



# The Spread of TeX in India

## *The role of Outsourced Typesetting*

**Ajit Ranade**  
**TUG 2003**  
**Kona**



# INDIA.



# Bird's Eye View



- 23 member coalition (5yrs), RBI governor (7yrs)
- forex management practices “amongst the best ” - IMF
- 220 of Fortune 500 outsource their work to India
- world's largest irrigated area, conducive climate
- lowest cost producer of aluminium, steel, copper, cement
- largest milk and tea producer, consumer in the world
- world's largest manufacturer of two-wheelers, CDROMs
- consumes a fifth of world's gold output

# Bird's Eye View (contd.)

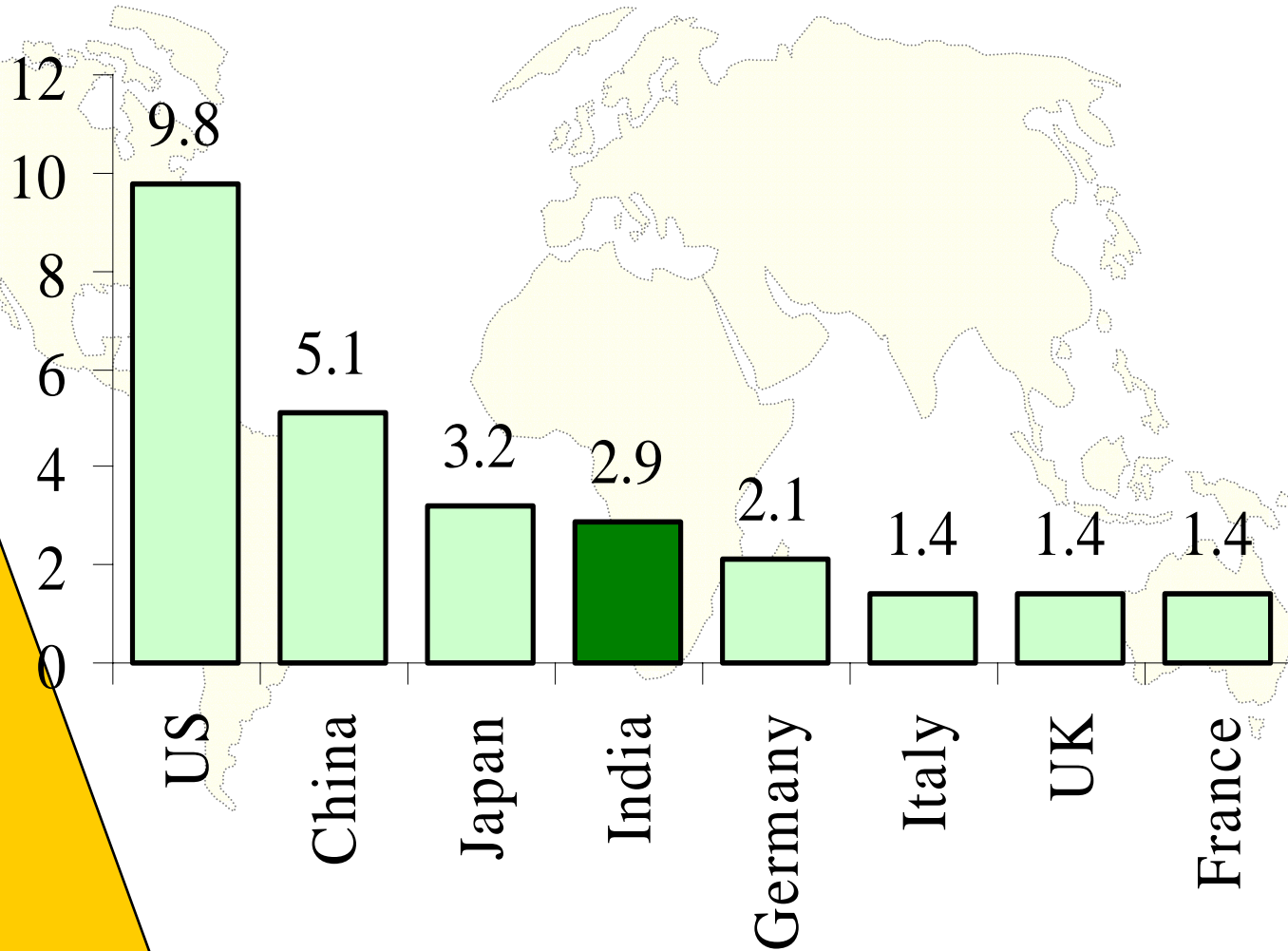


- largest number of pharma plants outside USA
- 90% of world's diamonds polished (80% by caratage)
- railways- largest employer (1.7m), largest network (63k kms)
- 70,000 bank branches, 150,000 post office branches
- ranked 6th in satellite launches
- 800 movies per year, more than Hollywood
- currently world's largest single highway project (13,000 km)



