ICT PROFESSIONALS IN THE UK AND OFFSHORE OUTSOURCING

A SUMMARY OF MATERIALS

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CPHC

January 2005

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INTRODUCTION

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The report that follows contains a set of summaries and discussions of material which is relevant to the issue of offshore outsourcing ('offshoring', 'geosourcing', etc) of ICT work, as it affects the ICT workforce in the UK. This literature is a difficult one to summarise, and the account given here is by no means a comprehensive survey.

Offshore outsourcing is a new and swift-moving activity. Most documents are almost inevitably outdated as soon as they are published, and new papers, events and media reports appear constantly (three major reports appeared in London alone during November 2004). In addition, the phenomenon itself changes at a breathtaking pace. For example, news stories often report offshoring as if it were primarily 'about' moving low-skilled work (e.g. call-centre operations) to India. Yet now, trade organisations in India and China are looking to develop on activities higher up the 'value chain' (e.g. legal research and ICT) while the 'lower skilled' offshore work goes to new locations such as Malaysia or the Philippines.

Research on offshore outsourcing in ICT tends to concentrate on the USA rather than the UK. This may be because offshoring of *white collar* work has a longer history there, and its impact has been particularly strongly felt in regions where employment in the technology sector is concentrated, such as California. While the research on the impact of outsourcing in America is to some extent applicable to the UK situation, it would be unwise to make too many direct comparisons. It is almost certainly true to say that offshore outsourcing in service industries has been a more controversial (and widely publicised) political issue in the USA than in the UK, although this may well change in the next few years.

Where offshore outsourcing has become a topic of public debate in this country, discussion has focussed largely on call centre work, rather than ICT. In other words, the potential impact on *graduates* has not necessarily entered any public discourse of which potential university students and their parents are aware.

Work on IT is beset by a number of problems. Identifying a realistic 'normal' level and spread of employment in computing is extremely difficult because the growth of the sector has paralleled the development – and abandonment – of numerous new technologies. It would be unrealistic to assume that employment in ICT is going to grow in the next twenty years at the rate which it has enjoyed since the 1980s. In addition, the short history of ICT employment includes several large-scale 'booms', one of which (the Y2K phenomenon) was inherently time-limited. Mobile communications and e-business may well prove more stable in the long-term, but it is extremely difficult to predict patterns of work in a field where the 'bread and butter' technologies of the coming decades are themselves in their infancy.

Add to this the fact that offshore outsourcing itself is a new area, whose technical and human practicalities are still being developed, and the absence of strong predictions, or agreement between those forecasts which are offered, is not surprising. The comparisons with manufacturing industry are of relatively limited usefulness; ICT and manufacturing skills are qualitatively different, the relationship between 'production' and R&D is more complex, and the politics of large-scale job loss in the white-collar workforce are also new territory.

Finally, disinterested voices are difficult to find in this debate. The issues are emotive; words like 'globalisation', 'development', 'unemployment' and 'protectionism' are hardly neutral. Should the 'impact' of offshore outsourcing on a nation's economy be expressed in terms of the productivity of companies based in that country, or the number of people who gain or lose employment in the sector affected? The potential 'bias' of groups such as employer or commercial organisations and trades unions can easily be guessed, but it would be difficult for anyone, economist, journalist or academic, to approach this matter with complete objectivity.

ONE: THE UK ICT WORKFORCE

1:1   How many ICT workers are there in the UK?

The main source of information on employment in the UK is the Labour Force Survey[1]. This is based on a quarterly survey of a random sample of 60,000 households, and the data thus gathered is seasonally and annually adjusted, and projected for the UK population as a whole. Job titles are coded into 'clusters' of related work. E-skills UK produces a quarterly *Bulletin* which includes an analysis of LFS data relating to the ICT workforce. This provides a figure for the total number of employees whose work falls into the following groups:

ICT managers
ICT strategy and planning professionals
Software professionals
Operations technicians
Computer engineers
User support technicians
Line repairers and cable jointers
Telecoms engineers

The following professions are excluded: computer officers, computer hardware design engineers, computer-aided designers, computer artists, multimedia designers, web designers, computer instructors and trainers, web support officers, computer administrators, IT administrators, computer clerks, computer data controllers, computer assistants, computer shift leaders, computer control supervisors and engineers, database inputters and clerks, and desktop publishing professionals. In some cases these exclusions are made because the occupations involved are considered to require ICT user skills rather than ICT professional skills (for example, database inputters are no longer included, although at an earlier stage they were). Others are believed to use other skills (e.g. design skills) more centrally than ICT skills. The current LFS classifications (Standard Occupational Classification 2000) do not include any roles in e-business or e-commerce.

According to the *e-skills UK Bulletin,* in the first quarter of 2004 (Q1/04) there were around 944,000 people employed in IT professional occupations in the UK. If 'line repairers and cable jointers' and 'telecoms engineers' are excluded (because their employment sector might be regarded as telecoms rather than computing), the total is around 884,000, distributed thus:

ICT managers – approximately 246,000
IT strategy and planning professionals – approximately 140,000
Software professionals – approximately 280,000
Operations technicians – approximately 110,000
User support technicians – approximately 66,000
Computer engineers – approximately 42,000

Overall, trends within the ICT sector are towards stability and [very] cautious optimism. In Q4/03, **redundancies among ICT professionals declined slightly**, falling to just below 10,000 from just above that figure in Q3/03. This was the second consecutive fall, following a rise from around 10,500 in Q1/03 to around 12,000 in Q2/03. Redundancy levels are now similar to those for 2001, following a rise to around 14,000 in Q2/02. They fell sharply to 10,000 in Q3/02 and then remained stable until the slight rise in mid-2003, now reversed.

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[1] A guide to the conduct and theory of the LFS is available at:
http://www.statistics.gov.uk/downloads/theme_labour/What_exactly_is_LFS1.pdf

Among people normally employed as **ICT professionals, the unemployment rate dropped to just below 4% in Q4/03**. This is a fall of around 0.75% from the previous quarter, and the lowest rate for the year. In Q2/01 unemployment was very low indeed, at just over 2%. It then rose steeply, peaking first at around 4.1% in Q3/02, dipping to around 3.75% in Q4/02, and then rising steeply to around 4.5% in Q1/03. The unemployment rate for the whole UK workforce at present is 5.1%.

The number of **vacancies advertised in the press or on the internet rose by 4% in Q4/03.** This represented a slight rise from the previous quarter, although numbers have been fairly stable since Q4/02 (when they were very slightly lower than at present). This followed a dramatic fall between Q1/01, when they stood at around 380,000, and Q4/02.

In the most recent quarter, there were **sharp increases in demand for both permanent and contract staff**, with particularly notable rises in the following areas:

Permanent
Internet staff – up 32%
Systems developers – up 12%

Contract
PC support staff – up 24%
Internet staff – up 21%
Programmers – up 19%
Networking staff – 18%

The number of vacancies for ICT staff advertised through Jobcentre Plus also rose throughout Q4/03, and **agency demand for both permanent and contract IT staff rose rapidly throughout the second half of 2003**.

In Q2/04, the tone of the E-skills UK *Bulletin* is extremely positive: 'Happy days are here again… After the generally positive outlook noted for quarter 4 2003, the latest data shows more of the same, particularly with respect to ICT employment prospects'.

