Business services and the Baumol disease

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Abstract

The business services industry represents a large and fast-growing chunk of the Dutch economy, approaching the size of the total manufacturing industry. The industry, however, has displayed stagnating productivity growth, accompanied in some years by a fall in productivity. Do these stylised facts imply that the Dutch economy is inevitably headed for the "Baumol disease"? Investigating this question, this article reviews policy options that might improve the productivity record of the business services industry and strengthen its contributions to the productivity of client industries.

Introduction

During the last decade, the business services industry was one of the most dynamic sectors in the Dutch economy. What are the macroeconomic consequences of this process, given the stagnating productivity growth of this industry? This paper uses the "Baumol disease" as a reference framework (see box on next page). Baumol (1967) analysed how an expanding low-productivity services sector might bring down the growth rate of the entire economy. A number of stylised facts, related to the recent growth of the business services industry, suggest that its performance may contribute to the advent of Baumol's disease in the Netherlands:[1]

- Labour productivity growth in the business services industry lags behind that of the rest of the market sector. Figures 1 and 2 show that this is the case in the Netherlands and in other OECD countries.
- Production growth and employment growth in the business services industry was much faster than in the rest of the market sector.
- Wages in the business services industry and the rest of the market sector grew at about the same pace.
- Demand for business services grew despite the increasing relative price of the sector compared to the market sector average.

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Figure 1 Productivity growth gap: difference between labour productivity growth in BS industry and the total market sector, selected countries, 1981-1990 and 1991-1996

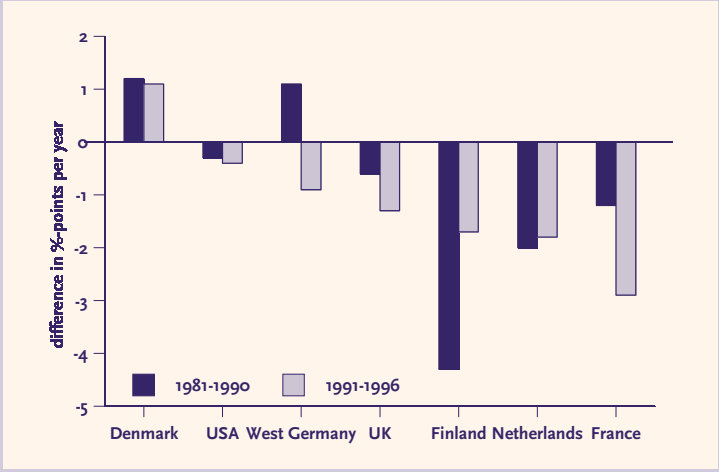
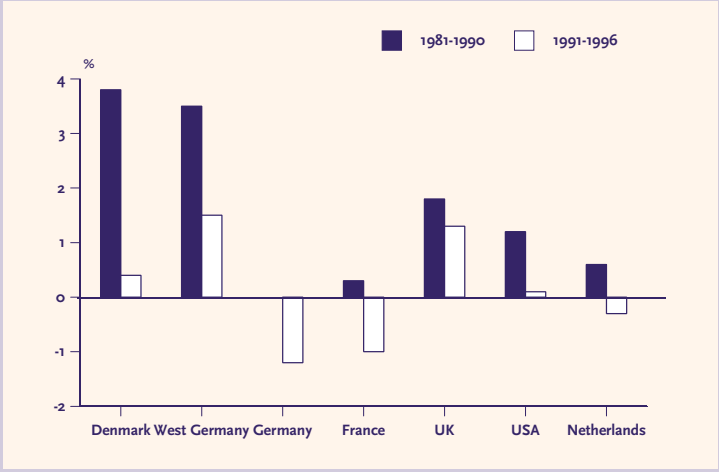


Figure 2 Change in labour productivity per hour worked, business services industry, 1981-1990 and 1991-1996



Baumol disease

Baumol (1967) described the consequences of a growth model in which the services sector has only limited potential for productivity growth, while demand for services is relatively insensitive to price increases. The most productive sector is the wage leader for the services industry. In this economy, an increasing share of labour will be employed by the services sector. The imminent 'disease' is that the growth rate of the total economy falls, while the relative price of services rises.

