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Offshoring in Europe—Evidence of a Two-Way Street from Denmark

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Abstract: Based on a large Danish survey of companies in tradable goods and services sectors, this working paper presents the results of offshoring and its impact on jobs, adding new perspectives to the globalization debate. Globalization entails a cross-border flow of jobs, but contrary to the mainstream media portrayal of globalization, it is not a one-way but a two-way street. In 2002–05 more jobs were created as a result of offshoring of activities into eastern Denmark from companies outside Denmark (i.e., inshored to Denmark) than were eliminated due to offshoring from companies in the Danish region. Overall, the employment effects of both offshoring and inshoring were found to be limited to less than 1 percent of all jobs either lost to offshoring or gained via inshoring. For Denmark, the worries in purely numerical terms regarding the employment effects of globalization seem overly alarmist. However, the trends revealed in the study do pose challenges for low-skilled workers—the group most negatively affected—and for highly skilled specialists, who face pressure to constantly upgrade their skills. Policy implications can be drawn in view of our results to ensure that labor markets are able to meet the demands of globalizing firms.

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So much has been written about the loss of European jobs to low-cost competitors that it is hardly surprising that much of the European public is very skeptical about globalization and the accompanying phenomenon of offshoring in particular. Yet in reality, very little is known about the true extent of job loss in Europe as a consequence of globalization, and what is known is only one side—the downside—of the story. So far data have been collected only on job loss in Europe from globalization, and hardly any systematically collected information is available on the number of jobs created in Europe as a result of globalization.

This working paper attempts to remedy this imbalance and presents new data from Denmark that cover, for the first time, both jobs lost and jobs created as a direct result of increased global integration and the two-way cross-border transfer of company tasks during 2002–05. Section I briefly describes existing knowledge about offshoring in Europe, section II presents the innovative methodology and analytic scope of the new data from Denmark, section III presents the data findings, and section IV concludes with policy implications for both Denmark and the European Union.

I. WHAT WE ALREADY KNOW ABOUT OFFSHORING IN EUROPE

One thing seems certain—Europeans today view globalization predominantly through the lens of job loss. As can be seen in figure 1, in the vast majority of the EU-15 countries, the word “globalization” is predominantly linked with jobs being lost to lower-wage destinations. That this fear is particularly strong in the EU-15 countries, while relatively weaker in the ten new member states, is unsurprising as the latter states are frequently among the recipient countries for jobs offshored from the EU-15.

On the other hand, systematic monitoring of the European press by the European Monitoring Centre on Change (EMCC) indicates that even among large-scale layoff incidents¹ due to offshoring (or delocalization), the resulting job loss is a relatively minor phenomenon in the European Union when compared with the number of European jobs that are lost due to business restructuring (downsizing) or bankruptcies. Only about 1 in 25 jobs lost in Europe during 2002–05 was due to offshoring (figure 2). Of the roughly 50,000 jobs that by this estimate have been lost to offshoring in EU countries,² the manufacturing sector accounts for the largest share—56 percent—of all jobs lost, followed by the financial and business consulting services sector accounting for roughly a quarter jobs lost, and the

1. An incident must involve a minimum of 100 layoffs from a site of more than 250 employees and affect more than 10 percent of the total workforce in order to be included in the EMCC coverage. See Kirkegaard (2005) for an elaboration on the validity problems involved in the collection of data on offshoring through media monitoring.

2. Note that this does not mean a net loss of 50,000 jobs to the EU-25 as a whole, as it is likely that a significant share of jobs lost in one EU member was shifted to another, especially among the 10 new member states.

information and communications technology (ICT) sector accounting for just below 20 percent. On the other hand, all other sectors of the EU economy have hardly been affected by offshoring. This finding that EU offshoring is concentrated in manufacturing, financial services, and ICT is consistent with Jensen and Kletzer's findings (2005) that these sectors are generally tradable, as well as with Forrester Research Inc.'s findings (McCarthy 2002, Parker 2004), which identify the occupations heavily present in these sectors as the most likely to be affected by offshoring.

In addition, numerous consulting company and stakeholder reports, generally based on surveys of clients of the companies, have attempted to map the extent of job loss in Europe to offshoring. A nonexhaustive list includes McKinsey Global Institute (2003, 2004), KPMG (2004), EFILWC (2004), Roland Berger and UNCTAD (2004), TUC (2004), and PWC (2004). These studies generally vary widely in methodology, and the range of estimates of job loss is significant. Little is known about the net job effects in Europe of offshoring because all the data, estimates, and studies previously listed concentrate exclusively on jobs lost to EU member states from offshoring and ignore any potential traffic the other way—i.e., jobs and company tasks flowing into EU member countries from other countries. The reasons for this neglect of the “other side of the street” are several. One is that data are derived from media reports, which for journalistic reasons tend to focus almost exclusively on the bad news of “job loss,” while ignoring the good news of “job creation.” Two, consulting companies focus on the potential for company labor-cost reductions from offshoring jobs to low-cost countries—a focus when rigidly applied rules out the profitable transfer of jobs in the opposite direction. Three, company surveys capturing both the offshoring and inshoring of jobs would have to be very large in scope to capture a significant number of firms engaging in either (or both) and hence be very costly to carry out. Lastly, when politicians explain policies to the electorate, the analytically crucial gross versus net job loss distinction is made irrelevant, as gross job losses are what drive political dynamics.