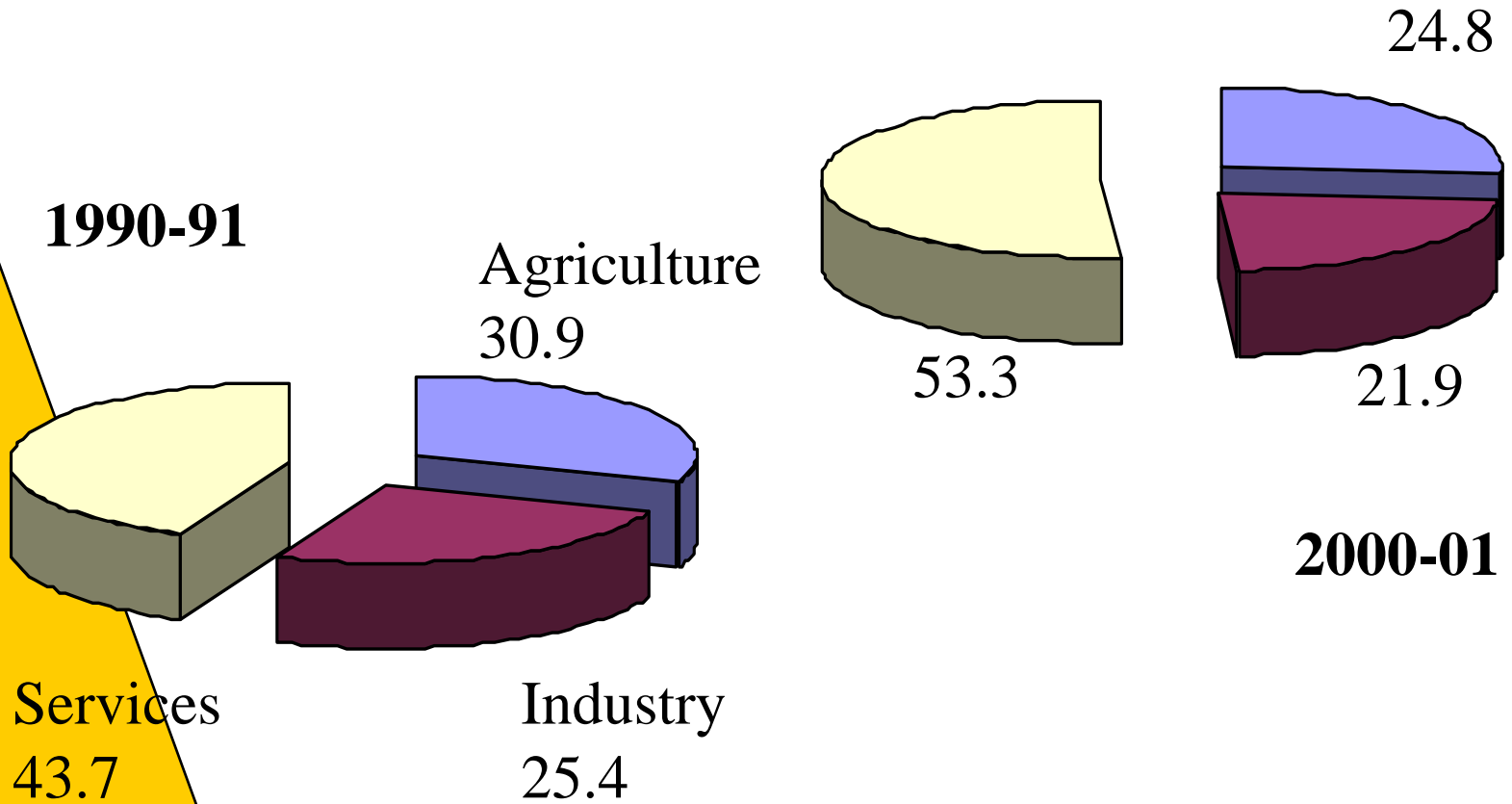
# PPP Adjusted GDP for 2002

(in \$ tr)





# High Service Sector Growth

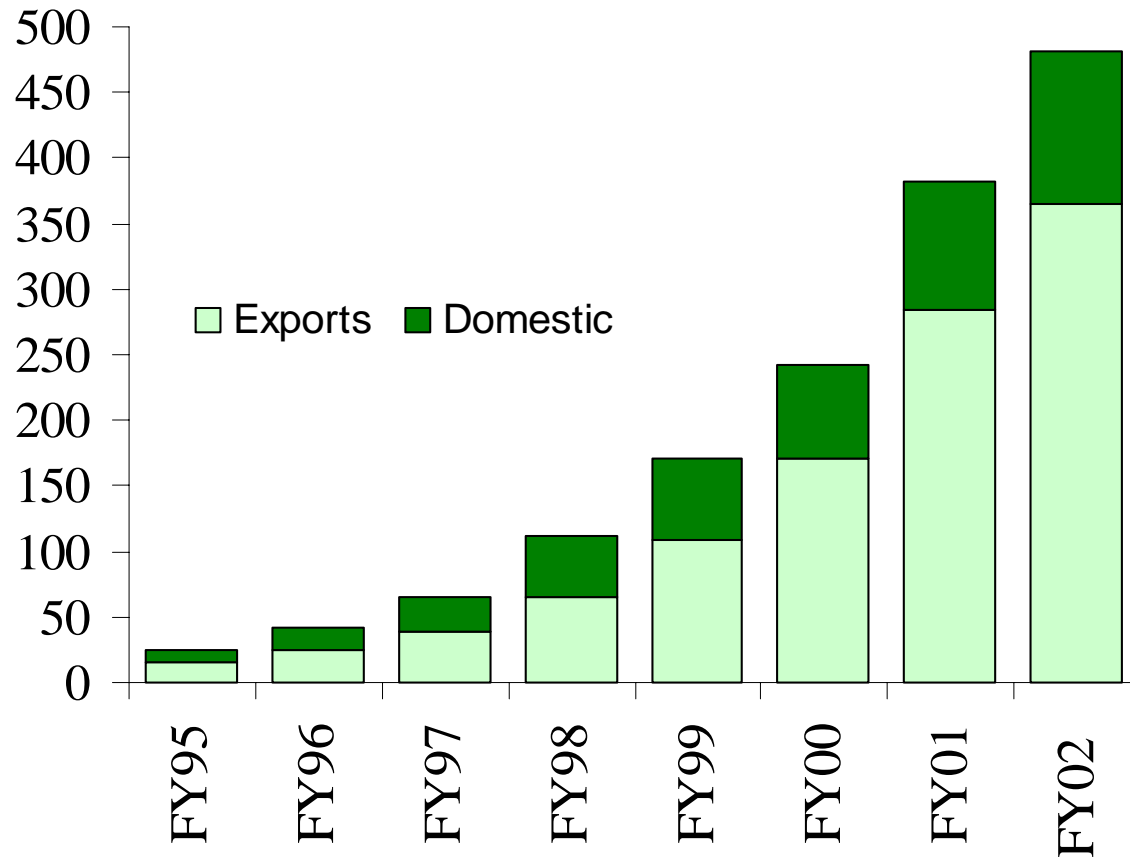


# Indian Software Industry



- accounts for about 2.4% of India's GDP.
- In FY01, its share was 1.5% of the global market (\$387 bn).
- In FY02, the size of the industry was Rs. 485 bn of which exports accounted for 76% and domestic software 24%.
- India exports software to 102 countries.
- An unexpected bonus of highly subsidised tech education?