A superficial diagnosis on the basis of these stylised facts might conclude that the development of the business services industry will inevitably contribute to Baumol's disease in the Dutch economy. That conclusion may be wrong for several reasons. Baumol focussed on consumer services, whereas business services produces intermediary inputs. This at least makes the story a bit more complex, particularly since there are indirect productivity effects (see below). The paper argues that policy options are available for strengthening both direct and indirect productivity contributions of the business services industry.

Indirect productivity effects

Since the 1980s, business services account for an increasing share of total intermediary inputs in the Netherlands. Initially, this was mainly due to outsourcing of relatively simple internal services to outside services firms. Branches with standardised services like industrial cleaning, catering and security benefited most from this tendency. From the 1990s onwards, outsourcing shifted towards knowledge-intensive business services that were often tailor-made for particular clients. Firms benefiting from this trend were in IT, engineering, legal services, management consultancy, industrial design, marketing, and even commercial R&D. Often outsourcing was no longer pure replacement of internal services, because of quality improvement, specialisation and innovation. Knowledge-intensive business services have achieved an important position in the national innovation system. As a source of external information for innovating companies, business services appear to rank before universities.[2] Knowledge-intensive business services contribute in three ways to the modern knowledge infrastructure:

- *Original innovations.* Firms in software, engineering and contract research actively contribute to technological innovations. Firms in other branches are active innovators in non-technological areas such as organisational development, firm strategy, human resource management, PR or marketing.
- *Knowledge diffusion.* Business services firms are in the unique position of being able to look into the 'knowledge kitchen' of client firms. They observe localised, tacit knowledge solutions in client firms. But since their horizon is wider, they can more easily conceptualise such solutions, and select 'best practice' solutions to more common business problems. Such 'best practice' information is subsequently introduced as input when they serve new clients. With regard to many competence areas, business services firms bring clients to the efficiency frontier.
- *Surpassing human capital indivisibilities.* The availability of knowledge-intensive business services reduces economies of scale with regard to knowledge and human capital. Even small client firms now have access to specialist knowledge and specialist skills that had once been exclusively the domain of large firms that could afford to employ such specialists.

Summing up, business services firms generate positive productivity effects in client industries. Several studies quantify indirect productivity contributions of the business services industry (e.g. Antonelli, 1999; Tomlinson, 2000; Müller and Zenker, 2000). When this indirect productivity contribution grows along with the size of the business services industry, it may well outweigh the effect of the stagnating productivity in business services industry itself. The indirect productivity effects thus provide a counterbalance to the Baumol disease tendency. But there is more.

Stagnating productivity growth in business services no *fait accompli*

Baumol (1967) starts from the assumption that the services industry has few opportunities for productivity increase, because its product is inherently labour intensive. While this may be true for some services, the business services industry still has many opportunities left for productivity increase. Still to be tackled are some of the root causes of X-inefficiencies in this industry: lack of market transparency, diseconomies of small firm size, and modest internal innovation. Each of these three factors will be discussed before we subsequently embark on policy options.

