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THE SUSTAINABILITY OF INDIA'S COMPARATIVE ADVANTAGE IN IT OFFSHORE OUTSOURCING

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Abstract

In an increasingly competitive business environment characterized by more globalization, deregulation and technological advances, companies have been looking for ways of differentiating their products and services and also rethinking their business model through leaner operations and reduced costs. In this context, a new practice that has recently gained a lot of attention is the offshore outsourcing of information technology (IT) activities and services. It has become an increasingly attractive proposition to companies and organizations in industrialized countries. The most often cited benefit of such a practice is its cost-effectiveness; i.e., the ability of having business tasks or processes performed in an offshore country (most often in India) at an equal quality but significantly reduced cost than doing them at home. This paper presents the benefits and concerns in IT offshore outsourcing and discusses the sustainability of the comparative advantage that India has as the leading offshoring destination in the world. It argues that the currently low wages of skilled IT staff in India may be eroding over time and companies will be shifting their attention to other value-adding benefits as opposed to looking in offshoring countries for just lower cost provision of IT tasks and services.

Key words: Offshoring; Offshore Outsourcing; Information Technology; Economics of offshoring; India; Sustainability.

1 INTRODUCTION

Before we delve into the practice of IT offshoring, its benefits and the concerns that it created, it is important to define the meaning and scope of this concept as well as the main characteristics that differentiate it from some other related concepts. Several definitions of offshore outsourcing have been suggested in the literature. In this paper, we define *offshore outsourcing* as the practice of hiring an external organization to perform some or all business functions in a country other than the one where the product will be sold or consumed. The concept, as defined hereby, can be contrasted with *that of offshoring*, in which the functions are performed by a foreign division or subsidiary of the parent company. Another related concept is that of *business process outsourcing* (BPO), which involves the migration of services to an external provider. Offshore outsourcing encompasses R&D, manufacturing, IT, and back-office services. BPO includes call centres, finance and accounting, human resources, and transaction processing.

Offshoring is a 'trade phenomenon' arising when non-tradable services become tradable across frontiers owing to enabling information technology, and is neither to be mixed up with the case when "a firm in Boston closes down its plant and moves production to Bangalore" (Bhagwati et al. 2004), nor in the example cited by Samuelson (2004) where a sharp, and admittedly improbable, increase in the productivity in China of the good in which the US had a comparative advantage is shown to reduce the latter economy to a position of autarchy with reduced real income.

However, clearing up this semantic muddle over outsourcing, "restricting the use of the offshore outsourcing phraseology to the trade in services on line" (Samuelson 2004) would in our view not help in clarifying the real issues that are giving rise to the protectionist sentiment in the US and the glee in India over their new found advantage. The latter is *both* comparative advantage a la Ricardo (for offshore outsourcing) *and* the location advantage (for offshoring) that is pushing multinationals to invest in India and source their production of services there, for example in the healthcare, finance, accounting, and legal sectors, and also open R&D labs there too.

The reasons for the above phenomenon (and indeed too for the Samuelson example of a tradable service flowing outwards from the US ceasing to do so, if and when that happens) are quite simply the growth of skills in the IT sector in India *without growth of wages of its manpower at the same speed.* We will not join the chorus of economists who argue that in this "roulette wheel of evolving comparative advantage" (Samuelson 2004), free trade and even foreign direct investment involving capital mobility (excepting under extreme improbable circumstances), provide net welfare gains all around though the possible short-term harmful effects of income redistribution are well admitted. We largely agree with them and have nothing to add. In this paper, while we will briefly look at the situation in the US, the stridency and vehemence of the protectionist sentiment there and question whether in the aggregate there are any job losses at all in the IT sector there, the sustainability of these skill advantages in India, in view of the shifting wage productivity linkages and the capital labour mix of its IT-enabled software and BPO would merit greater attention.

2 DETERMINANTS OF OUTPUT AND COSTS

At the outset, we would like to clarify that the somewhat theoretical discussion below does not break any new ground in economic modelling; rather it is intended to recapitulate the concepts that underpin the subsequent discussion on competitiveness issues and its major determinants of factor input costs and productivity, especially the respective roles of capital per worker and total factor productivity in determining output per worker.