1:2   *How has the number of ICT employees changed over time?*

What is interesting about the data in the *Bulletin* for Q1/04 is how small the overall change has been since 2001. In fact, **the figure indicated for Q2/01 is precisely the same as that indicated for Q4/03: 940,000.** This was followed by a rise of 4000 at the beginning of 2004, although the increase in the number of ICT rather than telecoms professionals is larger, as the number of telecoms engineers and line repairers and cable jointers fell by about 8000.

The *Bulletin* for Q2/04 suggests that in early 2004, a trend can be observed '… which… highlights software professionals and operations technicians as occupations in **decline**… by contrast, the number of workers classed as ICT managers and ICT strategy and planning staff has been following an upward trend during the past two years'[2]. This suggests that the shift towards a demand for management skills alongside technical ones, as predicted in the recent report from Gartner. Alongside this, however, it is important to remember that almost half a million people are still employed in the more 'technical' areas, and that two of these fields show at worst a modest decline and at best stability.

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[2] *e-skills Bulletin*, Quarter 2 2004, p.6

For Q2/01 (the earliest date for which disaggregated figures are offered in the *e-skills UK Bulletin*), numbers in the various computing sectors was as follows:

ICT managers –200,000
IT strategy and planning professionals – 130,000
Software professionals – 320,000
Operations technicians – 115,000
User support technicians – 70,000
Computer engineers – 40,000

Overall, then, the number of **ICT managers has risen dramatically**, from around 200,000 in Q2/01 to 243,000 in Q4/03, with a peak of about 255,000 in Q4/02. The number of **Software professionals** has fallen, from around 320,000 in Q2/01 to 275,000 in Q4/03. There was a sharp drop to around 280,000 in Q2/03, followed by a rise over the next two quarters to about 290,000. However, numbers then fell again, with the sharpest fall between Q3/03 and Q4/03.

Other fields show less change, although there has been some variation within the period surveyed. In Q2/01 there were around 130,000 employees in **IT Strategy and planning**. Numbers dipped to Q2/02, but began to rise again immediately and rose quite sharply to a peak of around 135,000 in Q3/03. There was a small drop to 131,000 in Q4/03. **Operations technicians** numbered around 115,000 in Q2/01 and around 130,000 in Q4/01. Numbers remained relatively stable until Q3/02, after which they fell to around 115,000. They have remained stable ever since, and in Q4/03 stood at 116,000. There were around 68,000 **User support technicians** in Q2/01. Their numbers peaked at about 70,000 in Q3/01, but with minor variations have remained stable, with a slight fall in Q4/03 to 64,000.

The number of **telecoms engineers**, while peaking at around 66,000 in Q2/01, has now returned to about 54,000 in Q4/03. This represents a slight rise from Q3/03. The number of **computer engineers** has also remained very stable, now standing at 43,000. This is almost identical to the figure for Q2/01. The highest peak for this group was in Q3/03, when there were just under 50,000 working in the UK.

1:3 Current skills shortages

According to the e-skills UK *Bulletin* for Q4/03, 'you just <u>can</u> get the staff, you know'. 12% of ICT firms had vacancies (around 26,000 positions), but only **3% of *all* ICT firms had vacancies which were proving difficult to fill due to a lack of candidates with a suitable skills profile** (across all sectors, 4% of firms experienced 'skills shortage' problems with recruitment for the same period). When the 3% of firms with these difficulties in the ICT sector were questioned about the type of skills involved, their needs emerged as follows:

Technical/practical skills – 46%
IT professional skills – 43%
General IT user skills – 21%

These figures, however, relate to under 1.5% of all firms surveyed.

15% of employers identified skills gaps among their current workforce, although this was a greater problem in Telecoms (where 32% of firms were affected) than computing. The majority of these gaps related to generic skills:

Communication – 50%
Customer handling – 50%
Problem solving – 48%
General IT user skills – 35%
IT professional/technical skills – 33%

Despite the apparent ease with which firms appear able to find suitably qualified staff, and the fact that **the percentage actually experiencing recruitment difficulties remained unchanged throughout 2003 following a sharp decline in Q1/03**, the number of firms *anticipating* difficulties in recruiting ICT professionals rose by 2% to 7% of firms. It is worth noting that according to the chart in the latest *e-skills UK Bulletin*, anticipation of difficulty is not always followed by an actual increase in recruitment problems.

TWO: OFFSHORE OUTSOURCING AND THE ICT INDUSTRY

2:1   *Likely skills needs in relation to offshore outsourcing*

There is a general consensus that if the UK ICT workforce is to avoid high levels of unemployment as a result of the growth in offshore outsourcing, the 'answer' lies in the raising of individual skill levels and a change in the overall skills profile of this workforce. A report commissioned by the DTI on offshoring in the call centre industry warns '… the UK industry cannot be complacent and needs to train staff to keep hold of high value services'[3].

Patricia Hewitt cites the prediction in this document that the UK's call centre industry is set to gain around 200,000 jobs in the next three years (from 2004). Accepting the need for the UK to position itself at the high skills end of this market, she state that:

> We do need to position ourselves according to our strengths. Others are unbeatable on cost, but we are unbeatable on quality. The best British call centres are the best in the world, offering high value businesses, high skill professionals, but we need to bring the quality of the rest up to that of the best... we should not seek to compete with low wage countries for low wage work. We should be persuading other high value economies to come to us for our high quality skills and service[4].

Various commentators suggest that the skill-set most likely to be in demand in an era of greater offshore outsourcing is management. One industry expert interviewed for this report suggests that 'design and management' are likely to remain onshore, and that there may even be greater demand for these as more offshore departments and services are managed from within the UK. This argument is based in part on an analogy with the offshoring of manufacturing industry, where R & D and management tended to remain 'onshore', or at least to move offshore far more slowly than manufacturing processes themselves.

These projections are in broad agreement with the comments on offshore outsourcing in a recent report by e-skills UK and Gartner[5]. Here, it is argued that *entrants* to the ICT workforce '… will need increasingly advanced skills as traditional entry-level jobs are geosourced' (e-skills/Gartner p.54), with '20% of conventional IT roles moving overseas' (e-skills/Gartner p.27). Elsewhere, this report stresses the need for an increase in business and applications expertise alongside technical knowledge. It is suggested that many programming skills and jobs may 'migrate' as part of this process (e-skills/Gartner p.46).

The concentration on business expertise is a constant theme of discussions in both the UK and the USA, as is the importance of 'upskilling' the workforce in order to maintain a leading global position in IT. Nevertheless, this is not always accepted uncritically (see also Section Four below). A number of commentators question the viability of developing a highly skilled workforce if traditional entry-level job opportunities are limited. In a Brookings Institute debate[6] (on offshore outsourcing in general, not just in the ICT industry), Senator Max Baucus suggested that as 'we… move up the value-added ladder… some wonder whether we have run out of rungs'. Speaking at greater length, Jared Bernstein of the Economic Policy Institute (see also 4.2 below) said that:

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[3] Andy McCue, 'Only a consumer backlash can halt call centre outsourcing', www.silicon.com, 6 May 2004

[4] Speech by Patricia Hewitt, 'UK Call Centre Competitiveness in a Global Market', London 6 May 2004. Text available at: www.dti.gov.uk/minister/speeches/hewitt060504.html

[5] E-skills UK/Gartner, 2004, *IT Insights: Trends and UK Skills Implications*

[6] Brookings Briefing March 2004: Transcript of *Preparing America to Compete Globally: A Forum on Offshoring*. Available at: www.brookings.edu/comm/events/20040303.htm

> … I do think that there is a strange kind of dissonance around the education and training comments in this discussion… I don't know if people are really wrapping their heads around how high the education and training bar has to be in what we're talking about… you're talking about a training agenda that is so far beyond anything we've contemplated[7].