(A) Lack of market transparency and weak competition lower efficiency pressure

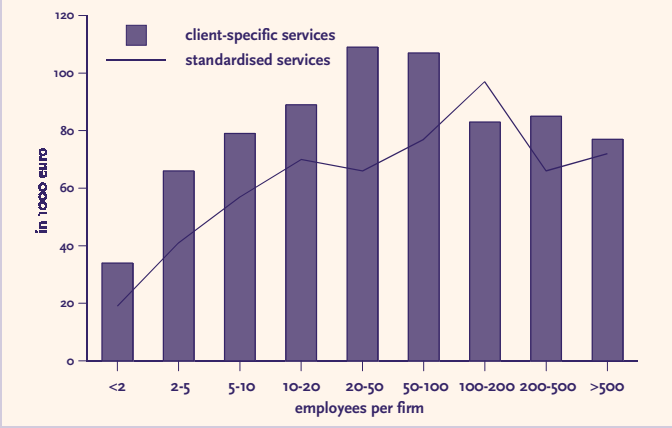
Competition intensity and market transparency increase the pressure on margins, and the pressure to remove X-inefficiencies (e.g. Martin and Theeuwes, 2001; Felsö et al., 2001). Conversely, weak competition and opaque markets have an adverse effect on average cost efficiency. The latter condition applies in large parts of the markets for knowledge-intensive business services. Product differentiation, up even to the level of client-specific products, reduces comparability of products and prices. Competition in markets for knowledge-intensive services is dampened by the occurrence of switching costs (invested time, information) on the side of the clients.

Asymmetrical information further constricts transparency in these markets. The products are experience goods or credence goods – meaning that buyers lack quality information before purchase of the service, or even shortly after obtaining the service. Buyers solve this information problem by navigating strongly on the basis of vested market reputations. Firms that provided a good product yesterday are expected to do the same tomorrow. Market reputations differ by type of clients and by geographical area. Most small firms in business services just have local reputations, with a small network of clients. Services firms with prestigious and large customers are easily taken to be high-quality providers. The reputation mechanism leads to a system of segmented markets in which different prices and tariffs co-exist. Competition among market segments on the basis of price and cost levels plays a subordinate role. Hence, monopolistic competition is ubiquitous, due to the combination of market segmentation and product differentiation. Apart from that, most branch markets have a small top segment in which a handful of multinational players – meeting each other in several national markets – interact as oligopolists. Many of their client firms are also multinationals. If foreign service providers compete with domestic firms, their main domestic challengers are large nationally oriented service providers. The latter operate in the most competitive market segment (CSES 2001), with competition coming from middle-sized companies, multinational companies, and sometimes even from small international specialists.

(B) Sub-optimal firm size reduces productivity levels.

Strong empirical evidence was found that small business services firms, on average, have lower labour productivity than firms with 50 employees or more.[3] Figure 3 shows that labour productivity is a positive function of firm size. Nonetheless, the business services industry is overwhelmingly a small firms industry. Fifty-eight percent of Dutch firms in 2000 had no employees, and another 30 percent had fewer than five employees. How can this be reconciled with the potential scale economies?

Figure 3 Average turnover per employee in Dutch BS firms of different size classes, 1987-1996



Source: Kox (2002)

One reason can be found in the influx of many small-scale entrants. The share of small firms in the company population is steadily increasing. Entry in this industry faces hardly any barriers with regard to fixed-capital investment. Excess demand for business services in the 1990s created a mild market climate for new entrants. The Dutch business services industry had higher market growth than the service industries in any other OECD country, both in terms of employment and in terms of value added. However, market competition may be less selective in times of excess demand. Van der Wiel (1999) found that new entrants had on average a lower productivity than incumbents. Massive entry numbers thus aggravated rather than alleviated this industry's productivity growth problem. Market segmentation creates a growth hurdle for small and innovative firms. It also explains why the inflow of many small entrants did not have more impact on average productivity of the business services industry.

Another, more structural, reason for the high incidence of small firms relates to the position of key employees and the intra-company distribution of rents. In knowledge-intensive services,

