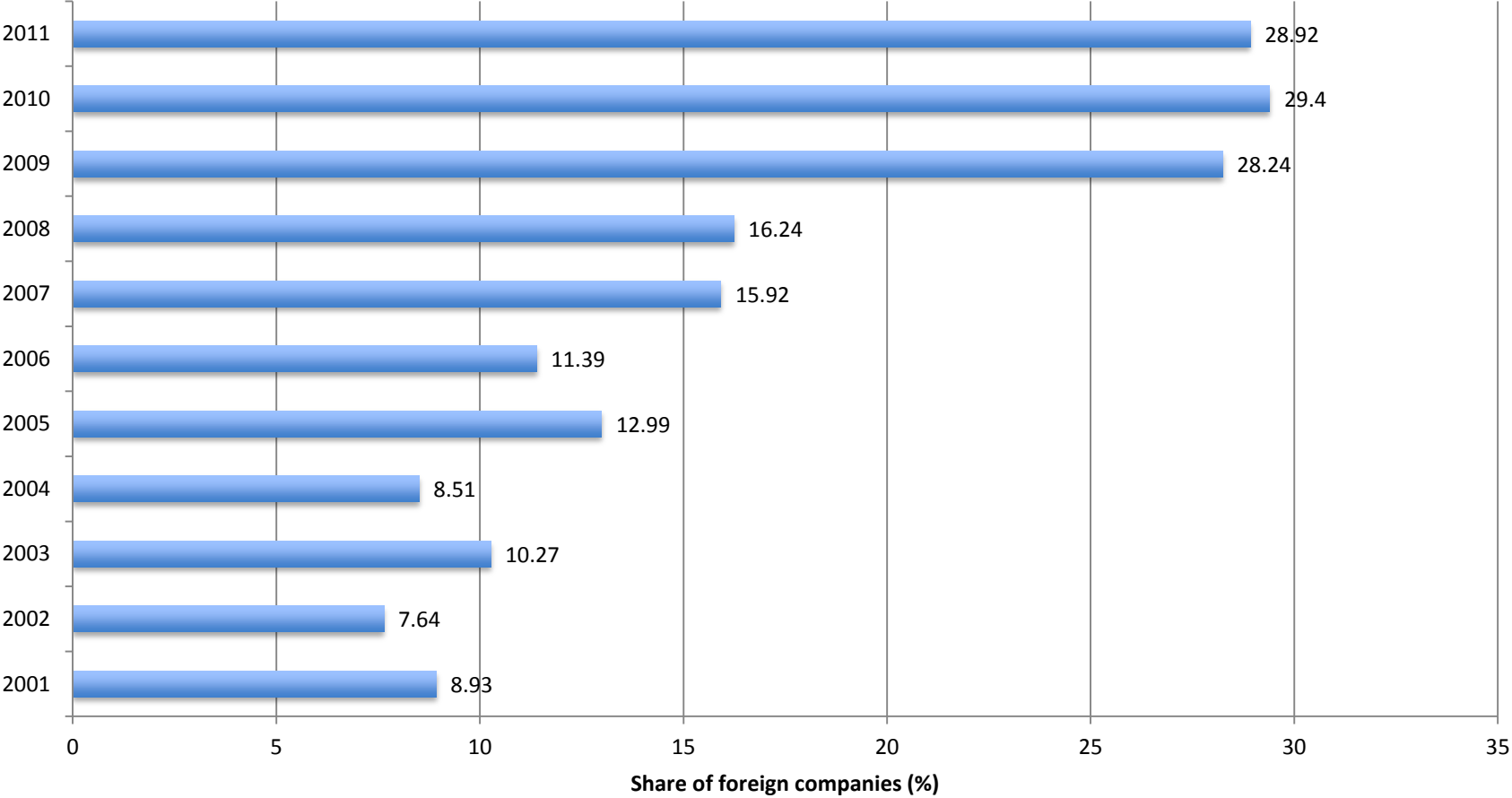
{Average cost of licensing of disembodied technology per unit of GVA (Rs in Crores)}



# Strengthening of the patents regime appears to have resulted in foreign R&D outsourcing to India



# Share of FDI companies in total BERD



## **Reform of the patent office**

- Before TRIPS compliance there was considerable time lags in the disposal of cases
- After TRIPS compliance there was modernisation the process has become transparent
- However even an examiner has to deal with 425 applications (as against 88 applications per examiner in the case of the US).

# Conclusions

Aspect	Finding
1. Emphasis on patenting	<ul style="list-style-type: none"><li>• Increased, but mostly by foreign enterprises operating out of India; IT is replacing pharmaceuticals as the top patentee;</li><li>• Encouragement of patenting by GRIs</li><li>• Become a contracting party to Patent Cooperation Treaty (PCT)</li></ul>
2. Patenting of incremental inventions	There is an active conversation on utility models
3. Research on Neglected Tropical Diseases	Some limited evidence of increasing R&D-
4. Clarity on patenting of traditional knowledge, medicinal plants and microorganisms	TDKL established
5. TRIPS and licensing of technology	Significant decrease in the number of technology licensing agreements
6. R&D outsourcing	Has increased
8. Reforms of the patent office	Delays have come down, easier to deal with, procedures more transparent although there are shortages of qualified patent examiners