

in many ways from in-house work to outside supplier (unbundling), or purchase additional services, or engage in both practices.<sup>18</sup>

The question here is thus whether growth in employment in the service sector was due to a shift in inputs of services or due to an increase in the demand for services. Kutscher (1988) and others in the US<sup>19</sup> generally found that employment shifts due to contracting-out accounted for only a small proportion of the total employment growth in services producers. More importantly, J.F. Rada (1987) citing Gershuny and Miles, emphasized that "changes in the occupational distribution of employment have resulted more from changes in occupational structure within economic sectors than from changes in demand patterns between them".<sup>20</sup>

A Canadian study by Postner and Wesa (1987), which was supported by subsequent studies by different authors<sup>21</sup> showed an above average use of contracting-out by manufacturing companies for services sectors such as banking and management, whereas contracting-out for services such as wholesale grew at a lower-than-average rate. They also came to the conclusion that while contracting-out does occur, it accounts for only a small proportion of growth in services.

### **-Role of technological changes**

Although there is no certainty about how new technologies will affect the division of labour in the economy, it appears that "information handling activities will generate more jobs in services than in any other sector".<sup>22</sup> Moreover, information will tend to create more jobs as it becomes raw material for many sectors in the economy. In respect to services, technology can affect the quantity and quality of jobs in two ways. Technology has a direct effect via the impact on jobs of introducing new processes and creating new products and, indirectly, via the rise in productivity which leads to an increase in wages and incomes.<sup>23</sup>

Moreover, in order to foster economic growth and employment, the OECD (1996b) stressed that to realize the full potential of new technologies, and the services and the applications that they can generate, it is essential to introduce market structures that will allow this to occur. "Only if the supply chain for new services is allowed to develop will new jobs opportunities arise".<sup>24</sup> Thus the actual impact of any given technology is dependent upon a range of non-technical factors.

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<sup>18</sup> Kutscher, R., «Growth of Services Employment in the United States» in Guile (1988).

<sup>19</sup> Tschetter, J., "Producer services industries: Why are they growing so rapidly?" *Monthly Labor Review* (December 1987) in Guile (1988).

<sup>20</sup> Rada, J.F., "Information Technology and Services" in Giarini (1987), p. 129.

<sup>21</sup> McFetridge and Smith (1989), Postner and Wesa (1987) and Grubel and Walker (1989).

<sup>22</sup> Rada, J.F. in Giarini (1987), p.130

<sup>23</sup> OECD (1996b), p.73.

<sup>24</sup> OECD (1996b) p.103.