

ICT: Implications of imbalanced growth*

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An often remarked upon feature of India's growth is the premature diversification of aggregate production in favour of services at a relatively low level of per capita income. But the fact that services account for more than half of the country's GDP and around 60 per cent of the increment in GDP is not seen as a cause for concern. Rather, the still small share of manufacturing and large share of services, is often presented as evidence of India's pursuit of an alternative development strategy attuned to contemporary times where services dominate the economy.

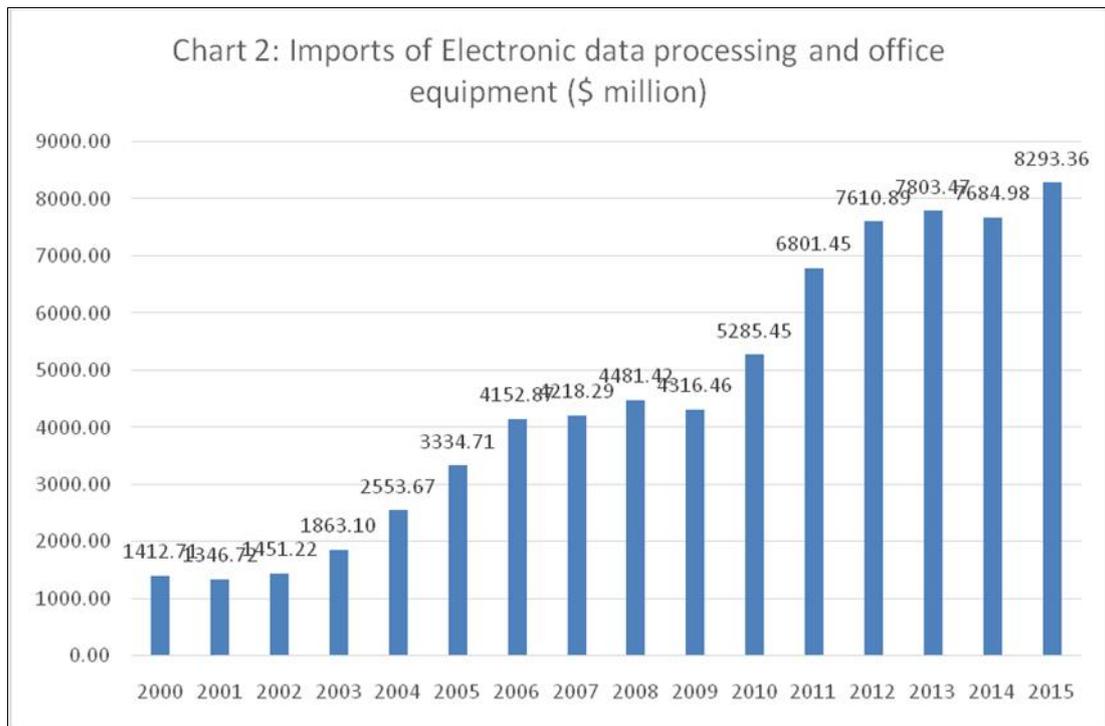
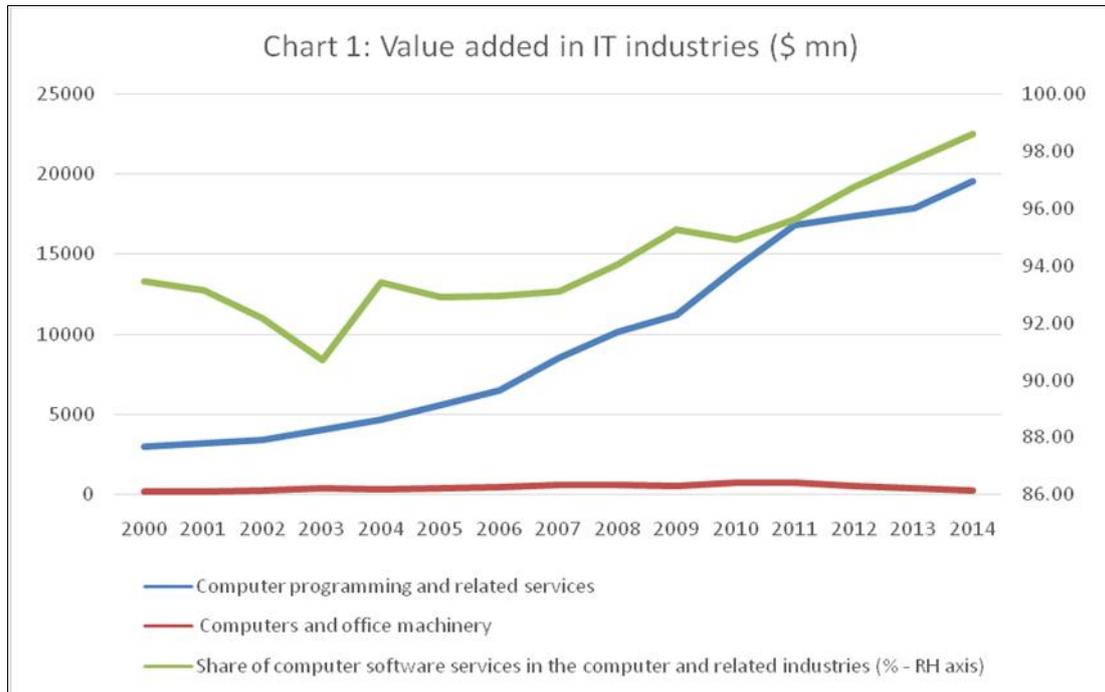
One reason for this complacency is India's indisputable success as a software services exporter. But what is missed in this assessment is that despite the objective of becoming self-reliant in small and micro-computers set by the Homi Bhaba Committee in 1963, India's performance as a hardware producer has been dismal. The result has been lopsided growth in software accompanied by stagnation in hardware. Thus, a special study by the Central Statistical Organisation undertaken in 2010 found that while the share of the ICT sector (including IT-enabled Services or ITeS) in GDP had risen from 3.4 to 5.9 per cent between 2000-01 and 2007-08 (India's high growth years), the share of ICT services in ICT GDP had risen from and already high 89.5 per cent to 94.2 per cent during those years.