The importance of government funding for retraining is emphasised by one of the strongly pro-offshore outsourcing in this debate, Harris Miller (President of the Information Technology Association of America). He states that it is unrealistic to expect 'ordinary' IT professionals to finance their own upskilling:

> … if you're 35 years old and you've been making a decent living as an IT worker and your company goes belly up for whatever reason, offshoring or whatever, you probably don't have $50,000 or $100,000 sitting in your bank account to go out and get retrained… it shouldn't be an either or that you don't take care of people who have very low skills or no work skills at all. It shouldn't be an either or… **we also have to take care of people with middle skill levels… and not just worry about people at the lower end[8].**

2:2   *Projections for the ICT workforce*

It is very difficult to find projections for the size of the ICT workforce over the next decade; I have not been able to obtain these from any of the organisations whose work I have examined. However, figures relating to likely directions in the sector are available.

In a survey for the Reed Recruitment Index[9], just under 1500 UK firms were asked for their projections regarding future recruitment of ICT personnel. **68% of IT or Telecoms firms expected to increase their staff numbers in Q3/04**, which suggests a recent surge in optimism; in a similar survey where the same question was posed relating to Q2/04, only 41% forecasted a growth in staff numbers. At the same time, **26% expect to recruit to maintain current staff numbers**.

A presentation by Richard Holway[10], of Ovum Holway, suggests that in late 2003 the UK IT industry has 'entered a mature phase' in which the 'days of double digit growth are over for good'. He suggests that **over the next decade or so (to 2020), growth will probably be in line with overall GDP growth**, and that **ICT will account for around 5.5% of total GDP** as opposed to the current figure of 6.6%. Consolidation of services will be a major feature of the next twenty years, rising to over 50%.

In the same presentation, Dr Holway suggested that:
- **the service sector share will grow while hardware and software will decline**
- **revenues from 'fixed voice' communications will vanish**
- **mobile or voice via IP communications will increase**
- **ITO and BPO outsourcing will be the major growth areas**

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[7] Evidence given in Brookings Forum, as above

[8] Evidence given in Brookings Forum, as above

[9] Reported in James Mortleman, 'IT recruitment boom predicted', www.computing.co.uk/news/1156682, 16 July 2004

[10] Press release, Ovum Holway: 'Richard Holway of Ovum presents his vision of IT in 2020 for Prince', 20 November 2003

In an earlier statement[11] Dr Holway suggested that this growth rate might apply for *forty* years or more, and that staff agencies are likely to experience a continuation of the downturn which saw revenue for their sector decline by 23% in the financial year 2002/3. Elsewhere, he is quoted as warning that predictions of a dramatic upturn are unwise:

> The only thing worse than living in denial is living out a fantasy – that market conditions are miraculously going to pick up[12].

2.3   *Likely impact of offshore outsourcing on the UK ICT workforce*

In general, commentators are exceedingly cautious when asked to predict the impact of offshore outsourcing on the size of the ICT workforce, or indeed on the workforce in any other sector. An OECD assessment of the possible impact of offshoring on the workforces of developed nations is quoted as saying that 'there are no reliable data on the scale of the problem'[13]. A DTI discussion paper states that '… there are no official figures on international job movements which would enable us to give a definitive figure as to the number of service related jobs moving in and out of the UK'[14]. Instead, trade figures are cited which indicate that the UK still enjoys a trade surplus in services.

Ovum-Holway, in the first issue of their publication *EuroView Market Trends*, forecast a growth in the European ICT market of 4% per annum between 2004 and 2006, because 'the IT and telecommunications downturn in Europe is over and the UK will lead the recovery'[15]. In fact, part of this growth is due to the use of offshore outsourcing:

> The fact that many UK companies have been happy to send their IT services overseas apparently means Britain is in better shape than other European countries… "the UK is the most robust market, because it has already taken the medicine" said Ovum director Richard Holway[16].

However, '… outsourcing means that higher profits aren't necessarily being translated into more UK jobs'[17].

A 2004 Gartner press release suggests that '**offshore outsourcing isn't the only threat to IT jobs**'. They warn that the **automation** of services and business processes may also be crucial, and offer advice on which skills to acquire and build in order to remain a viable employee. Details of these skills are only available by purchasing the full report.

An industry expert interviewed in July 2004 considered that offshore outsourcing will have a 'significant' impact on job numbers in software and internet development, but felt that it was impossible to project the size of any potential losses. He quoted the example of Accenture, which recently cut a large number of posts in the UK and other Western economies while

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[11] Reported in an editorial on www.silicon.com: 'The Ovum View: Holway on the IT Salary Dilemma'
[12] Press release, Ovum Holway: 'UK SITS Market Stabilises', 30 October 2003
[13] TUC, *Labour Market Flexibility: Building a Modern Labour Market.* An Interim TUC Report. October 2003
[14] DTI (2004), *Services and Offshoring: The Impact of Increasing International Competition in Services.* p.5
[15] Ovum Holway, *EuorView Market Trends*, Issue 1, March 2004
[16] Graeme Wearden, 'Robust European IT market has turned corner', www.silicon.com 8 March 2004
[17] Wearden, as above

creating 10,000 new jobs in software development in India. In his view, jobs in management and design are likely to be retained or created in the UK (see below), although he did note that the recent upturn in the ICT sector has *not* resulted in a major increase in the number of management vacancies advertised. This is in line with the *e-skills Bulletin* description of current patterns of job advertisement (see below).

In a similar vein to that found in the Gartner commentary, this speaker suggested that in the long-term the size UK ICT workforce is likely to remain fairly stable. While certain types of work are outsourced, substantial increases in the use of ICT in everyday life will boost the overall need for ICT professionals. The use of embedded chips, alongside massive increases in available bandwidth and 'leaps forward' in mobile and palm-top technology, are likely to be crucial, especially in sectors where data for enormous numbers of users is being handled (such as utilities). Increased research spending in miniaturisation and in human-computer interaction may also drive new industrial developments which will in turn drive up the demand for ICT professionals and new skills.

The recent report by MORI for the CBI[18] is based on a survey of senior level directors from firms in the manufacturing, financial and service sectors, most of which are global operations. Its findings indicate that 29% of respondents are currently offshoring IT support and development, and a further 25% are considering doing so, while only 11% of those already involved in some offshoring would *not* consider sending R&D operations offshore. In the MORI study, companies which are currently offshoring are found to have 'on average relocated 175 UK jobs and 9% of their workforce overseas… on average this cost is 75 jobs and 4% of the workforce' (MORI p.7). The job losses are mitigated by the number of new jobs created, many of which are 'graduate and skilled jobs' (MORI p.8). It is important to note that this study includes a substantial number of manufacturing firms (which still account for the majority of offshored jobs), although a more worrying observation is perhaps that smaller companies are also more likely than average to send work offshore.

Some more precise estimates of the extent and impact of offshore outsourcing are available, although these are invariably tentative and include a wide margin for error. Given the number of variables and unknowns involved, it is hardly surprising that confident figures are in very short supply. The DTI paper[19] points out that 'quantifying the economic impact on the UK or trying to forecast numbers of jobs which might be "lost" or "gained" is extremely difficult'. The paper contains no attempts at an estimate, only further questions for research.