The remainder of this paper will present this type of data—i.e., from a large company survey that includes specific information about the magnitude and qualitative features of both “jobs offshored from” and “jobs inshored to” a high-wage EU country, Denmark. Before presenting this new data, it is pertinent to consider that when focusing on the offshoring of jobs, Denmark ought to be an excellent country to study as its citizens generally fear the phenomenon (in figure 1, 54 percent of Danes relate globalization predominantly to job loss) and are relatively heavily affected by it. Figure 3 shows that Denmark, in terms of the relative importance of offshoring as a reason for job loss (y-axis) as well as in terms of jobs lost to offshoring as a share of total employment (x-axis), is two to three times more intensely affected than the EU average.

II. THE NEW DANISH DATA: SCOPE AND METHODOLOGY

The data included in this working paper originate in a major study carried out by Rambøll Management³ during the second half of 2005 and funded by the Danish government's Regional Labor Market Councils⁴ of Zealand, Lolland-Falster, and Bornholm regions. These three regions accounted for 45 percent of the total Danish population in 2005 and 49 percent of the national GDP (2003 data).⁵ See map at figure 4.

As such, the results can reasonably be expected to be representative of the country as a whole, although the inclusion of the capital city of Copenhagen—with its assumed higher-than-national-average number of internationally integrated companies—in the survey may possibly bias the data slightly upward. However, as such upward “metropolitan-city bias” can be expected to affect the levels of both offshoring and inshoring, it ought not to influence the relative magnitude of either side, and any net effects will subsequently be unaffected.

Conceptual Framework

The purpose of this study is to analyze the impact of globalization on the quantity and quality of demand for labor in eastern Denmark. While globalization is a fairly general concept, it has in the context of this study been codified operationally into a questionnaire concerning the extent and characteristics of international outsourcing of activities from companies in the region, as well as the extent and characteristics of the inshoring of activities to the companies in the region—the opposite flow whereby companies located abroad (Danish and foreign alike) relocate activities to the eastern Danish region. The analysis furthermore includes information about industry sectors and the “transferability of firms’ operations and job functions.” The focus is on existing job functions that potentially can be offshored from Denmark’s eastern region to other countries, as well as on functions that can potentially be moved to the region.

Methodologically, offshoring and offshore outsourcing refer to a firm’s decision to relocate activities, which hitherto had been carried out internally in the firm’s Denmark location, to other units

3. Information is available at www.r-m.com. This working paper encapsulates the principal results of the study and presents the conclusions drawn from a larger study. The full analysis report is available in Danish only.

4. The Regional Labor Market Councils in Denmark comprise local representatives of employer organizations, unions, and regional/municipal government representatives and are responsible for the worker retraining and personalized job search assistance in Denmark. They are funded exclusively by the central government’s general tax revenue.

5. Data from the national Danish statistical agency at www.dst.dk (accessed January 7, 2006).

of the firm and/or external partners of the firm located outside the country. Company outsourcing of tasks to domestic Danish companies are thus excluded from the analysis. Subsequently, for the remainder of this working paper, the term “offshoring” is used to cover both organizational modes of international outsourcing. Figure 5 illustrates the outsourcing and offshoring options available to a firm, plus those options included in this analysis. It is also important to note that this survey covers only the offshoring of existing activities from Denmark, and investments in new activities—i.e., greenfield foreign direct investment (FDI)—by firms at foreign locations are not included.

Inshoring refers to the opposite process whereby a firm located outside Denmark transfers operations to a firm located in the eastern region of Denmark.⁶ However, it was frequently not possible for the Danish firm (or foreign subsidiary in Denmark) to assess whether a given new activity in Denmark had been completely relocated to Denmark or was a wholly or partly new activity in the country. The survey design could therefore not define the inshoring of activities in an equally narrow manner as in the case of offshoring from regional firms. As a consequence, inshoring includes both existing activities—previously carried out by a firm located outside Denmark—and investments in new activities in Denmark (i.e., inward FDI into Denmark).

By including inward FDI, the methodological demarcation of inshoring is larger than the corresponding demarcation for offshoring, which explicitly excludes outward direct investments from the region to locations outside the country. This would lead one to expect a relative upward bias in the data findings for inshoring and a resulting bias in the net results. Yet the intent of the survey is to measure the net impact of globalization on the regional Danish labor market, not to measure the net regional balance of global job creation by firms with operations in the region. As outward direct investments impact the regional labor market only through the potential related transfer of existing jobs abroad, it is only through this channel that it is included in this survey.