Consider a firm with the production function Y = f (L,K), where L and K are the two factors of production, labour and capital respectively. It can purchase the required inputs L and K in competitive markets at given prices of w (wages) and r (cost of capital). Thus its cost function would be:

$C = wL + rK.$

The optimisation propositions would be to either:

Minimise C, given $Y=Y_{0,}$ or its dual problem: Maximise output Y, given cost $C=C_0$.

We can establish using the Lagrange multiplier technique (which we will not!) that such maximisation (minimisation) takes place when the combination of inputs is selected such that the ratio of its marginal products (MP_L and MP_K); i.e., the additional unit of output associated with one more unit of that input, is equal to the ratio of the input prices, i.e.:

$MP_L / MP_K = w/r.$

One implication for this equality to hold is that in instances where the rate of change of w is faster relative to r, labour inputs must necessarily decrease (so that MP_L increases); i.e., the industry becomes more capital intensive. However, it may be that it cannot. This means that we have to add another constraint, namely that L cannot be less than a certain minimum L_O for the output to be produced at all, and if that quantity L exceeds the optimum combination of L and K inputs, then the equality breaks down, the minimum cost condition is not met, and in all likelihood the firm will not be able to compete in the marketplace. In fact it is widely accepted that service sectors such as software development, health care and financial services where we observe this offshore outsourcing phenomenon still require a fair amount of the "human touch" (substantial L at low w) to deliver.

We assume that changes in capital-related costs when one shifts from in-house to outsourced solutions are insignificant as compared to the wage differentials. These differentials then could be a primary cause in explaining the potential outsourcer's quest for getting part of his production done at a lower cost location in order to reduce his costs, C, given the same output, Y, or expand Y in case of expanding demand (higher prices) keeping costs, C, constant, or a combination of both. Wages of skilled IT staff in India are a fraction, one fourth to one fifth, of those in the US. Whether they are likely to remain so is another issue to which we shall return later. For the moment, this discussion highlights the role of "w" in the offshore outsourcing phenomenon.

However, this is only one determinant of optimal production. It may be useful to now look at another vital determinant of competitiveness, whether of a country or of a firm, which is the productivity of these inputs. In this context, concepts of labour productivity and total factor productivity (TFP) could be briefly re-visited. TFP is defined as the growth rate of output minus the growth rate of the combined inputs of labour and capital. Going back to the same growth function cited above, assuming the function F(L,K) to be of the form $Y= A.L^{\alpha}.K^{(1-\alpha)}$ where □ is the share of Y paid to labour and (1- □) the share of Y paid to capital assuming that there are constant returns to scale; i.e.,

$\alpha + (1- \alpha) = 1$, though there will be diminishing returns between the uses of L and K in different combinations. Using logs and calculus:

$dY/Y = dA/A + □.dL / L + (1-\alpha).dK / K$

If we wish to see this from the labour productivity perspective (Y/L), with a little maths, we get:

$d(Y/L)/Y/L = dA/A + (1- □)d(K/L)/K/L.$

This is an insightful equation: it says that output per worker can rise for two reasons:

a. Rise in total factor productivity, A or TFP; and

b. Rise in capital per worker (K/L).

The A factor therefore highlights the possibility that labour productivity is dependent not only on the capital available per worker but also on some other variables which result in different labour productivity growths across countries even though the capital available per worker is similar. These other variables include:

- Quality of capital (level of technology, technical progress), and
- Efficiency of factor resources utilisation, which in turn would depend on quality (education, training level) of labour, management practices, external environment, etc. These are popularly captured in studies by business consultancy firms that discuss, and measure indices of, offshore attractiveness by terms such as 'business environment' and 'people skills' as we shall see.

We can now look at the situation in India from these perspectives.