A presentation at the European E-skills forum[20] quotes an Ovum-Holway report which suggested that around 20,000 – 25,000 IT jobs are likely to 'leave' the UK by 2006. This represents around 2.5% of the current UK IT workforce, although a figure for possible *new* onshore jobs does not accompany the projection. According to *Personnel Today*, 'the Chancellor, Gordon Brown, anticipates that between two and three per cent of US and European service sector jobs will be outsourced by 2015[21]

A TUC report[22] on the impact of offshore outsourcing includes an estimate, based on the 2002 ILO report on offshore outsourcing, that 'between 2 and 10 million jobs across the US and Europe might be offshored over the next decade or so'. These would come from a total of 'roughly 200 million' service sector jobs across the US and EU. This represents between 1

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[18] MORI Business/CBI/Alba, November 2004: *Offshoring Survey 2004*
[19] DTI 2004, *Services and Offshoring: the Impact of Increasing International Competition in Services*.
[20] Gerhard Rohde, *International Outsourcing and its Implications*, presentation at the 4th Plenary of the European e-skills forum, Burssels, December 2003
[21] 'The cost of recovery', at
www.personneltoday.com/Articles/2005/01/04/27250/The+cost+of+recovery.htm
[22] TUC, as above

and 5 per cent of service sector jobs. The TUC report suggests that this would translate into between 150,000 and 750,000 jobs which might eventually be affected in the UK.

Evalueserve[23] suggest that 31,000 jobs in the service sector have already moved offshore from the UK and that by 2010 272,000 more will move offshore; a total of 303,100 jobs which were previously held domestically will have moved by 2010. Of these, 18,000 jobs in ICT and software development are now offshore, and these may be followed by a further 84,000. They suggest that around 20,000 jobs may be created due to offshore outsourcing, mostly in management related to the offshored services. In addition, basing their estimates on current patterns of long-term unemployment, they suggest that around 101,180 of the UK staff who lose their jobs due to offshore outsourcing would be without work for six months or more.

Neither business practices nor cultural attitudes to trade can be directly compared for the US and the UK; consequently, making direct comparisons between the US experience of offshore outsourcing and the likely future for the UK is not necessarily helpful. On the one hand, offshore outsourcing appears to have had a substantial impact on the ICT workforce in the USA. The Information Technology Association of America reported that in 2001, 2.1m jobs were created in ICT, but 2.6m staff were laid off in the same period, indicating a net loss of jobs of just over half a million.

Forrester Research made perhaps the best-known prediction about the likely impact of offshore outsourcing from the USA. They suggest that during 2004 around 400,000 jobs may have been offshored, a slightly lower estimate than the one above (presumably because not all of the ICT job losses correlated directly with offshoring). However, Forrester suggest that around 3.3m jobs which would previously have been held in the US will be done offshore by 2015, which might translate to around 250,000 lay-offs a year[24].

Dion Dennis[25], a sociologist (see section 4 below) quotes a very specific translation of these figures into specific sectors of the USA workforce. In this model, the total 'projected exodus of white collar jobs from the US' in the field of computing is estimated at 109,000 to 2005, rising to 473,000 by 2015. While this does not take account of job growth in new areas of ICT, projecting an equivalent figure for the UK ICT workforce is alarming. Perhaps even more serious, given the emphasis on the durability of management and business skills in reassurances about the impact of offshore outsourcing, are projections for job losses in Business Operations and Management. These are again relatively modest for 2005 (61,000 and 37,000 respectively), but the 2015 figures are dramatic (348,000 and 288,000). The latter figure suggests that it is in fact in management where the largest upheavals may be felt. In most of the areas discussed (the others are architecture, art and design, legal services, life sciences and office support and sales), it is estimated that between 17% and 18% of the total projected outsourcing for the next decade has already occurred. In fact, the figure is highest for computing, at 23%. Yet in management, only 12% of projected outsourcing is assumed to have already taken place.

An interesting contribution to the American debate comes from writers on the real estate market. This is indirectly affected by offshoring, but it might be argued that professionals in this field have a somewhat different 'vested interest' from senior management in areas where lower-level work can be offshored; by its very nature, the application of offshoring to real estate is likely to be limited. One of the most frequently quoted papers on offshoring comes

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[23] *Impact of Global Sourcing on the UK Economy 2003 – 2010*, Evalueserve-Nasscom Report, 2003. Executive summary available at: http://www.evalueserve.com/Research/evs_Research.asp#

[24] L Brainard and R.E. Litan, *'Offshoring' Service Jobs: Bane or Boon and What to Do?* Brookings Institute Policy Brief #132, April 2004.

[25] Dion Dennis 2004, *The Digital Death Rattle of the American Middle Class*, www.corpwatch.org/issues/PFT.jsp?articleid=377

from the Fisher Center for Real Estate and Urban Economics at The University of California at Berkeley[26]. The authors examine the implications of outsourcing for the US economy beyond 'short term' profit for companies and quote, as an example of the scale of the phenomenon, their analysis of reports in the Indian press. These indicate that in one month (July 2003) between 25,000 and 30,000 new outsourcing-related jobs were announced by US firms. In the same month 2,087 'mass layoff actions' by US employers led to the loss of 226,435 jobs (Bardhan and Kroll, p.1). The Indian 'information technology enabled services (ITES)' sector is growing at a rate of 60% per annum. It now directly employs over 200,000 people with around $2.3bn in exports, over 70% of which go to the USA. The software services sector overall exports around $9.5bn, of which over $7bn go to the USA (Bardhan and Kroll, p.2).

Bardhan and Kroll also discuss the rapidly growing offshore markets in the Philippines and Malaysia (call centres and other back-office BPO), China (embedded software, financial firm back-office BPO and some application development), Russia and Israel (high-end customised software and expert systems) and Ireland (packaged software and product development) (Bardhan and Kroll, p.2). They note the relationship between job losses in 'blue collar' manufacturing jobs in the USA and an increase in imports. The shift *from* 'blue collar' to 'white collar' employment is noted, along with the fact that outsourcing of 'white collar' jobs is a new phenomenon in the USA.

A table in the report compares employment data for the first Quarter of 2001 with data for the second quarter of 2003 (Bardhan and Kroll, p.3). The sectors examined are those which the authors consider to be 'most vulnerable' to outsourcing. 'At risk' sectors are defined as those in which large numbers of outsourced jobs have been announced, and/or those with no face-to-face customer service requirement, high information content, internet/telecomutable work processes, high wage differential between onshore and offshore locations, low set-up barriers and little or no requirement for social networking. These include business support services (including call centres and computer systems design), 'information industries' such as telecommunications, software publishing and ISPs, and accounting, bookkeeping and payroll services. In addition, one manufacturing sector, that of computer and electronic products (including semiconductors and electronic components) is included.

Obviously, the authors acknowledge that the period for which figures are given will include *some* reflection of the 'dot com' crash and the layoffs following Y2K work. However, **15.5% fewer people work in the 'at risk' sectors** in Q2 2003 than did in Q1 2001. This compares with an **overall decline in employment in the USA of just 0.4%** (and an **overall *rise* of 1.4% in all non-manufacturing sectors**). In California, the drop in the 'at risk' industries is 21%, compared with an overall drop of 0.8% across all sectors and an overall *rise* of 1.1% in all non-manufacturing sectors.

The hardest hit sector is 'internet publishing and broadcasting' (a 33.4% decline overall), followed by 'payroll services' (a decline of 21.6% - note that the figure for the whole of 'accounting, bookkeeping and payroll' is rather less alarming). This latter is interesting because it is unlikely to be affected by the troubles of the dot com industries, and as one might expect the figure for losses in California is around half that of the national one. Data entry positions have declined by 22% between 1999 and 2001. Other heavy losses are:

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[26] Bardhan, A D and Kroll 2003, C A *The New Wave of Outsourcing,* Rsearch report, Fisher Center for Real Estate and Urban Economics at The University of California at Berkeley.