An argument can be made that outward direct investments from firms in the region to other countries affect the local labor market even in the absence of the relocation of existing jobs as a result of “second-order effects” from forgone investments—investments placed outside rather than inside the region. However, such an argument hinges on the implicit assumption of a 1-1 (or close to) trade-off between jobs created through investments abroad and jobs that could have been created regionally had the investments been placed here. Given the obvious differences in labor productivity levels between countries, individual firms, and individual projects, this assumption is untenable. Jobs created through investment abroad cannot sensibly be equal to jobs forgone at home. In the absence of foreign

6. Note that domestic outsourcing from companies in other regions of Denmark to companies located in the eastern region of Denmark are excluded from this definition of inshoring, so that inshoring includes only jobs flowing to the region from outside Denmark’s international borders.

investment opportunities, firms would have most likely made no new regional investments, and the true counterpart to FDI abroad is therefore zero new jobs rather than “jobs forgone.” Due to this true counterfactual of zero new jobs, this effect is not covered in this working paper. Moreover, one company executive interviewed for the study expressed that the spillover effect of outward direct investments on Danish employment in quite clear and positive terms; he stated, “during recent years we have created some 800 jobs in Malaysia and Indonesia—if we had not done so, we would not have been able to keep the 400 jobs in Denmark.”⁷ In other words, the direction of the indirect spillover effect on Danish employment from new FDI may be ambiguous.

In the study, a distinction is made between inshoring of activities—production of goods/ services located in the Danish region on a long-term or permanent basis by a company abroad even though the company could potentially choose to undertake the activity outside the region—and normal exports and sales. In practice, however, the distinction between the inshoring of activities and the added sale of products and services is blurred. Follow-up interviews with companies participating in the survey have revealed cases where companies have registered “inshoring of activities” in the survey, but it would have been more precise to categorize the activity as standard sales. As a consequence, a small overestimation in the survey data of inshoring of activities is possible.

It is important to stress that offshoring and inshoring do not happen in isolation, as they are part of the broader evolution in a firm’s demand for labor. The underlying processes are flexible and dynamic, and it may be that the offshoring of certain activities and job functions constitutes a precondition for growth of other job functions (see executive’s quote above). Moreover, both offshoring and inshoring may entail synergies and dynamic effects that result in increased job creation in the firm. For these reasons, the aim of the analysis is also to isolate the impact of offshoring and inshoring from the broader evolution in firms’ demand for labor.

Lastly, the operationalization of globalization excludes from the analysis situations where intensified global competition and other driving forces in international markets cause firms located in Denmark to reduce their operations or the number of jobs (i.e., through regular downsizings due to increased competition). Similarly with job creation, the analysis does not include situations where new jobs are created as a result of entrepreneurial initiatives or growth in Danish or foreign firms due to rising demand or market shares in Denmark, even if it cannot be ruled out that globalization has indeed influenced this growth. The study is therefore a partial analysis of the impact of offshoring and inshoring on the labor market and not a full-scale analysis. This applies to the effects of globalization on both job creation and job destruction.

7. For a comprehensive analysis of this issue, see Graham (2000, particularly appendix B).

Enterprise Survey

The analysis is based on a 1,504-company survey among the total population of companies in the region in the following sectors: manufacturing; utilities: electricity, gas, and oil; transportation; and business services.⁸

These sectors are characterized by the fact that offshoring of jobs is possible either through primary activities in their value chain or through secondary activities, such as administrative/back-office activities. This selection roughly follows the same characterizations used by the Danish Economic Council, which, in 2004, presented a major study regarding the offshoring of jobs from Denmark. The current study is expanded to include additional sectors in which Denmark, particularly its eastern region, is host to large companies and where offshoring of back-office functions could be expected.⁹

Hence the analysis only includes sectors in Denmark assumed to have activities that are tradable and that in principle can be offshored and inshored. Both companies with and without international activities are included in the analysis.¹⁰

The total population in the selected sectors is approximately 3,600 companies, of which 1,500 have been interviewed in the survey. The analysis is therefore highly representative of the sector, geography, and size of the companies, with companies employing fewer than 10 employees excluded. In total, the 1,500 firms in the survey constitute 42 percent of the entire population of companies in the region.

Interviews with Companies and Estimation of the Job Impact of Offshoring and Inshoring

The study sheds light on firms' activities when they were engaged in offshoring and/or inshoring during 2002–05 and the employment-related consequences. The consequences are estimated on the basis of responses from companies regarding the number of full-time jobs for four categories of educational levels (unskilled workers, skilled workers, short and medium-length education, and tertiary education), and seven job functions. The companies were screened against a set of criteria (size, industry

8. Based on NACE nomenclature: General Industrial Classification of Economic Activities within the European Community—manufacturing: 15000–36999; utilities (electricity, gas, and oil): 40000–40999; transportation: 60000–64999; financial sector (banking and insurance): 65000–67999; business services: 71000–74999.

9. Danish Economic Council (2004) selects 54 sectors within manufacturing and 15 sectors within finance and business services. The reason for this selection is that those sectors are primarily relevant in relation to offshoring.

10. Here, “international activities” is understood in the broad sense and covers all forms of business activities in which the firm is engaged abroad, e.g. sales, production, project activities, subsidiaries, etc.

sector, inshoring/offshoring behavior, offshoring destination, and others) and placed in six segments through a multivariate, statistical analysis to ensure that the companies in each segment shared similar characteristics.