# Size of Indian software industry (in Rs.bn)



FY02 (in Rs. Bn):  
Exports 368.5  
Dom. Market 116.3

FY02 Growth Rate:  
Exports -30%  
Dom. Market- 18%

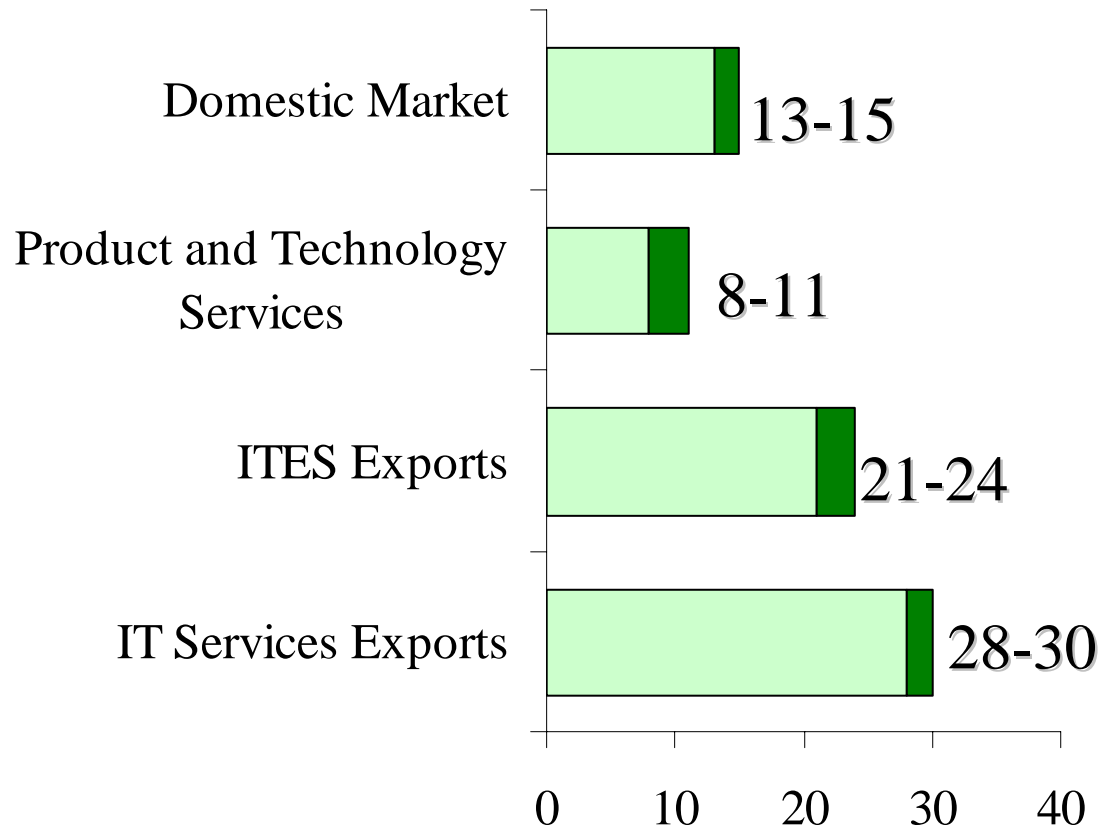


# IT Enabled Services



- Recently emerged as a major driver of software industry
- Covers services like medical transcription, customer interaction service, data digitization, back office operations
- In FY02, showed 70% growth (Rs. 70 bn)
- Employs over 100,000 people
- Accounted for 40% of all venture capital investment by end of 2002

# NASSCOM McKinsey Report 2002



NASSCOM Estimates for 2008 (in \$ Bn)