Sector	% change in employment figures (all USA)	% change in employment figures (California only)
Software publishing (not internet)	- 10.2%	- 15.6%
Telecommunications	-13.9%	- 18.0%
ISPs, Search portals, data processing	- 16.0%	- 20.2%
All accounting, bookkeeping & payroll	- 10.3%	- 5.2%
Computer systems design and related work	- 14.4%	- 25.2%
Telephone call centres	- 10.6%	no data
Telephone answering services	- 7.1%	no data
Telemarketing bureaux	- 11.1%	no data
Manufacturing: computer & electronic products	- 24.0%	- 24.0%
Manufacturing: semiconductors, electronic components	- 22.9%	- 29.0%

Adapted from Table 1, Bardhan and Kroll p.3

The authors note that 'the laid-off US workers must then be absorbed either into new sub-sectors, brought about by innovation, or in other lesser-paying, non-tradable services jobs'.

Rising numbers of highly skilled graduates in the outsourcing destinations are noted, and it is pointed out that many students from these countries acquire higher education in the USA (largely at advanced degree level). At present, real barriers to outsourcing exist even in the most popular destinations; these include problems with *basic* educational provision in India, institutional underdevelopment and deterioration in the HE system in Russia, and linguistic, institutional and cultural difficulties in China, as well as rising wages and costs in these countries. However, it would be naïve to assume that these will not be surmounted, or that they will impose absolute limits on the long-term trend of offshore outsourcing (Bardhan and Kroll, pp.5-6). Expertise in managing complex outsourcing operations is increasing at speed, and it is reasonable to suppose that the problems which initially slowed operations or limited the savings to be made will gradually be eliminated.

Bardhan and Kroll quote the findings from Forrester research (discussed above). They suggest, however, that the actual impact may be *greater* than projected by Forrester, because as technology advances, offshore locations will overcome current barriers in order to boost their share of jobs in outsourcable occupations. In addition, offshoring is likely to increase as it becomes an increasingly acceptable and desirable source of cost savings.

The 'consumer backlash' against offshore outsourcing in the USA has been well-documented. However, many commentators suggest that this sort of reaction to a potentially high level of 'white-collar' job loss is unlikely in the UK, because of the perception that the UK is traditionally a 'trading nation'[27] (see, however, 3.1 below).

Several articles on silicon.com suggest that, while a small minority of UK consumers is concerned by offshore outsourcing to the extent that they might shift their business to companies which have not offshored, the majority are unaware of the practice and/or are unconcerned if offshore outsourcing is accompanied by lower prices. Where consumers are concerned, the focus is mainly on call centres (where offshore outsourcing is immediately obvious) rather than ICT 'backroom' work.

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[27] Telephone conversation with industry expert, July 2004

<center>**THREE: OFFSHORE OUTSOURCING AND SKILLS**</center>

3.1 *Skills 'split' and offshore outsourcing*

As discussed in 2.1 above, a common response to warnings that offshore outsourcing will result in significant unemployment in the UK is to argue that it will instead lead to a redistribution of skills, with a skills 'split' emerging between the type of work offshored and the type which continues to be done in the UK. In this model, the UK labour force will become more highly skilled overall, while 'lower skill level' jobs go offshore. This, in effect, is the model proposed by Patricia Hewitt (see above) and by analyses such as the recent report by the British Computer Society.

In the case of manufacturing, much of the management and design expertise did, in fact, remain 'onshore'. A frequently-quoted paradox is that many of the 'higher skill' jobs which replaced those offshored in manufacturing are in the service industries which are now themselves candidates for offshore outsourcing. Many respected commentators argue powerfully that the 'risk' to UK jobs from the current wave of offshore outsourcing has been greatly exaggerated. John Wilmot of NelsonHall states this view:

> … when less-skilled, lower-paying jobs immature industries have migrated offshore in the past, skilled jobs have developed to replace them in advanced domestic economies... most offshoring processes today involve basic data entry or are rules-based… the offshoring of "judgemental" processes – more complex processes requiring agents to make informed decisions to fulfil requests – and "analytical and expert services" – highly complex processes requiring specialist knowledge and expert judgement – will only increase to 10% of offshore BPO activity by 2006[28].

However, other commentators (not least those based in offshore destinations, see below) suggest that offshore markets will eventually absorb many 'high level' jobs as well. This may occur as technological advances and infrastructures improve in offshoring destinations, and as more and more workers in offshoring markets gain higher qualifications. The emergence of a hierarchy between offshoring destinations may also boost this trend, as India, Russia and China aim for 'higher level' offshore work and more routine jobs are undertaken in countries such as Malaysia and Indonesia.

One of the strongest statements to this effect from within the UK comes from the Amicus (the Trades Union which represents many ICT professionals). In their statement on offshore outsourcing, they state that:

> There is also a feeling that the offshoring phenomenon is merely a symptom caused by the UK economy gearing up the 'industrial food chain' to become highly skilled and ideas based… The picture that seems to be emerging is actually very different. What is appearing is a very sophisticated overseas contact centre industry which has the capacity to do almost every job - from face to face contact, actuarial, legal and technical support - that is currently done in the UK and at a fraction of the cost[29].

Several sources suggest that although the 'low skills offshore/high skills onshore' model offers an accurate picture of the current situation, offshore markets themselves are likely to change in order to attract the higher level jobs. India offers very low wage costs and

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[28] Press Release, NelsonHall: 'NelsonHall reveals offshore BPO will account for only 6% of service delivery contract value by 2008'. 8 March 2004. www.nelson-hall.com/pressdocs/pr_18.html

[29] www.amicustheunion.org/main.asp?page=219

numerous highly qualified personnel; Professor Richard Scase notes that computer science graduates in India outnumber the entire population of the UK[30]. Many of these individuals were educated at 'elite institutions', and now work in high-quality companies. For example, India currently has the world's highest percentage of ISO and CMM Certified software and service companies[31].

An IDC report states that '… the main Indian offshore players do not currently represent a threat to the research and development services industry in Western Europe'[32]. While the offshore outsourcing of R&D work from the USA has brought success for some Indian firms, the report notes that Western European R&D services tend to encompass a broader range of activities than applications development and maintenance, requiring non-IT skills which are less easily sourced in the offshore markets. However, this report notes that the 'Indian business model is highly flexible' and that there is a determination in India itself to adapt it so that the Western European R&D sector can be penetrated. The key word in the above quotation may well be 'currently'.

A 2004 study by Gartner found that Indian call centres are moving up the 'infrastructure value chain' due to pressure from competition. Service providers, including those operating offshore, are forced to offer maximum levels of customer service. In response to this, Indian operators are making investments in new technologies and staff training[33].

The National Outsourcing Association suggests that if UK ICT professionals and companies see training as the key to competition, so do their counterparts in India. At present, 'the landscape of the Indian offshore outsourcing market is set to change', with increased consolidation and specialisation. In addition, training is gaining a very high profile; this description of the Indian market is not very far from the vision of the UK industry offered by Patricia Hewitt:

> With the trend for specialisation, Indian companies are more intent on training to push their people to the top of their chosen fields. This, along with the recent fright stories in the media about UK companies withdrawing business from India due to a lack of well-trained staff, means that there are specialist training companies springing up in India to train staff in particular areas[34].