The current method used to estimate the effects of inshoring and offshoring on employment differs from the methods used in earlier studies.¹¹ While many studies are based on macroeconomic analyses (top-down), the method employed here starts with detailed information from individual companies about the job impact of offshoring and inshoring. This information is then used to estimate the employment effect in the “typical enterprise” (bottom-up), providing a standardized figure of the employment effect for the average company in a segment.¹² The data is then scaled up to an aggregated regional level by including data on the total number of companies and employees at the regional level. To interpret the data in view of this method, it is important to note the following limitations:

- The outcome of the analysis consists of estimates of job impact, not precise figures.
- The survey does not take into account the effect of businesses that disappeared because the company moved entirely out of the region between 2002 and late 2005 and that no longer existed in the region at the time the survey was conducted.
- The analysis does not systematically incorporate the employment effect for Danish subsuppliers that miss out on business opportunities due to offshoring among their clients.

The estimated employment effect is based on variations in employment, which are found to occur in the standardized expression of the “typical company.” Therefore this method does not directly take into account the larger, more spectacular examples of offshoring frequently reported in the media, where a company suddenly reduces its regional workforce by several hundred jobs. Box 1 sums up the scope of the study.

Educational Characteristics of Affected Workers

The survey sheds light on the activities of firms engaged in offshoring and/or inshoring during 2002–05 and on the employment-related consequences of those activities. These labor-market consequences are

11. An example is the above-mentioned analysis by the Danish Economic Council (2004), which uses macroeconomic modeling to assess the job impact of offshoring. See also Ibsen and Westergaard-Nielsen (2005).

12. The principle may be illustrated by the following example taken from the database: In a segment sample of eight firms, five companies with offshoring had not reduced the number of jobs due to offshoring in one of the four educational categories; three companies had reduced the number of jobs with 1, 4, and 12 full-time jobs for staff respectively. The standardization figure for the typical firm in the sample was on this basis estimated as –2.

Box 1 What is and is not included in the analysis

The analysis in this working paper focuses on

- 1,504 companies in industries characterized by location-*in*dependent job functions (including industry, business services, energy, and transport);
- offshoring and inshoring of *existing* activities in the enterprises, as well as the inshoring of new activities from overseas; and
- enterprises located in eastern Denmark (Zealand, Lolland-Falster, and Bornholm regions) with more than 10 employees.

The analysis does not cover

- industries primarily comprising location-dependent job functions (e.g., retailing and the public sector);
- direct investments overseas made by Danish businesses (or foreign subsidiaries located in Denmark); and
- positive and negative effects arising from market-driven developments—i.e., the establishment of new entrepreneurial companies or normal downsizing in companies.

described in terms of the number of full-time jobs based on two parameters—educational attainment and job functions performed—so as to provide a framework for identifying the potentially unequal impact of globalization on different groups of workers.

Four levels of education are included: unskilled worker, skilled worker, short- and medium-length education, and tertiary education:

Seven occupations, related to the specific function/activity rather than the specific sector, are identified. This categorization is chosen because the specific function, and not the specific sector, determines whether the jobs are offshored or not.¹³ The seven job categories are listed in table 1. A correlation evidently exists between job function and the level of educational attainment. But it is not as direct as expected. For instance, it is common that employees in IT job functions are self-taught or that staff with both short- and long-term education carry out marketing functions.

It is important to emphasize that the validity of a categorization, such as the one used in this working paper, is inversely related to the degree of flexibility in an organization. As such, it is more

13. Recall that only the five metasectors identified as containing location-neutral employment is included in the survey. See Mann (2003), Kirkegaard (2004), McCarthy (2004), and Parker (2004) for European examples of occupational rather than sectoral analysis of offshoring.

difficult to validly identify specific job functions within an organization if companies develop a higher degree of functional flexibility, whereby employees perform several parallel functions. For instance, this occurs when engineers in small- or medium-sized companies have specialist, sales, and management functions.

III. DATA FINDINGS

This section focuses on the “two-way street” of offshoring and inshoring. By way of introduction, some overall figures regarding the extent of offshoring from and inshoring to companies in the Danish region are shown. This is followed by a more detailed presentation of some of the findings pertaining to such activity and their implications for companies’ demand for labor. Finally, the relative scope of offshoring and inshoring is broken down into more detailed types of activities and between domestic and foreign companies in order to show this aspect of the influence of the international economic system on the Danish economy.

Overall Scope of Offshoring and Inshoring

Figure 6 shows the overall regional distribution of offshoring and inshoring of activities for the companies in eastern Denmark.

The analysis shows that 43 percent of the enterprises have participated in the international distribution of labor via offshoring and/or inshoring of their activities. Regarding expectations for the near future (1 year), the analysis indicates this proportion will grow substantially. Sixteen percent of those enterprises that have not experienced either offshoring or inshoring of activities in the past three years expect to do so in the coming year.

It is important to emphasize that figure 6 does not provide a comprehensive image of the importance of offshoring and inshoring, as it does not provide information about the quantitative scope of offshoring and inshoring (in terms of the number of workplaces or the financial value). It merely provides a yes/no measure of whether or not offshoring or inshoring has occurred in the individual firm. A firm heavily involved in offshoring of jobs therefore receives the same weight in figure 6 as a company that has offshored to a much lesser degree.

Bearing in mind these limitations, the survey nonetheless shows that the proportion of enterprises that have acquired activities from overseas is larger than the share of enterprises that have transferred activities abroad. Even when taking into account the possibility of a slight overestimate of the extent of inshoring, as described in the previous section, it is clear that inshoring of activities is widespread.