3 THE STATIC PICTURE – INDIA TODAY

Let us first look at costs. That India is a low-wage cost location can be well established as can be seen from Table 1 below:

Rank	Country	Pay* (in US$ 000)
1	Switzerland	161,9
2	**Germany**	126,7
4	Japan	112,3
7	UK	105,7
14	**US**	89,1
35	*Philippines*	*20,7*
34	***India***	*26,5*
33	***Bulgaria***	*28,8*
32	*Malaysia*	*28,8*

*****Total pay includes base pay and bonuses.

Source: Mercer Human Resource Consulting Survey (2005), extracted from http://www.finfacts.ie
Table 1. Highest and lowest paid IT managers

Another survey (STC India 2005 Salary Survey) gives not surprisingly slightly different figures concerning US/India comparisons, but we can see in this Table 2 the more marked wage gap between the two economies for junior (0-2 and 2-5 years experience) personnel – ratios of US/Indian salary increasing from 3 to 7 as one moves down to lesser skilled/experienced resources. This has some messages perhaps for future scenarios that are discussed later:

Years of Experience in Technical Communication	Sample Size		Mean Salary (US$)		Ratio of US to India Salary
	India	US	India	US	
0-2	145	32	6306	41690	7
2-5	184	341	9721	52290	5
6-10	98	541	16078	62950	4

11 and above	11	916	27859	72160	3

Source: STC India Salary Survey, 2005

Table 2. US/India Salary Comparisons

As for the productivity perspective, various studies have been conducted in recent years attempting to measure TFP in Indian manufacturing (Monga 2004, APO Survey on Total Factor Productivity 2001/2002-National Report India, Trivedi et al. 2000, Virmani 2004, to name only a few). Most of them suggest, albeit with actual estimates that differ in each study that TFP growth picked up in the post-reform era of the 1990s. This is discussed more in section 5. As for the role of capital (by which term we could include technology) in improving labour productivity is concerned, the vital question here is to look at, firstly, the extent to which the growth in capital per worker (K/L) is contributing to "technical efficiency". One can work to maximum technical efficiency with superbly trained and motivated workers. However, if the latter are working with low-speed modems, for instance in exchanging data, this efficiency will not be able to yield the output of even less- technically efficient teams working with state-of-the-art high bandwidth modems and routers in their IT infrastructure. This aspect of leaping across technology frontiers is captured in the diagram below:

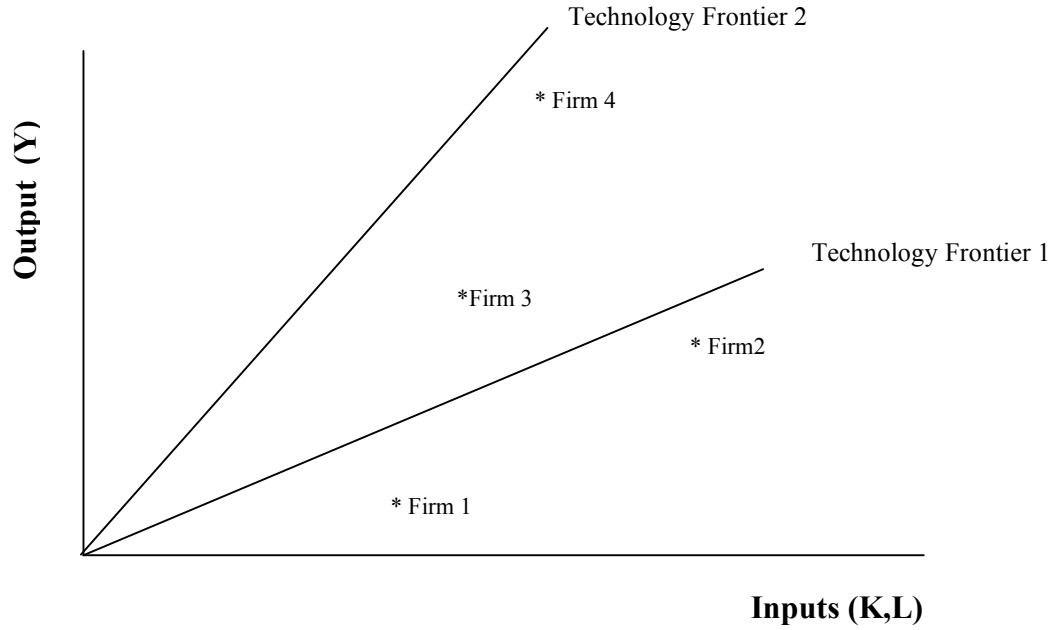

Figure 1. Firm input/output and technology frontiers

It is again assumed that there are constant returns to scale, so the technology frontier lines are linear. Thus within the limits of technology frontier 1, firm 2 is performing optimally (technically efficient) and should be benchmarked by the other players (like firm 1) who are technically inefficient in that they are well below the optimum limits of output at each level of K and L inputs. However, if firms have access to technology 2, they leap frog to higher levels of productivity. It can be seen that even though firm 3 is technically inefficient, it is still better performing than the star of the old technology space. It is firm 4 that is almost optimally exploiting available technology and using it with high technical efficiency.