Work by Alok Aggarwal, Chairman (sic.) of Evaluserve, also supports this picture of a rapidly changing Indian market. Dr Aggarwal notes that India itself is in competition with 'cheaper' markets such as the Philippines for the 'low level' work, and that moving higher up the value chain is a way to overcome this[35]. He suggests that a wide range of services apart from the 'grunt work' of call centres and ICT can profitably be offshored to India; for example, network consulting and management services, legal and paralegal services, market research and competitive intelligence, product development, equity, financial and insurance research, engineering and design, drug discovery and related data analytics, clinical research and VLSI design and application specific integrated chip design. There is substantial evidence, cited by Dr Aggarwal, that these have begun to migrate from the USA.

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[30] www.kentonline.co.uk/business/features/feature_110.asp

[31] Gerhard Rohde, as above

[32] R Jacques, 'Indian offshoring no threat yet to Europe's R&D', www2.vnunet.com/News/1156550

[33] Press Release, Gartner: 'Indian call centres moving up the infrastructure value chain'. 16 July 2004

[34] Press Release, National Outsourcing Association: 'National Outsourcing Association predicts great change in the Indian outsourcing market', 5 July 2004.
www.noa.co.uk/NOApredictionsonindianoutsourcingmarket.htm

[35] Alok Aggarwal, *Advantages of High-end BPO services from India*, January 2003 (available on the evaluserve.com website

Dr Aggarwal quotes successful examples of remote network management, market research and R&D, where US companies have outsourced to India. A strong theme in this presentation is competition within the offshore market. Supporting his claim that India is 'a global hub for R&D' he lists the firms which already have facilities there, including the Cisco Global Development Centre, the MIT Media Asia Lab, and labs belonging to Adobe, HP, Hughes, IBM, Intel, LG Electronics, Microsoft, Motorola, Novell, Oracle, Phillips, Samsung, Sun and Texas Instruments, as well as various successful start-ups.

In another presentation[36], Dr Aggarwal discusses the potential for offshore outsourcing of telecoms infrastructure services. He suggests that about half the telecoms infrastructure of the developed world could be done 'offshore', representing 'a $4.5 trillion opportunity'. This is the 'optimum scenario', but he proposes that in fact, about $532bn *will* be offshored by 2010.

3.2 Student Numbers in India and the UK

Professor Scase's comment, quoted above, that 'by 2005, technology graduates in India will outnumber the whole of the UK population' is frequently quoted as an indication that the Indian government and/or education system has adequately prepared their country to compete in the global information economy. The Economic Policy Unit also links the sheer numbers of qualified workers to the attractiveness of a country as a destination for outsourcing:

> … India is adding about twice as many college graduates to its workforce per year as the United States (1.2 million in the United States versus 2.5 million in India). Of these Indian graduates, 250,000 earned engineering degrees, compared to 70,000 bachelor's degrees in engineering awarded here [the USA]. Furthermore, the 2003 entering class for Indian engineers is reported to be 375,000, a large jump that suggests the Indian population is responding to the expectations of the global market's forthcoming demand in this field[37].

These trends may well drive down wages in the USA for jobs in these areas.

By contrast, in 2003 around 16,100 UK home students entered undergraduate Engineering courses through the UCAS system, at BSc and HND levels[38]. The total number of entrants to Engineering courses was 21,725 of whom around 5,630 were EU or other overseas students. A total of 33,420 HE qualifications were awarded to students from all domicile regions in Engineering, of which 19,455 were first degrees, 8285 were higher degrees and 4635 were HNDs, Foundation Degrees, Diplomas and other undergraduate qualifications.

In Computer Science and Software Engineering (*including Artificial Intelligence and Information systems but excluding combinations with Computer Science*), around 20,081 UK home students entered undergraduate courses through the UCAS system in 2003. Around 2544 overseas students entered UK universities in these disciplines[39]. A total of 33,560 HE qualifications were awarded in Computer Science (including software engineering) to students from all domicile regions. 18,240 were first degrees, 6865 were higher degrees and 6890 were HNDs, Foundation Degrees, Diplomas and other undergraduate qualifications.

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[36] Alok Aggarwal, *Moving up the value chain in Broad-based outsourcing services*, January 2003 (available on the evalueserve.com website)
[37] www.epinet.org/content.cfm/issueguide_offshoring_faq
[38] http://www.ucas.ac.uk/ - all figures for UK student numbers come form this source unless otherwise
[39] The figure for overseas student may appear low because so-called 'direct entry' students, who enter a UK degree course in the second or higher year of study, are excluded. Many overseas students enter computing degrees in the UK by this route.

These numbers appear tiny beside the figures for India, and in absolute terms, of course, they are. As a *percentage of the total population* of each country, however, they are less shocking; in other words, the UK may *need* more graduates in these subjects but we do not appear to be significantly *failing* to attract students into these areas. Assuming an Indian population of around 1,027m (the figure for 2001 on the Census of India website, www.indiaserver.com), something like 0.0365 entered Engineering degrees in 2003 compared with 0.027 of the UK population (around 60m). The figure for Computer Science is a little higher, at 0.033 – although these percentages are extremely approximate!

3.3   *Awareness of offshoring as a disincentive to studying computing?*

There is anecdotal evidence that impressions of the impact of offshoring gathered from reports in the media may be discouraging students from entering computing and ICT courses and careers. It has proved impossible to find any survey or statistical evidence for this in the UK, although this reflects only absence of *studies*, not necessarily of the trend itself.

It is possible that the general public in the UK tends to be unaware of the extent to which ICT jobs can be – and are being – outsourced. Considerably more publicity has been focussed on the offshoring of lower-skilled work, in particular non-graduate jobs in call centres. One reason for this may well be the far greater visibility of this strand of offshoring. It is easy (despite linguistic and cultural training) to tell when one's telephone call is answered by someone with a different first language, but in 'backroom computing', where there is no direct interaction between the 'outsourced' employee and the customer, offshoring can go largely unnoticed. In addition, call centre work has frequently replaced older industrial employment (which itself may have been lost to offshore providers), and has become a staple of communities which have already suffered severe unemployment. Any movement associated (whether accurately or not) with job losses may therefore arouse sensitivities.

The public response to the offshoring of call centres seems to be mixed. While some surveys suggest that the majority of customers are happy to have telephone calls answered from an offshore centre, a vocal minority is clearly not. The ContactBable report on offshoring of call centre work found that one in seven customers of offshored contact centres was 'unhappy' with service of kind. It warns that the economic consequences of a backlash may be serious for companies which offshore visible work, projecting that only 0.343% of the customers of a 'typical' high street bank would have to move their business elsewhere for the savings made through offshoring to be cancelled. In 2003, around 1.09% of customers reported changing a service provider for this very reason[40]. In regions where large numbers of call centre operatives are employed, there have been movements towards boycotting outsourced call centres and even demonstrations. Once again, it has not been possible to find any work on the public response to the offshoring of ICT work.

For the USA, however, where public awareness of the offshoring of 'white collar' ICT jobs is considerably higher, it can be demonstrated that at least some of the drop in enrolment to computing courses relates to a fear that jobs in this field are vulnerable. The 2004 Taulbee Survey, published by the Computing Research Association in the USA, showed a dramatic drop (around 23%) in the number of applicants to Batchelor's Degrees in Computing, and qualitative evidence gathered from interviews with high school leavers with relevant qualifications indicates that perceptions of offshoring trends are one direct cause of this:

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[40] Andy McCue, 'UK customers defect over offshore call centres', www.silicon.com 11 May 2004

> … for the previous three years, the number of new undergraduate students was approximately consistent, whereas during the five years before that the number of new undergraduate students more than doubled. One major reason for this striking new trend is that the decline in the technology industry and the moving of jobs offshore are making computer science and engineering less alluring to new undergraduates[41].