The survey accordingly shows that the balance of offshoring versus inshoring has thus far been positive. This positive balance indicates that on a net basis the eastern region of Denmark is attracting economic activities from overseas.

Offshoring

As shown in figure 6, 23 percent of the companies in the eastern Danish region have offshored activities during the past three years. To place this in a more international context, a survey carried out by UNCTAD in 2004 found that 39 percent of the top 500 European firms had engaged in offshoring of services alone (UNCTAD 2004, 153). The use of offshoring among firms located in the Danish region is clearly below that level, with the main reason likely being that the firms in the Danish region are much smaller than the firms on the European top 500. Yet, the finding that nearly a quarter of regional companies with more than 10 employees have offshored tasks is surprisingly high.

The survey indicates that there are several motivations and drivers behind offshoring. In the survey, enterprises rated the importance of different reasons for offshoring on a scale from 1 to 5, where 1 is “no importance” and 5 is “decisive importance.” The enterprises in the analyzed region on average rated “reduce wage costs” at 3.7. By comparison, the enterprises rated “cooperation with external partner necessitated offshoring” at 1.7 on the same scale. A principal finding is that the reduction of costs—both wage and other costs—is usually the main reason for offshoring of activities but rarely is it the only motive. Figure 7 shows the importance of different motives behind offshoring.¹⁴

When comparing the motives of Danish enterprises for offshoring with corresponding international data, a general picture emerges showing that more strategically based reasons play a lesser role within the Danish region’s enterprises than within other international enterprises (Kakabadse and Kakabadse 2002).¹⁵ In addition, the findings from the qualitative interviews with companies suggest that Danish enterprises are generally in the early phase of gaining experience with offshoring. The general impression from follow-up interviews is that a large number of the enterprises, which undertook offshoring during 2002–05, started to offshore activities from Denmark only during the past one or two years, a fairly short time horizon. This may, however, change over time. As described by Maskell et al. (2005), a typical evolutionary pattern for enterprises that offshore their activities is that initially they do

14. Figure 7 is adapted from Kakabadse and Kakabadse (2002).

15. Kakabadse and Kakabadse (2002) do not describe their sample of European and US companies in detail, but it is likely that the companies are larger than the Danish companies in this study. This may be one explanatory factor behind the differences between Danish and other firms with respect to motivational drivers.

it to save money, but eventually there are other motives—for instance, when an enterprise discovers that there is valuable knowledge to be gained from partner enterprises and countries to which its activities are being transferred.

The fact that strategic business development considerations, such as access to new technologies, industry best practices, new skills and markets, play a relatively limited role in offshoring decisions indicates that these regional companies may struggle to benefit from offshoring in the long term as these one-time cost savings are achieved (and realized also by their competitors). Regional offshoring thus seems driven predominantly by short-term considerations, although it is possible that the inclusion of FDI (from the region) and the companies' broader internationalization strategies would alleviate this apparent "short termism" present in companies' strategic considerations.

The strong emphasis on cost reduction is also reflected in companies' choices of offshoring destinations. As shown in table 2, Asia and Eastern Europe, where costs are generally lower than in Denmark, are very important destinations for offshoring from Danish companies. However, much offshoring is destined for Western Europe, which underpins the importance of "nearshoring" for Danish companies and reflects that the main trading partners are neighboring countries such as Sweden, the United Kingdom, and Germany.

Figure 8 reveals several phenomena regarding offshoring in Denmark. It lists the sectoral division of tasks offshored, although it is important to note that the total population here is not the entire population of companies in the eastern region of Denmark but only 23 percent (or 332 companies of the survey) that have actually offshored activities. More than half of the enterprises have offshored manufacturing activities. Forty-five percent of enterprises that have undertaken offshoring activities have transferred one or more types of service activities, with IT-related tasks being the dominant activity. Hence the offshoring of IT tasks, which has been the subject of considerable attention and debate in the United States and the United Kingdom in recent years, is now decisively also occurring in Denmark. As a subset of services, a relatively large amount of offshoring of research and development (R&D) activities, broadly defined, is also taking place. Twenty-nine percent of offshoring enterprises have offshored various types of R&D activities.

Impact of Offshoring on Individuals with Different Skill Levels and Job Functions

This section focuses on educational qualifications and job functions. The main conclusion of the survey is that enterprises tend to reduce the number of unskilled workers following offshoring and tend to hire more workers with higher education. The survey indicates that standardized manufacturing processes continue to be the main focus of offshoring. Because unskilled employees frequently perform

manufacturing activities, which require a relatively low educational attainment, the analysis clearly suggests that offshoring of these activities creates a particularly challenging situation for this group of employees.

Another finding applies to the offshoring of IT activities, where all three types of IT activities—operations, development, and programming—are being subjected to offshoring of relatively advanced activities. This is accompanied by corresponding requirements for IT employees to be able to cope with the change in job content, either by using the freed-up resources to create new activities via innovation or by performing other existing activities that are equally or more complex.

Table 3 shows the changes in employment in the firms after offshoring. At 22 percent, the unskilled staff category has experienced the most cutbacks in employee numbers among the enterprises that have offshored their activities. A somewhat smaller number of enterprises have reduced the number of skilled employees in the wake of offshoring.