Firms in India, big and small, with or without foreign equity, span all across these technology spaces. Overall however there is no dearth of independent evidence in the form of surveys and reports made

periodically by consultancy firms (McKinsey, Forrester Research, AT Kearney, etc.) that laud the "location advantage" of India as an outsourcing destination, signifying therefore that there is an upward movement towards use of state of the art technology with increasing efficiency (total factor productivity. It may not be unreasonable to state that they are in a sense a proxy for the revealed comparative advantage of India over its competitors. Thus, AT Kearney (2005) place India at the top of its list, measured as a combined score of three factors: cost structure, people skills, and business environment (including risk factors). It cites, "India remains the best offshore location by a wide margin ahead of China, although wage inflation and the emergence of lower-cost countries decreased its overall lead (from 2004)". This comparative advantage over other countries includes the following (Confederation of Indian Industry, 2004):

- A large and stable economy, growing annually at the rate of 7% and more;
- Liberalised policy regime within a strongly entrenched democratic framework;
- Second largest pool in the world of scientific and technical manpower, English speaking;
- Large market and well-developed distribution channels;
- Buoyant service sector with robust financial and capital markets; and
- Well-developed legal system, respecting property rights.

4 DISCUSSION, DEBATE AND FURORE ABOUT OFFSHORING

Studies, surveys, debates, opinions and analyses in political, public, media and academic circles on the future scenarios of the "offshore outsourcing phenomenon" seem to be evenly divided in terms of the positive and negative effects on the respective economies of the US and India. Thus for example, Forrester Research, as reported by Associated Press (2004) increased its estimate of how many U.S. service jobs will go offshore in the near-term to 3.4 million jobs leaving the US by 2015. As commented by Alan Reynolds (2004), "To put such a blue sky projection in perspective, the Economist magazine noted that the US routinely loses about 30 million jobs every year (millions of workers even quit) but gains even more. The business press failed to notice Forrester is not talking about a net loss of jobs at all. In order to do so, it would require serious economics…".

Similarly, Bhagvati (2004) estimates that "… outsourcing could not have accounted for more than 65,000 job losses per year. As a proportion of the 15 million voluntary job losses per year over the past decade in the United States, this loss is just 0.4 percent." The Economist (11 December 2003) quotes a study made by the McKinsey Global Institute according to which "Everyone's a winner": the US is getting a net benefit of $1.12 - $1.14 per dollar spent offshore and India is deriving a net benefit of $0.33 (mainly labour, profits and suppliers).

The question here is: Who is listening? It finally seems to be a symptom of the well-known "pains of trade", the undeniable job losses, the (in) famous income distribution effects of trade gaining the upper hand over the free trader's "gains from trade" view. When in today's information society media coverage brings this pain to people's living rooms, the long-term view that overall there will be gains from trade seems rather remote and irrelevantly long term. Also if a distinguished Nobel Prize laureate, Samuelson, calls this eventual adjustment process to a positive welfare gain mode "an innuendo" and writes instead about possibilities of permanent real income and terms of trade losses, then the cause of "free traders" seems to be somewhat bleak, judging from the present overheated debate.