market reputations and client goodwill are bound up with the (perceived) quality of a company's knowledge assets, most of which, rather than being firm-bound, are embodied in employees.[4] Intellectual property rights such as patents, copyrights and brand names hardly play a role in the business services industry. The perceived qualities of some employees, labelled key employees, are crucial to the market reputation of the service firm. Such employees carry and 'own' tacit knowledge and intangible competences that are essential in the competitive process. Much of their job activities are implemented at the client's premises rather than at the 'home' office. For clients, they are the 'face' of the services firm. However, for the owner of the services firm, these employees are often monopolist providers of unique labour services – *monopolist*, because they cannot easily be substituted by other employees, and because they find it relatively easy to quit and start for themselves. On-the-job training takes time and is costly, and employee substitution may cost client goodwill. Key employees often have considerable discretionary decision power about the way they do their jobs. Marginal output increments from their work may be observable only after considerable time lags, if at all. They work under incomplete or inefficient monitoring, and under incomplete contracts. Job complexity and the incidence of contingencies make it virtually impossible for firm owners to write water-tight contracts sealing off all future contingencies (e.g. Foss 1999). On the basis of their strong intra-company bargaining position, key employees may squeeze out part of the service firm's residual profit income in the form of above-average salaries and fringe benefits. For small entrepreneurs, the key employee phenomenon may be a growth disincentive that outweighs the 'technical' advantage of achieving higher average labour productivity by growing larger.

(C) Modest internal innovation effort

Micro data research shows that labour productivity in innovative firms grows more than in non-innovative business services firms. Especially the introduction of non-technological innovations (in marketing, company strategy, and management, for example) appeared to be correlated strongly with labour productivity growth (Van der Wiel 2001). Compared with business services firms in benchmark countries, Dutch firms lagged behind in terms of innovation expenditure. A shortfall in internal innovation effort may imply that business services providers fail to grasp opportunities to strengthen their own productivity.

Three factors were identified that contribute to stagnating productivity growth in the business services industry – lack of competition, scale disadvantages, and shortfalls in innovation expenditure. Improvements seem possible on all three issues. The prime responsibility for this rests with the firms and their industry associations. The downward impact of the key-employee mechanism on productivity could be reduced by giving more attention to internal trainee programmes, codification of knowledge and other forms of knowledge management. By organising demonstration projects, industry organisations could play an enabling role. However, if such initiatives hinge only on motivation and information, then why have companies failed to grasp the available opportunities? Some of the aforementioned solutions seem to be subject to scale thresholds: they may simply fall beyond the reach of small firms. Structural market failures also play a role, particularly in the markets for client-specific and knowledge-intensive business services. The text box (next page) distinguishes four types of market failure.

Policy options for strengthening productivity and innovation

This section sketches some policy options for tackling the market failures in the business services industry. Some options may require new policy instruments, while it may be sufficient in other cases simply to refocus existing policies, bringing policy attention for the business services industry more in line with this sector's economic weight and function.

Productivity improvement can be expected from measures that allow firms to benefit more from scale economies. Figure 3 suggests that, given the small size of the average firm, substantial productivity gains must be within reach. Current policies emphasise the importance of starting companies. However, this industry has already experienced a considerable inflow of new entrants. Creating incentives for firms to grow beyond the micro-scale, and thus gain the associated productivity improvements, seems to be more appropriate. Reducing administrative burdens for expanding firms might be a useful step in this regard. Scale advantages are related to fixed costs. Intangible assets such as innovation potential, expertise and other human capital assets are the most important fixed assets in this industry. The juridical instruments to protect such intangible assets – i.e. patents, copyrights and brand names – could form the crystallisation nucleus for scale advantages. With a keen eye on potential drawbacks of this step,

Market failures in business services

- Imperfect competition. Strong product differentiation ('Balkanisation'), market segmentation and monopolistic competition are prominent market characteristics in branches with knowledge-intensive services.
- Positive externalities arise in relation to the industry's role in innovation and knowledge diffusion. Only part of these positive impacts on client firms can be seized upon by business services firms. The public good character of the transferred knowledge and the risk of imitation (through key employees that resign, or learning-by-looking) limit the possibility of asking prices that correspond with the marginal social benefits. Hence, the supply of such knowledge services is likely to be lower than would be socially desirable. Finally, the productivity stagnation in business services, and the industry's own inaptitude to overcome it, can be considered as a negative growth externality for the rest of the economy.
- Information asymmetry arises in the market for knowledge-intensive business services due to client uncertainty about product quality. Information asymmetry diminishes market transparency and causes client firms to navigate on vested market reputations. This in turn leads to market segmentation and reduced competition intensity.
- The lump-sum costs of relevant market information (transaction costs) can inhibit market access by small (potential) client firms. Small firms in other industries appear to make less use of business services than large firms. Negative welfare effects arise if such small firms remain operating at efficiency levels lower than they would have otherwise.