Staff with short- and medium-length higher education backgrounds have experienced more frequent employee reductions than skilled workers. This could indicate the presence and importance of specialized skills and/or work-specific experience in the latter group. Meanwhile, a relatively large proportion (12 percent) of the offshoring enterprises hired more employees with either a short- or medium-length education after they offshored.

As far as staff with tertiary education is concerned, the analysis shows that enterprises that engaged in offshoring more often took on additional highly skilled employees than they laid off. In other words, offshoring of activities by companies has had a net positive effect on the employment opportunities for highly educated people. Many other factors influence this evolution, but the firms have generally acknowledged that offshoring plays a relatively important role in this respect.

Quantitative Impact of Offshoring on Particular Job Functions

Globalization impacts the demand for individual job functions. Focusing on job functions instead of educational categories provides a more thorough understanding of globalization's impact on the labor market.

Table 4 lists, by job functions, the number of offshored jobs from the eastern region of Denmark. The total amount of jobs that have been offshored is estimated at 2,697, corresponding to approximately 0.7 percent of the total regional employment during 2002–05, which includes approximately 414,000 people¹⁶ in the included sectors.

16. Refers to 414,000 employed in the region for the included sectors in 2004 (Statistics Denmark, PEND11, 2006).

As mentioned above, the manufacturing sector accounts for approximately 57 percent of the offshored activities in the region. Table 4 shows that among the manufacturing functions, it is primarily the jobs performed by low-skilled workers that are being offshored and only to a lesser extent those performed by highly skilled workers. The offshoring of manufacturing activities, however, also affects workers with more specialized process skills and as such is not confined to the low-skilled workers in the production.

Call center functions (included in sales and customer functions) are offshored to a lesser extent. This is contrary to the trend seen in the United States and the United Kingdom, which can be explained by the fact that the Danish language serves as a barrier to this kind of offshoring.

Administrative functions include accounting, IT, and financial functions. Almost one-third of the total amount of offshored jobs are included in these administrative functions, which corresponds to the high level of offshoring of these types of service activities as described in the previous section. Specialized and management functions have seen a very small degree of offshoring.

Inshoring

As shown in figure 6, 30 percent of companies in the Danish region have had inshoring of activities during 2002–05. More companies have inshored activities compared with the number of companies that have offshored activities. Therefore, the principal result of the survey is that economic globalization in eastern Denmark not only means that activities are offshored from Denmark to other locations but also that it is indeed a two-way street where activities are flowing both to and from the companies located in the region.

In general terms, many factors both positively and negatively influence the desire of enterprises to make investments and establish operations in Denmark. The qualitative interviews in the study made it possible to indicate some of the drivers and motivations. Typical reasons are:

- transfer of existing activity portfolios to or the establishment of new functions in the international company. In these instances, several motives may occur separately or together. Activities
 - have been moved to the enterprise in Denmark in order to achieve economies of scale through functional specialization, where particular functions are consolidated in the company's Danish entity (either in the Danish subsidiary or in a Danish company's headquarters).
 - are consolidated in the company's Danish entity in order to improve centralized management of the company (applicable to Danish parent companies).

- are consolidated in the company's Danish entity in order to achieve synergy effects from the interaction of one particular function (e.g., product development) with other functions in the value chain.
- placing activities in the Danish enterprise to gain access to labor, competences, and technology that exist in the region's enterprises.

Given that product manufacturing is the activity most often offshored and has received much media attention in the public debate in the past few years, it is notable that the survey shows that product manufacturing is also simultaneously being imported into the region and is the single activity with the highest individual number of inshoring firms (figure 9). Thirty-five percent of enterprises, which have undertaken inshoring of activities, have transferred manufacturing activities into the region from overseas.

The survey also shows there is inshoring of activities in numerous service sectors as well as in R&D activities. Taken as a whole, the broad category of service tasks is the most dominant inshoring activity: a total of 58 percent of enterprises that have engaged in inshoring have imported service activities. A total of 26 percent of enterprises that have engaged in inshoring have imported R&D activities.¹⁷

Most notable about inshoring service activities is that they are disproportionately destined for the Greater Copenhagen area rather than the region as a whole. Fully 71 percent of all activities inshored to the eastern region of Denmark went to the Greater Copenhagen area.¹⁸ This clearly illustrates the importance of possessing a metropolitan city of a certain size in order to attract service-sector activities to a region.

Impact of Inshoring on Individuals with Different Skill Levels and Job Functions

Not all cases of inshoring have resulted in the creation of new jobs. Only in 36 percent (161 instances) of the 450 instances of inshoring of tasks did companies expand their regional payroll, indicating that close to two-thirds of inshored tasks are taken on solely by the existing eastern Danish workforce. This clearly points to “consolidation of particular tasks” through inshoring as mentioned above. It further illustrates the need for a high-wage workforce—such as the Danish—to be flexible in today's globalizing world and constantly be willing to take on additional tasks.

17. Note that these percentages are calculated based on individual company responses and therefore account for the fact that individual firms may have inshored tasks in multiple service sectors.