Various press reports of this study pick up on the recruitment issue and its relation to perceptions of offshoring. For example:

> "If you look carefully at the numbers in terms of the kind of jobs and the numbers, it's a small factor, but to the extent it gets overplayed that certainly weighs on the minds on the 18-, 19-, 22- year-olds we have coming into UTD," said the former president of International SEMATECH, an Austin-based consortium of semiconductor manufacturers[42].

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[41] *Undergraduate Enrolments Drop: Department Growth Expectations Moderate*, 2002-2003 Taulbee Survey, Stuart Zweben and William Aspray, Computing Research Association, Washington DC, May 2004 – at www.cra.org. This survey covers 225 PhD awarding Computer Science departments in Canada and the USA, and is believed to be broadly representative of this sector of higher education in those countries.

[42] 'Faces of globalisation: jobs for tech grads', United Press International, http://www.upi.com/view.cfm?StoryID=20040412-121243-1539r

FOUR: CRITICAL DISCUSSION OF OUTSOURCING

4.1   Sources of critical discussion

The literature on offshore outsourcing, as discussed in the introduction to this report, is a complex one partly because it is virtually impossible to take a 'neutral' approach. The generally positive tone taken by many academic writers in the fields of business and management may well indicate that in a standard economic analysis, offshore outsourcing *is* an overwhelmingly Good Thing, and that the benefits for companies and for national economies are unequivocal. Where problems appear, these represent challenges for technical and management resources, and the literature expands as solutions are developed.

However, there is a relatively small but tenacious literature within 'mainstream' economics (as opposed to avowedly anti-globalist writing or work developed within the trades union movement) which takes a more critical view of offshoring. This work tends to take a 'whole economy' view, looking at the impact of offshoring on rates of unemployment and consumer spending power in the 'offshored' country, at welfare requirements, at the actual costs and practicalities of 'reskilling' (see comments from Bernstein, above, on the need to define which *actual* skills will protect workers, the extent to which a demand for these exists or will exist, and the extent to which jobs requiring these are unlikely themselves to be offshored). The social impact of offshoring is also considered in this work, as is the potential gap between economic impact on companies and their shareholders, and the effect on workers.

It is important to stress that *concern* about the impact of offshoring on individuals, workforces and communities does *not* necessarily imply an [unrealistic] desire to halt offshoring, but simply a wish to see the whole picture. It is possible to accept 'that the overall benefit to a country that offshores work is positive, as is the effect on the recipient country' while concentrating on the real affect that a large-scale movement of work will have on people who 'lose a job that is relocated to Bangalore or Shanghai'[43].

Two sources of more critical approaches are discussed at length below.

4.2   The Economic Policy Institute

Several economists at the Economic Policy Institute (EPI) in Washington (www.epinet.org) have an interest in offshore outsourcing. The EPI is an organisation whose mission is:

> '… to provide high-quality research and education in order to promote a prosperous, fair and sustainable economy… [stressing] real world analysis and a concern for the living standards of working people… to strengthen democracy by providing people with the tools to participate in the public discussion on the economy… to broaden the discussion about economic policy to include the interests of low- and middle-income workers'[44].

All of their research reports and papers undergo an extensive process of peer review, including review by experts '… known for disagreeing with EPI's values'. In addition, EPI employees publish regularly in peer-reviewed scholarly journals.

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[43] Ashley Seager, 'Learning to love the offshore thing', *Guardian* 17 January 2005
[44] www.epinet.org

A current interest of the EPI is the so-called 'jobless recovery' in the US economy, and the '… lack of job creation that characterised the economic recovery in 2003'[45].

EPI produces a detailed 'Issue Guide' on Offshore Outsourcing. In this, they suggest that the overall economic impact of this activity is potentially large, and that it '… could place steady downward pressure on the wages of US workers' in the white-collar sector. They question the assumption that 'training and the acquisition of technical skills' is an effective remedy for this wage effect or for unemployment as a result of offshoring. This is partly because the current trend towards offshore outsourcing is affecting precisely the jobs for which blue-collar workers were encouraged to reskill.

Epi, while concerned to elucidate the actual impact of outsourcing, cannot in any way be accused of taking a 'protectionist' stance. They advocate strong social insurance programmes, with contributions from the 'capital owners and corporations' who are benefiting from offshore outsourcing, transparency in business deals which include offshore outsourcing, the development of government procurement policies which control offshore outsourcing, tax codes which do no privilege offshore outsourcing over the creation of onshore jobs, and considerably better data on the impact of offshore outsourcing in the USA.

Although the US currently runs a $63bn *surplus* in trade in services, this is in a relatively rapid decline. In 1997, the trade surplus in services represented $1.3% of the US GDP, a figure which had shrunk to 1.1% by 1999 and to 0.06% by 2003. In addition, the 'Professional, Technical and Business Services' element of this (which includes accounting, computer programming and R&D) accounts for a comparatively modest part of that surplus, around $18bn in 2002. Again, the trend in this sub-sector appears to be downwards.

A very important observation from the EPI Guide is the staggering disparity between official US government figures for trade in services with India, and the corresponding ones published by NASSCOM. According to the Bureau of Economic Analysis (BEA), services imports from India actually fell from $133m in 1999-2000 to $76m in 2001-2. NASSCOM, however, puts the figure at $1bn in 1999-2000, rising to $2.8bn in 2001-2, with an estimated growth to over $4bn in 2003-4 (BEA figures are not yet available for the later periods). The NASSCOM figures appear to be more plausible when other external evidence is considered; it can therefore be surmised that the official statistics are *missing* a substantial quantity of service import, and therefore seriously underestimating the impact of offshore outsourcing on both the economy as a whole and the services sector in particular.

EPI offer the following statistics comparing overall unemployment rates in the US workforce as a whole with those for software engineers and computer programmers:

Unemployment rate in…	All US workforce	Software engineers	Computer programmers
2000	4%	1.7%	2%
2002	5.8%	4.7%	6.1%
2004	5.6%	3.3%	9.5%

Between March 2001 and March 2004, private sector jobs in the USA were reduced by 2.6m, including 560,000 job losses *after* the official end of the recession in November 2001. While manufacturing industry saw a drop of 12% in the total number of employees, software in manufacturing saw a drop of 19%.

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[45] 'Annual unemployment insurance exhaustion rate at highest level in 60 years', www.epinet.org 22 September 2004

The EPI analysts note that the workers who lost their jobs in this particular shift are precisely those who did 'skill up', as advised by the government, for the global economy. Large-scale white-collar job loss is a new phenomenon in the USA, but it should be noted that this '… probably cannot account for more than 10% of the job gap of more than five million developed since March 2001'. In other words, the middle classes are losing their jobs but so are traditionally vulnerable blue-collar workers.

EPI note that the expansion of a new 'middle class' in developing nations is undoubtedly beneficial, both for those nations and for the US economy, which will find a new market for the goods and services traditionally consumed by the middle classes. However, over the long run there could be an accompanying 'depression' in US living standards. A crucial factor is:

> … the way national income is distributed between labour compensation and corporate profits… If the US economy can regain the tight labour market that characterised the late 1990s, wages will rise briskly again. In the absence of a tight labour market, current trends in offshoring and the continued integration of economies with large labour pools into the global economy will likely depress American wage growth[46].