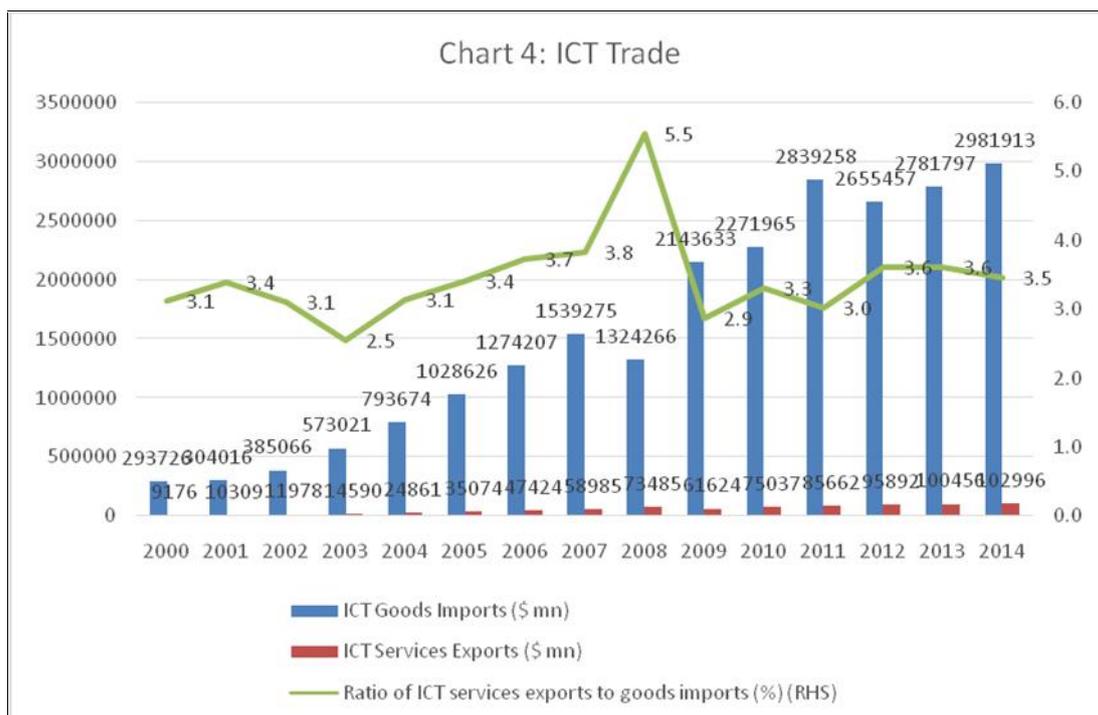
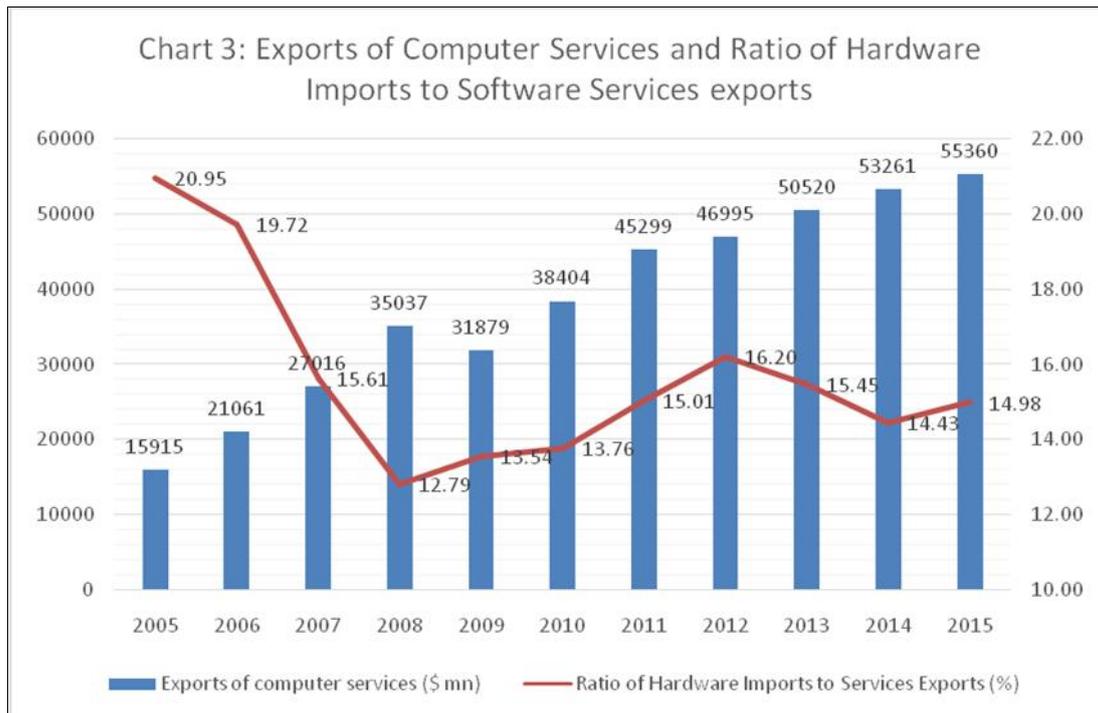
More recent data from a special tabulation done by IHS Global Insight for the National Science Foundation of the US suggests that this trend of lopsided growth focused only on ICT services has continued. Thus, while value added (or revenues minus non-labour input costs) in India's Computer programming and related services industry (which excludes ITeS) rose from \$2974 million in 2000 to \$19568 million in 2014, that in the sector producing computers and office machinery after rising from \$209 million in 2000 to \$775 million in 2011, fell to \$281 million by 2014 (Chart 1). The overall picture was one of stagnation in the latter industry, with the share of the former in value added in both activities put together rising from 93.4 per cent to 98.6 per cent between 2000 and 2014.