18. Additional regional detail is available in the Danish-only full analysis report.

However, among the 161 firms that did hire additional workers following the inshoring of tasks, the results show that the same educational groups that benefited from offshoring also benefited from the opposite trend. In brief, inshoring of activities into Denmark results in most jobs going to those with higher education and creation of only a few jobs for the unskilled.

Accordingly, among those enterprises that imported activities, two-thirds of enterprises experienced growth in the total number of employees who possessed a tertiary education (table 5). Half of these inshoring enterprises hired short- and medium-length educated employees, while unskilled and skilled workers were only hired in less than a quarter of the instances.

Quantitative Impact of Inshoring on Particular Job Functions

While job creation followed only approximately one-third of the cases of inshoring of activities, there nonetheless was a significant quantitative impact. Table 6 lists an estimate of the number of jobs created as a consequence of inshoring in the eastern part of Denmark. During 2002–05, 4,185 jobs were created, 55 percent more than the number of jobs lost through offshoring (table 6).

Figure 9 surprisingly shows that numerous manufacturing tasks have been inshored to the region. However as table 6 shows, this inshoring of manufacturing tasks did not create any low-skilled manual jobs. This leads to the conclusion that the manufacturing tasks flowing into the eastern Danish region were overwhelmingly highly skilled and/or specialized in character, while low-skilled manufacturing tasks were not been brought to the region.

The sales and customer relations' functions saw some inshoring of jobs. This goes against the general trend of moving sales and customer functions to call centers in low-wage countries. The fact that such jobs are still being inshored to Denmark shows the importance of local language in Denmark—one needs to know Danish to operate in Denmark—as well as underlines the general importance of specialized localization of sales and marketing activities.

Administrative functions also grew due to inshoring. As in the case of sales and customer relations functions, this trend contradicts the general trend of offshoring back-office functions to low-wage countries. One explanation for this inshoring of jobs could be the relative success of the Greater Copenhagen region in attracting regional headquarters for multinational companies.

The most striking development in relation to offshoring and inshoring is apparent in the specialist functions category, mainly comprising workers with a higher/tertiary education. Fully 59 percent of the jobs created through inshoring of activities are specialized functions. This illustrates that even though the survey showed the first signs of offshoring of specialist functions and R&D (figure 8), the eastern Danish region simultaneously attracts a far larger number of this type of jobs. The net

gain in employment for this group—2,370 jobs—is far larger than the total net gain in employment of approximately 1,500 jobs for all the groups considered in this survey.

Comparison of Tasks Offshored and Inshored

Danish and European concerns regarding the consequences of globalization have, in recent years, focused almost exclusively on offshoring of jobs. Yet, this survey shows that both offshoring and inshoring are occurring for different sectors and types of activities. In other words, a dynamic development of interaction is occurring, which reflects the integration of the region's enterprises into the international economy. For the manufacturing sector, the trend toward two-way traffic is more pronounced, even though the amount of offshoring of manufacturing from the region is greater than the amount of inshoring.

Table 7 compares the percentages of inshoring and offshoring for each category of activities. There is a net positive balance between offshoring and inshoring for the following activities: financial services/accounting, product development, knowledge management, R&D activities, and sales and marketing. On the other hand, the following activities are characterized by net offshoring: manufacturing, IT programming, and IT development. The most striking aspect of the net balance comparison in table 7 is that no sector seems to be a one-way street, but rather all sectors are two-way streets—with the most traffic occurring in the manufacturing sector, where it flows pretty steadily in both directions.

Nonetheless, these Danish results mirror US and UK concerns of net losses in product manufacturing and some areas of IT during recent years, while also pointing to net activity gains in high-wage regions in areas such as financial services/accounting, management, and R&D. Therefore when measured by the “task and sector,” globalization is clearly a two-way street. Table 8 shows that traffic patterns by job category are very different. Evidently, low-skilled jobs in eastern Denmark have faced close to a one-way traffic out, while highly skilled, specialized jobs have largely only flowed into the region. Intermediate job categories on the other hand have experienced a two-way traffic, and management has not been affected.¹⁹

This survey hence points clearly to the lopsided job effects of globalization in high-wage regions, with low-skilled jobs disappearing, high-skilled ones appearing, and, most importantly, far more categories of jobs being affected in a two-way manner than in earlier periods. See box 2.

19. That management functions have not been affected is likely partly because the survey covers only existing companies. Management jobs affected via companies completely leaving the region are not included.

Box 2 Which activities do multinational corporations transfer and where?

Globalization is closely related to the rising importance of multinational companies, also in the eastern Danish region. These are the companies that through their established intraorganizational channels for knowledge and technology flows, administrative capacities, and financial strengths should be more likely than domestic-only companies to exploit any comparative advantages between regions and countries with different wage/talent levels by rapidly relocating their activities in a profit-maximizing manner. Hence a separate analysis of the data was carried out, focusing only on those regional companies that are a part of a multinational group.

First, multinational companies, as expected, are far more likely to participate in the global division of labor than other areas of the domestic-only business community. Among enterprises in multinational groups, only 15 to 20 percent have not been involved in offshoring or inshoring activities over the past three years and do not expect to be involved in the coming year. In contrast, among the total population of enterprises, more than twice as many companies—41 percent—are currently not involved in offshoring or inshoring and do not expect to participate in the next year.