EPI also reject the suggestion that high levels of education will somehow 'insulate' the US economy from any adverse effects. This is partly because the countries in which the bulk of outsourced work is done are dramatically increasing the numbers of graduates in their populations (see discussion in 3.2 above regarding student numbers).

If the 'onshore' workforce is to reskill in order to remain employable in an era of large-scale offshoring, it may be the case that white-collar workers will have to acquire skills which allow them to move into traditionally 'blue collar' occupations (e.g. 'personal care' services), because these are the jobs whose content makes it impossible to move them offshore[47].

The McKinsey Global Institute (MGI) report on offshore outsourcing, and Catherine Mann's *Globalisation of IT services and white-collar jobs: The next wave of productivity growth* (Institute of International Economics Policy Brief, 2003) are discussed in some detail. Both of these, in the opinion of the EPI analysts, '… both exaggerate the benefits and ignore large potential costs'.

Scrutiny is turned on the much-quoted claim in the McKinsey report that 'every $1.00 offshored yields $1.14 in benefits for the US economy'. This is queried because it is based simply on information from the firms surveyed by McKinsey, and it cannot necessarily be taken as a safe basis for wider generalisations. In addition, the same calculation indicates that every $1.00 offshored leads to a $0.26 *loss* for US workers. Again, the benefits of offshoring are not evenly distributed and the impact on the workforce is clear. According to EPI, '… the consistently big winners from trade (especially offshoring) are capital-owners – those who derive a significant portion of their income from profits… the current recovery is the most profit-biased on record in terms of income growth that is accruing to corporate profits as opposed to labour income'. If offshoring does narrow the gap between white- and blue-collar wages, it is likely to do so by reducing the former rather than increasing the latter.

Mann's study suggests that the effects of the rapid globalisation of software can be directly compared to the globalisation of hardware, which led to an 0.3% gain in annual productivity growth between 1995 and 2003 (a $230bn increase in GDP in 2002 alone). However, the EPI warns that this represents a substantial overstatement of the effect in the case of hardware. This is because 'the total value of the capital stock of computer hardware in 2002 was well below $230bn' and 'the difference in size of the capital stock due to globalisation must be lower than the total capital stock because, as even Mann concedes, technological change explains price declines much more than does globalisation, and… the contribution to GDP from any given capital stock must be less than the value of that capital stock'.

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[46] www.epinet.org
[47] Many of the 'personal service' occupations which need face-to-face interaction between provider and customer also need a body of reasonably affluent potential customers; crucially, they are the sort of thing that is sold to the *middle* classes. In an era of wage depression, some of these jobs may vanish if the spending power of the onshore middle class is diminished.

It also fails to distinguish between the 'inherently transient' effect of increases in global capacity on the prices of semiconductors and a genuinely permanent effect, or to recognise 'the fundamental differences in the price dynamics of the labor-intensive software industry and the capital-intensive hardware industry'.

An 'economic snapshot' from the EPI, produced in June 2004[48], examines the relationship between employment rates in the US software industry and software demand. At the time of writing, real (inflation adjusted) spending on IT software was very high, actually exceeding its 2000 peak. However, employment levels were still well below their peak levels. The EPI analysts draw the following conclusion:

> Rising productivity growth in IT software and equipment-producing sectors probably explains a good portion of the wedge between investment and employment growth, but this still leaves substantial room for offshoring to be contributing to the continuing labor market slack for IT workers.

4.3   *Professor Paul Krugman*

Professor Paul Krugman of Princeton University (formerly of MIT) is one of the most outspoken and interesting critics of the indiscriminate approval of offshore outsourcing, as well as one of (if not the) most eminent. During his tenure at MIT, where he spent the bulk of his career, he was an important architect of the 'new trade theory', work which led to his being awarded the John Bates Clark Prize for the best economist under forty. Between 1982 and 1983 he worked for the American government, and he has advised various administrations on economic policy.

Alongside his distinguished academic career he is a frequent columnist in various newspapers. Currently, he writes on a regular basis for the *New York Times* where his work attracts both disciples and harsh rebuttals. His recent book *The Great Unravelling: Losing our way in the new century* offers a strong critique of the economic policies of George W Bush. Krugman suggests that rather than being 'conservative', these are in fact radical or even revolutionary, and that their budgets are '… obviously, blatantly, based on bogus arithmetic' (this quotation is used in the amazon.com guide to the book).

On offshore outsourcing, his position appears to be that protectionism must be avoided, but that offshoring needs careful regulation for the good of the American economy as a whole as well as for the welfare of individual workers and the workforce as a whole. He argues consistently that within a workable economic theory, it is unrealistic to consider 'free trade' in isolation from social and political factors. In his most recent scholarly work, he is committed to integrating economic and political theories.

The following extract comes from his *New York Times* column in February 2004:

> '… the Democratic presidential candidates have to walk a tightrope. To exploit the administration's vulnerability, they must offer relief to threatened workers. But they also have to avoid falling into destructive protectionism… the U.S. economy would be poorer and less productive if we turned our back on world markets. Furthermore, if the United States were to turn protectionist, other countries would follow. The result would be a less hopeful, more dangerous world…

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[48] http://www.epinet.org/content.cfm/webfeatures_snapshots_06022004

'… Yet it's bad economics to pretend that free trade is good for everyone, all the time… The accelerated pace of globalization means more losers as well as more winners; workers' fears that they will lose their jobs to Chinese factories and Indian call centers aren't irrational [and] [a]ddressing those fears isn't protectionist. On the contrary, it's an essential part of any realistic political strategy in support of world trade... It suggested that [John Kerry] is basically a free trader who understands that "without some kind of political safety valve, Congress may yet be stampeded into protectionism, which benefits no one." …

'Mr. Kerry… decried the loss of jobs to imports, but was careful not to promise too much. You might say that he proposed speed bumps, rather than outright barriers to outsourcing: rules requiring notice to employees and government agencies before jobs are shifted overseas, steps to close tax loopholes that encourage offshore operations, more aggressive enforcement of existing trade agreements, and a review of those agreements with an eye toward seeking tougher labor and environmental standards…

'I don't see anything there that threatens to unravel the world trading system. If anything, the question is whether it provides enough of a "political safety valve."… The answer, I think, is yes — but only if those modest measures on the trade front are combined with much bigger changes in domestic policy… we need more jobs. U.S. employment is at least four million short of where it should be. Imports and outsourcing didn't cause that shortfall, but if the job gap doesn't start closing soon, protectionist pressures will become irresistible.

'… we need to do much more to help workers who lose their jobs. It didn't help the cause of free trade when Republican leaders in Congress recently allowed extended unemployment benefits to expire, even though employment is lower and long-term unemployment higher than when those benefits were introduced. And in the longer run, we need universal health insurance. Social justice aside, it would be a lot easier to make the case for free trade and free markets in general if, like every other major advanced country, we had a system in which workers kept their health coverage even when they happened to lose their jobs.

'***The point is that free trade is politically viable only if it's backed by effective job creation measures and a strong domestic social safety net*** [my highlighting]. And that suggests that free traders should be more worried by the prospect that the policies of the current administration will continue than by the possibility of a Democratic replacement. Put it this way: there's a reason why the two U.S. presidents who did the most to promote growth in world trade were Franklin Roosevelt and Harry Truman, while the two most protectionist presidents of the last 70 years have been Ronald Reagan and, yes, George W. Bush.'