Unfortunately, the stagnation in domestic hardware production has occurred in a period when computer use has been rising rapidly in the country and the government has been pushing for computerization—in its own departments, in the banking sector and among the public at large. As a result, even by 2012, India was among the top 10 countries in the world in terms of personal computer use, with an installed base of 57 million PCs. According to the International Telecommunications Union the percentage of households in India with a computer rose from 6 per cent to 13 per cent just between 2010 and 2014. This rapid expansion combined with the large size of the population that is still digitally excluded points to the possibility of an explosion in hardware use.

The consequence of the combination of stagnation in production and expansion in use, according to data from the WTO, has been a significant increase in the imports of computer hardware. Thus, imports of Electronic data processing and office equipment rose from \$1413 million in 2000 to \$4481 million in 2008, and after a marginal fall in

crisis year 2009, resumed its climb to reach \$8293 million in 2015 (Chart 2). This climb is bound to continue and even gather pace.





It is in this light that India's success as a software services exporter has to be assessed. While it is true that exports of computer services have risen from \$15,915 million in 2005 to \$35,037 million in 2008 and then (after the 2009 fall) further to \$55,360 million, the pace of growth has slowed sharply in recent years (Chart 3). According to Reserve Bank of India data the rate of growth of the combined exports of software and IT-enabled services has fallen from 20.8 per cent in 2012-13 to 14.9 per cent in 2014-15 and to a low of 7.3 per cent in 2015-16. Not surprisingly, WTO data suggest that the ability of the IT sector to earn the foreign exchange needed to finance imports

of IT hardware has been shrinking. The ratio of computer hardware imports to exports of computer services, which was falling prior to the 2008 financial crisis, has since shown signs of rising.

The problem is that the failure to develop a domestic hardware base is not restricted to computers alone but is characteristic of the information and communications technology (ICT) sector as a whole, which is increasingly the sector of relevance given the rapid spread of mobile telephony and the substitution of communication devices for many operations earlier conducted with computers. Overall imports of ICT hardware into India have soared, especially after the boom in mobile telephony. On the other hand, overall ICT exports are still constituted largely of and been driven by IT- and IT-enabled services. Thus, once we shift attention to the ICT sector as a whole, the shortfall in software export earnings relative to expenditure on hardware imports is not an imminent danger, but a current affliction. The ratio of dollar earnings from ICT services exports to expenditure on ICT hardware imports has fluctuated between just 3 and 4 per cent in all but one year over the last decade.

Thus, while India's foray into software and IT-enabled services exports has been remarkable, that growth has not just been slowing, but loses a lot of its lustre when seen in light of the dismal performance of the country in hardware production. An emerging problem is that while India's foreign exchange outlay on importing computer hardware is rising sharply, earning from Software and ITeS exports is slowing. This problem associated with lopsided growth is in fact disturbingly serious when the area of analysis is broadened to the high growth ICT sector as a whole. Hence, the performance of the ICT sector is by no means evidence that services growth can substitute for manufacturing growth. Not only is ICT a small component of the economy, but lopsided growth even in this small segment can have extremely adverse balance of payments implications.

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