5 COMPETIVENESS ISSUES OF OFFSHORING IN INDIA

Turning to India, let us look at the picture by examining what is happening to the major determinants of competitiveness in supplying outsourced services. The following link between labour productivity (MR_L), wages (w), and prices (P) in nominal terms comes into play:

$MR_L = W / P$, or $P = W / MR_L$

However, we want to study W in the global context, hence exchange rates also have to be taken into account. Substituting W/E for W, where E is the nominal Indian Rupee/US$ exchange rate, to get the wage rate in dollar terms, and looking at the rate of change across time t, we can differentiate and obtain:

$dP/dt = dW/dt – dE/ dt - d(MR_L)/dt$

This equation tells us that incremental increases in prices or decrease in competitiveness (we use price as a proxy for competitiveness) is directly related to increases in wages, and inversely related to increases in labour productivity and depreciation of the Rupee. Or, to put it more straightforwardly, Indian offshoring competitiveness is directly related to the productivity of its skilled labour and inversely affected by rising wages, but corresponding depreciation of its currency helps in neutralising wage rise effects in foreign markets.

Dealing first with the exchange rate factor, the value of the Indian Rupee during the last five years has been steady; hovering around Rs.45 to the Dollar; i.e., there has been no compensating depreciation during this period unlike previous decades. On the contrary, the Rupee has started a slow appreciation against the Dollar, and if thanks to rising exports of IT-driven software and BPO services in particular and of manufacturing and other service sectors (like travel and tourism) in general, India's current account improves and per-capita income continues to rise, then further appreciation of the Rupee, albeit slowly, could be expected. This however would not adversely affect India's competitiveness if the trade weighted real exchange rate remained steady.

Looking next at wage trends, of late concerns have been expressed about the accelerated rise in India of white collar salaries (not confined only to IT professionals) in the recent years. The DataQuest-IDS Survey for 2004 estimates an average hike of 17% over the previous year. A news item in Rediff online magazine reports that salaries in India are projected to rise in 2005 by 11.3% (that is 7.3 % above the inflation rate), more than anywhere else in the world. The following table (Watsonwyatt 2004) gives a clear picture of the recent continuously rising trend of salary increases in India, perceptibly higher than the cost of living index (CPI):

	2000	2001	2002	2003	2004
GDP	6.1%	4.0%	5.4%	4.6%	6.7%
CPI	5.5%	5.0%	4.5%	3.8%	4.0%
Salary Increase	15.0%	15.0%	11.4%	12.3%	11.9%[1]
Variable Bonus[2]	15.0%	16.5%	12.0%	10-30%	20%

Source: Watsonwyatt (2004)

Table3. Salaries and inflation trends in India

[1] Figures are for management level employees.

[2] Figures are a percentage of total guaranteed remuneration minus variable bonus.

It may be pointed out that the above mean salary increase conceals the much sharper rise in wage levels of senior managerial level IT resources - about 23%, according to a NASSCOM strategic review as reported in a Deutsch Bank Research study (2005). Recalling Table 2, this explains how the wage ratio US/India in this segment has shrunk to only 3 as compared to 7 in the junior segment. Clearly pressures are building up in this highly skilled sector, leading to a situation of scarcity and high turnover. The obvious prescription is to pay greater emphasis on upgrading the quality of the 130,000[3] skilled IT graduates expected to pass out from Indian Universities to the level attained in the 7 Indian Institutes of Management, as, according to this study, "only 10-20% of these graduates possess the required skills". That one can expect this upgradation to happen need not be considered an optimistic scenario, rather it could be a plausible one given the track record of energetic and sustained support the Indian authorities have given to higher technical education and to the IT sector in the past decade.

Overall then, despite the recent sharp rise of wages, could we say that India is not in danger of losing its comparative advantage? The answer is not easily forthcoming in our opinion. Influences of demand and supply functions, both in the global marketplace and in the fast growing domestic economy, which we have ignored, would also have to be studied in order to answer this question with any degree of rigour. It is however too daunting a task to try to juxtapose this, on the one hand, with any reasonable forecasts of demand for such services in India and worldwide and, on the other hand, gauge the future capacities of the competition. Such issues are clearly outside the scope of this paper[4][5].

