Service employment in advanced economies; a comparative analysis of its implication for economic growth.
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In this study we traced the origin of the service sector concept, analyzed the development of service employment and sketched its significance for the economy. We used the internationally accepted concept of the service sector. Historically, this sector is determined as a residual consisting of activities which do not fit into the agricultural and industrial sector. However, in the seventies Hill formulated a definition of services which provides a theoretical basis to the accepted sector concept.

The aggregate approach in chapter III sketched the shift to services on the basis of five dimensions. Most remarkable was the reversal of a declining output share in constant prices during the 1960-73 period to an increasing share after 1973. The estimates on expenditure at constant prices for the post 1973 period showed that the increase of demand for private services exceeded the rising demand for public services in most of our countries, Sweden being an exception.

For some analytic purposes the notion of 'a' service sector is too heterogeneous. Service activities can be both very capital-intensive and labour-intensive, they serve final and intermediate demands, and they are produced for both private markets and the public sector. These various categories show disparate developments and therefore we found it useful to
disaggregate the service sector into more meaningful subsectors. Three of them are primarily market oriented, while the fourth serves a largely non-market demand. The three market oriented subsectors are producer, distributive and personal services, and the fourth is social services.

A proper detailed analysis required the construction of a new disaggregated service employment accounts. A sufficient degree of detail, consistency and harmonization was attained by merging existing sources on employment. This new evidence revealed that the characteristics of the expansion of services claimed by some studies needs some adjustment, and in some cases material of recent years indicated serious changes in trends.

Employment growth in the service sector decelerated only slightly after 1973, and this slowdown could largely be ascribed to the recession periods. Other sectors are more sensitive to cyclical fluctuation, and consequently the pre 1973 shift to services continued thereafter. In the sixties the growing service employment share was largely due to the expansion of social services. In the seventies and eighties growth in social services slowed down and the expansion of producer services became more prominent. Further, employment growth in personal services started to accelerate in the seventies after substantial declines in the sixties. These changing trends were most pronounced in the United States, but the other countries seem to be following the same pattern with some lag.

Our comprehensive accounting approach, based on the integration of the results of the aggregative approach and the disaggregated evidence, enabled us to estimate for the 1973-84 period the role of the basic underlying causes of the shift to services. The contribution of lagging productivity growth is smaller than most studies found for the sixties, it 'explained' roughly 40 to 60 per cent of the rising services employment share. Growing final demand was responsible for 20 to 30 per cent and the contribution of increasing intermediate demand varied between 10 per cent in Germany and Sweden to 40 per cent in the United States.

The majority of empirical studies currently available suggest that the unfavourable productivity growth differential for services is narrowing. Social innovations and the diffusion of information technology have produced productivity improvements. These were partly responsible for increased demand for producer and personal services.
sectors. Three of these are a largely non-tradable services economy, producer, and social services.

Productivity growth and levels by sector have had an impact on the pattern of employment shifts. In the European countries and Japan, agriculture and industry benefited most from the catch-up bonus. In these countries, most attention was devoted to improving efficiency in those goods producing sectors. As a result, the cost problem in services tended to rise to similar proportions as in the United States. Thus, with some lag, the service sector in the European countries and Japan has seen the same evolution as in the United States. The larger the gap between service and industrial productivity, the stronger has been the pressure for social and technological innovations to improve the former.

As industrial productivity in the European countries and Japan draws closer to United States levels, these countries have increasingly to bear the costs of operating at the productivity frontier. The extremely high costs of further technological improvements in industry direct attention to search for easier and cheaper improvements in services.

The price of a commodity paid by the consumer is often twice as high as the price at the factory or farm gate. In the range of services between the producer and the consumer, efficiency enhancing measures may be much easier to accomplish with higher rates of return than in the factory. For example, information technology can save large costs in storage and shop space. Greater reliance on self-service, linkage of various services, and standardization are further cost reducing options. Obviously, other services are subject to similar efficiency improvements as well.

The development of self-service has proved to be effective in reducing costs. Empirical evidence indicates that the growth of self-service did not result in job losses. Instead, reduction of costs induced demand and caused an expansion of employment. The introduction of information technology in services holds the promise of substantial productivity increases. Most studies indicate that the potential job losses due to productivity gains are 'compensated' by the growth of demand which may outstrip the growth of labour productivity. Indeed, our employment figures on services affected by information technology hardly show a deceleration of employment growth.
for producer services to small and medium sized firms which previously
unable to obtain these services without great cost. The European countries
and Japan are likely to follow these developments in the near future.

Developments during the seventies have shaped a predominantly service
economy which needs on many points adjustments from the one envisaged by
Bell or Gershuny. They saw the emergence of a post-industrial society
dominated by social services or the arrival of a self-service economy
respectively. Basically they extrapolated trends from the fifties and
sixties but the changes in the seventies rendered their view obsolete.
Growth of social services decelerated and the shift to services is
increasingly the result of expanding employment in producer and personal
services. The growth of these services is partly the result of social and
technological innovations which have been able to reduce the burden of the
'cost-disease' and are responsible for opening up new markets.

1. Economic Data

Economic data are only a by-product, but also an activity has
activities has
historical data. The amount of quant
historians in
produced and produced and pr
definition of just one classification.
make estimates that for such an
activity which
about these unknown
made in the context
Maddison, 1983)