# TeX in India



- TeX Users' Groups of India is 6 years old
- Possibly the biggest free TUG (?)
- All 13 Indic scripts can be typeset in TeX (but only 10 of 5000 fonts free)
- an estimated 10,000 people work as TeXnicians
- Research and font development work almost totally done outside India in the past
- only one widely used TeX package done in India (*pdfscreen*)
- LaTeX tutorials popular
- pstricks tutorial has more than 1500 downloads in the first two days



# TeX and Scientific Publishing

- Market concentrated, estimated value US \$15bn
- Elsevier share about 40%
- total exports from Indian vendors for publishing as a whole is US\$ 100m, doubled in 3 years
- Scientific publishing much smaller part
- Training is a main bottleneck
- TeX may be loosing to newer technologies
- Very low cost accumulation of valuable archive database (through outsourcing)

# Some TeX India case studies



- Universities, research institutes
- Medialab Asia, Homi Bhabha Centre
- Centre for Monitoring Indian Economy
- M.G. Antarrashtrira Hindi Vishwavidyalaya

Outsourcing from foreign publishers (due to low-cost, flexibility, quality, turnaround time)

- TechBooks
- Focal Image India
- MacMillan, Thompson Press

# Features of TeX (non)spillover



- Business models do not encourage knowledge sharing (some vendors actually hide their TeX usage)
- But almost 10k people directly employed as TeXnicians (approx \$65 m incomes)
- in house training, fear of loss to rivals
- Inhibits new development, standards, Indic progress
- But Tugindia's growth is vibrant



# Issues to consider

- Public Library of Science - bypassing long term copyright restriction
- Is outsourcing throttling greater growth?
- TUG can facilitate momentum (e.g., recent Pune workshop)
- Indic TeX effort aided by government (telephone directories, railway timetable, school textbooks)
- rapid increases in non-English readership

# Outlook for Readership



- major book producing country
- greatest English language book buying potential in the world
- growing literacy, educational institutions, and purchasing power
- 248 m adults are literate but do not read any publication.
- FY03 may see a 20-25% sales growth in publishing





# Readership Surveys

- Sources: NRS and IRS
- growth more than 10%, high in the Hindi belt
- 180 m readers, Kerala 70%, Bihar 15%
- average exposure only 16 minutes to media
- Dainik Bhasker, Jagran now largest dailies
- readership of dailies growth faster than literacy growth during 1999-2002
- 48% readership in 6 lakh villages

# Indian Readership



The reach of the press: 1999-2002						
	1999			2002		
	U+R	Urban	Rural	U+R	Urban	Rural
Adult population (millions)	620.3	183.5	436.8	680.5	200.0	480.5
Index				110	109	110
Any publication	164	89	75	179	96	83
Any daily	131	76	55	155	88	67
Any magazine	94	51	43	86	47	39
% reach of						
Any publication	26.4	48.6	17.0	26.4	48.1	17.4
Any daily	21.1	41.4	12.6	22.9	43.8	14.2
Any magazine	15.1	27.7	9.8	12.8	23.5	8.3



# TeX in India: Looking Ahead

- Increasing market-share in publishing, higher billing rates and volumes
- Catering to domestic publishing demand
- technical documents in Indian languages
- standardised encoding for all Indic scripts
- right-click on a ps file to transliterate in any Indian font
- Open Type fonts for all Indic scripts
- more TeX development from India



# TeX in India: Looking Ahead (contd)

- Marriage of Unix/Linux localisation with TeX, also merge into Indic-computing effort
- same language subtitling
- e-books, simputer, text-to-speech
- training and outreach (the travelling TUG secretariat, summer schools)
- leveraging open-source (a la sunshine and solar devices)
- But will outsourcing decrease?

# Backlash against outsourcing?



**KINDER STATT INDER ?**

eine online aktion gegen armseligen unfug

**Americans get on Net to protest outsourcing**

UK retail chain Tesco to  
move 350 IT jobs to India

# Listen to the market

## Outsourcing





**Thank You!**