However, the story is not complete until we get back again to the productivity issue, the other crucial component of competitiveness. Table 4 (Reserve Bank of India 2002-2003) reveals a somewhat worrying trend. Firstly, despite market reforms, the post 1991 period actually showed a drop of TFP growth although other studies give a different view and confirm a rising trend (Virmani 2004). If true, this could be for a variety of reasons, including relatively higher investments which initially depress both TFP and capital productivity, waiting for labour and technology to go down the learning curve. In fact, more worrying is the negative trend in capital productivity growth. Taken the two together, it would mean that labour, already abundant, is becoming more efficient, going to firm 2 levels in the graph in Figure 1, but capital productivity growth is lagging behind for lack of sufficient investment, including foreign direct investment (FDI). These facts may be restraining the leap to higher technology frontiers to firm 3 and firm 4 levels. This seems to be borne out by the abysmally low level of FDI - of the order of $3 billion per annum in India (Reserve Bank of India 2004-05) - whereas it is of the order of $50-60 billion in China (UNCTAD 2004). It is highly probable, extrapolating from evidence of increased domestic investment levels and sharply accelerating FDI in recent years of the 21st century (no rigorous surveys are yet available), that the negative trend has been reversed.

Growth Determinants	1980-1990	1991-2000
Total factor productivity growth	3.9	2.1

[3] According to India's National Association of Software and Service Companies (NASSCOM), the Indian manpower pool in the offshoring sector is estimated to be 500,000 and expected to grow at the rate of 150,000 per annum, judging from admissions to institutions offering IT courses at graduate level.

[4] A NASSCOM-McKinsey study (2005) mentions that they have "built a sophisticated systems dynamics model to study the interplay of these forces (supply, demand ramp-up and industry conduct)", and discusses in this context the challenges India faces of demand growth slowing down, potential shortage of skilled workers, and the need to "continuously innovate" to neutralise the cost rising wage costs. We could not have access to this model.

[5] Global Insight, in a recent study (2005) has attempted to measure cost savings for US firms associated with offshoring and concludes that "costs in India and other offshoring destinations..., will only slightly erode the average cost savings in 2010", when these companies can expect to save an average of 34.9%. It also makes the point that while such outsourcing "displaces some IT workers", 337000 net new jobs will be created by 2010 and GDP would be $147.4 billion higher.

Labour productivity growth	6.5	7.8
Capital productivity growth	1.3	-0.7

Source: Reserve Bank of India, 2002-2003

Table 4. Measures of productivity growth

A recent study, Virmani (2004), attempts to examine data up to 2003-2004, but with severe and acknowledged data paucity handicaps. It makes the observation that "TFP growth in other services (financial, real estate and housing as well as business, personal and governmental services) remained the largest contributor to aggregate TFP growth (though the change in it was small). Further, more detailed work needs to be done to identify the productivity drivers in the service sectors." Indeed, further research is called for, and at the most we can cautiously and tentatively conclude that in the post 2000 phase, there appears to be a trend towards higher growth of labour productivity, to which however TFP (in other words increasing levels of professional skills of the workforce, their knowledge of English, etc.) is the dominant contributor, not capital employed per worker. However, when we speak of Infosys Technologies, or WIPRO, or TCS they seem to be performing at the peak efficiency with the latest technology, representing firm 4 in the above diagram. In any case as far as this study is concerned, all that we can say for certain is that at a broad level, looking at statistics that confirm, both quantitatively and qualitatively, the ever growing pool and competence of knowledge workers in India, its institutions like the Indian Institutes of Technology (IIT), its knowledge parks in Bangalore, Hyderabad, Mumbai and Chennai; the increasing supportive role of government particularly in this sector; the phenomenally increasing deposits of patents in the recent years; the recognition of India's comparative advantage by an increasing cohort of multinational enterprises through their presence and depth of activities in India; and so many similar indicators, there could be little doubt that TFP growth has picked up at a more accelerated pace in the IT and business services sector than in other sectors.

On a more solidly positive note, when looked at from the point of view of labour productivity growth and labour hours worked, the Conference Board (2006) makes interesting comparisons between the US, EU, Japan, China and India as can be seen in Table 5 below. Both in labour productivity growth and total hours worked during the period 1995-2005, India (3.9%; 2.1%) is ahead of US (2.4%; 1.0%) and the EU (1.7%; 0.7%):

	US	EU-15 (old)	EU-10 (new)	EU-25 (enlarged)	Japan	China	India
Labor Productivity Growth (GDP per hour, annual average, percent) 1987–1995	1.1%	2.3%	--	--	2.8%	4.7%	4.3%
1995–2005*	2.4	1.4	4.4%	1.7%	2.0	5.6	3.9
Growth in Total Hours Worked (annual average, percent) 1987–1995	1.6%	0.0%	--	--	0.1%	3.2	1.7
1995–2005*	1.0	0.9	-0.2%	0.7%	-0.8	1.1	2.1