the creation of wider possibilities for intellectual property rights on products and innovations could create a basis for more scale advantages in the business services industry. Consider, for example, patents with short duration for services products. US experiences with patentability of business methods could be instructive in this regard. Enhanced possibilities for claiming intellectual property rights on innovative services would also stimulate the innovation process in services.

Market transparency could be improved by removing elements of quality-related information asymmetry. Individual service providers or service firms might apply for a government-supported, but voluntary quality certificate. Such certificates would reduce quality uncertainty for clients, making it less risky for them to opt for certified small firms without an established market reputation. Ambitious and innovative small firms would find it easier to compete in market segments that were once beyond their reach. The literature on market failure suggests that the government should remain involved in such certification schemes.

Competitiveness would be enhanced by opening up domestic markets for foreign providers. In some branches (like accountancy, tax consultancy, engineering and architectural services) foreign competition plays a negligible role at present. While the Dutch market for business services is relatively liberalised compared to other EU countries, many branch-specific regulations still effectively block foreign market access. Widely diverging national market rules among EU countries may create prohibitive information costs for medium-sized firms that could otherwise have embarked on export activities. Harmonisation of EU market rules in the business services industry, and mutual recognition of national quality standards, will lower transaction costs and create growth incentives for individual firms, leading to overall welfare gains. Removal of unnecessarily restrictive market access rules could form an upbeat to a new WTO agreement on trade in services.

Innovation in the knowledge-intensive business services industry would be strengthened by creating more facilities for intellectual property rights, and by giving more policy attention to non-technological innovations. Currently, most policy instruments for innovation promotion focus on technological and R&D-led innovations. Almost automatically, services firms are under represented as participants in such policy schemes. Indeed, their innovations are in many cases non-technological, and are seldom driven by formal R&D expenditure. Stimulation of innovation in the business services industry will require more policy attention for non-technological innovations. A further option would be to widen facilities or establish positive incentives for individual entrepreneurs and small-firm owners to take refresher courses to 'keep the knowledge dissemination machine running'.

Small firms make relatively little use of business service

providers, as a consequence of scale disadvantages, quality uncertainty, and lack of information on the possible efficiency benefits of their services. Information campaigns and demonstration projects that target small-scale potential users of knowledge-intensive business services could encourage such firms to make greater use of such services inputs, thus bringing them closer to the efficiency frontier in their branch.

Conclusions

Having an expanding business services industry does not automatically propel the Dutch economy onto the path of the Baumol disease. In order to assess the net contribution of the business services industry to macroeconomic productivity growth, we must also account for the industry's indirect productivity effects. The latter (innovation, knowledge diffusion) run through client industries and are mainly positive. Nonetheless, the stagnating productivity growth in the business services industry itself is a matter for concern. Some promising policy options tackle the root causes for the weak productivity record. Increase the transparency of the industry's markets, stimulate innovation, and elicit more foreign competition: these measures will bolster the productivity contributions of business services.

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Notes

[1] The trends are documented in Kox (2002) and CPB (2002). This article is based on these documents.

[2] For the Netherlands, this emerges from CBS (2001, p. 117); Klomp and G. Meinen (2001).

[3] This pattern remained after controlling for non-labour inputs and market share. Similar patterns emerged from New Cronos micro data for Sweden, France, Belgium and Italy.

[4] In branches like accountancy, software maintenance, software design, legal services, management consultancy, and engineering services, the relevant knowledge assets and expertise are client-specific rather than generic.