India and China refer to labor productivity measures as GDP per person employed and total employment—Source: The Conference Board, Executive Action**,** 2006

Table 5. Summary Estimates of productivity and labour input growth

There is a final cautionary message. It is quite possible that in the future, with increased automation (pushing our imagination to the point, for instance, when responses to customers' queries can be interactively attended to with pre-recorded and pre-anticipated human responses at call centres), the capital content of the IT software and business services sector in the US and in other developed countries can slowly increase and start replacing labour. Recalling the discussion on output and cost optimisation, in

such a case there may be no need to add a constraint, a lower limit, on L and in that case the now capital-intensive output could be delivered optimally at a higher wage rental (w/r) ratio. We call this the "Swatching" phenomenon in reference to what happened in the late 1980s, when the lower market end of the Swiss watch industry was threatened with extinction in the face of competition from Japan and South East Asia, as the emerging quartz movement technology favoured low- wage economies, being labour intensive in assembly operations. The response was "Swatch", a product issued by a highly automated injection moulding process and requiring minimal high- wage Swiss labour content. When we add this dimension to the earlier discussed rising wages and not so fast rising productivity of Indian deliveries, it would amount to signalling a message of a "double squeeze" for the Indian IT offshoring sector.

To sum up, while this discussion does not conclusively point to either the continued sustainability or erosion of India's competitive advantage in IT offshore outsourcing services, what is relatively clear is that as competition intensifies with China and a long list of other offshore service providers develop their capabilities, not least the new entrants in the enlarged EU, the price/cost factor alone can no longer be a reliable proxy for competitiveness. The battle for market share in the future will be fought more on factors such as 'business environment' and 'peoples skills' (ATKearney, 2005), altering the relative importance of the lower wage cost factor. These are captured in the total factor productivity issues discussed in this section. Here too one can see some evidence that the trend is positive, though far more vigorous efforts will be required - given the Indian government's very pro-active and supportive role in further developing the IT offshoring sector, one could end the discussion on an optimistic note.

6 CONCLUDING REMARKS

In this paper, while we agree with the position taken by free trade advocates that there are gains overall, the dynamic view that although in the short run there could be trade losses and sectors hurt (Samuelson 2004), in the long term there are net gains as history bears out. In fact, the earlier doomsday predictions, for example in manufacturing (such as the threat in the 1980s that Japan and South-East Asia would pose to the US and Europe) and in IT (such as the threat after the Year 2000 computer scare of seeing a dominant portion of IT activities moving to India) did not come true. The authors of this paper believe that down the road, the IT offshore outsourcing is rather a win-win proposition for the main stakeholders involved. The latter are fivefold:

- the investor (or shareholder) for whom IT offshore outsourcing is a powerful way to reduce his/her company's cost structure without compromising the quality of its products and services; thus using this approach as a competitive weapon in the market place;
- the consumer whose benefit increases due to lower prices, yet an equal value proposition;
- the retained employee of the company in the industrialized country that outsources its IT activities since without such an action, the company may not be able to remain competitive and therefore survive the increased competition especially due to rivals that do outsource;
- the hired employee in a developing country (such as India) for whom IT offshore outsourcing created new jobs in the market; and
- the developing country's government for which IT offshore outsourcing is an important means of economic and social development.

In this paper, we questioned whether due to IT offshore outsourcing in the aggregate there are any job losses in developed countries (such as the US). We also discussed whether due to its low-cost IT skills, India's comparative advantage in IT offshore outsourcing is sustainable over time in view of the shifting wage productivity linkages and the capital labour mix of IT-enabled services. We argue that in order to sustain its world-wide lead in this sector, India will not in the long run be able to strongly benefit from offering just low-wage IT skills (a comparative advantage that is bound to erode over time) but will need

to develop higher-value capabilities that leverage a strong knowledge-based expertise. Doing so will enable India to change the 'rules of the game' in IT offshore outsourcing and remain the prime destination in this domain for large companies and multinational firms.

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