Table B1 shows the flows of tasks inside foreign multinational companies (between their foreign parent company and their regional subsidiaries) and local multinationals (between the local parent company and its foreign subsidiaries).

Table B1 Offshoring and inshoring of tasks by multinational companies, 2002–05

	Offshoring	Inshoring	Net balance
Between foreign parent and local subsidiaries	57	105	48
Between local parent and foreign subsidiaries	83	84	1

Note: Total number of parent companies in survey = 100; total number of subsidiaries = 291.

Source: Enterprise survey, Rambøll Management, 2005.

The results indicate that foreign multinational companies inshore activities to the eastern Danish region almost twice as often as they offshore activities, while local multinational companies transfer activities in and out of their regional headquarters and foreign subsidiaries at an equal level. Multinational companies as a whole are hence responsible for a net inshoring of activities to the region, and while no employment transfer data are available for only this group, it probably seems that it contributes positively to regional employment.¹

The fact that foreign multinationals are responsible for positive net flows of activities again illustrates the relative regional success of the Greater Copenhagen region in attracting regional headquarters of such companies.

That foreign and Danish multinationals, which ought to have the best opportunities of shifting activities out of the region, bring so many activities to such a high-wage and very expensive location as Greater Copenhagen² indicates that the region possesses strong comparative advantages in the areas this survey has found growth in—high-skilled specialized functions³—and indicates that presumably even very high tax rates can be overcome to attract high-skilled jobs.

1. However, it should be noted that the survey design covered only companies that existed in late 2005, which means that regional subsidiaries completely closed down by multinational companies (Danish or foreign) were not covered. As such instances during 2002–05 cannot be ruled out, a downward bias in the estimation of the true number of tasks offshored is likely.

2. Copenhagen was ranked the 8th most expensive city to live in by Mercer Human Resource Consulting's 2005 Cost-of-Living Survey; it was the most expensive European city outside Switzerland and London and more expensive than any US city (New York ranked 13th).

3. No data for sector and occupational detail are available for the multinationals-only group in the survey.

IV. CONCLUSION AND POLICY IMPLICATIONS

This working paper presents the results from a survey of more than 40 percent of all companies with more than 10 employees in sectors exposed to offshoring from the high-wage eastern region of Denmark, and the study has found clear indications of a two-way impact of globalization in the form of activities and jobs being offshored from and inshored to the region. In 2002–05 more jobs were created as a result of inshoring of activities into the region than were eliminated due to offshoring.

Overall, the employment effects of both offshoring and inshoring were found to be limited to less than 1 percent of all jobs lost to offshoring or gained via inshoring. This clearly indicates that for Denmark the worries in purely numerical terms regarding the employment effects of globalization seem overly alarmist.

Both offshoring and inshoring were found to take place in essentially all relevant sectors of the economy, particularly in manufacturing and IT. Hence the label of a two-way street for globalization in eastern Denmark is appropriate.

Job and activity outflows were found to be concentrated among low-skilled workers in manufacturing and IT but also to a lesser degree in R&D functions. Inshoring was concentrated among highly skilled and specialized job functions, while medium-skilled administrative, customer relations, and trade functions experienced both job inshoring and outflows. Globalization therefore has fundamentally exposed all tradable service areas, except management, to global competition while having a highly unequal effect on the labor market in this high-wage region, destroying low-skilled jobs and bringing in more higher-skilled jobs.

Multinational companies were found to be much more likely to engage in offshoring and/or inshoring than domestic companies, and foreign multinationals were found to be inshoring activities to the region far more often than shifting them abroad.

The findings of the survey are therefore roughly in line with what the comparative advantage economic trade theory (Farell 2005; Samuelson 2004; Markusen 2005; Bhagwati, Panagariya, and Srinivasan 2004) would predict them to be as the consequences of offshoring and further points to several policy implications for the region, as well as for Europe as a whole.

It is clear that the presence of the metropolitan area of Greater Copenhagen within the eastern Denmark region has been vital to its relative success in attracting jobs. The presence of such a metropolitan area hence seems to be crucial for any high-wage region to prosper in the face of ongoing economic globalization. This further indicates that—seen in isolation—nonmetropolitan and rural areas may suffer under these influences. Such trends will have many distorting effects on local employment opportunities and thereby on housing prices, for example. The latter would clearly be expected to rise in

the metropolitan area while declining outside it—a trend seen in recent years in the eastern Denmark region.

As the inshoring of jobs occurs almost exclusively among the high-skilled portions of the workforce, the importance of continued emphasis on education, skill upgrading, and life-long learning cannot be stressed enough. It seems obvious from the results of this survey that only this way can high-wage areas continue to attract jobs and activities from elsewhere in the world. Furthermore, high-skilled workers are required to be flexible, as this survey has found evidence that many tasks are being inshored by companies to the region without new employees being added to their payrolls. Evidently, high-wage, high-skilled workers are increasingly asked to take on new and additional tasks to keep their jobs.

And while the region and Denmark in general has a relatively well-educated workforce, there is a clear risk that the region could in future experience a shortage of workers with the longest tertiary educational backgrounds. Preventing such a shortage either by increasing the number of locals who graduate from long tertiary programs or by bringing in substantially more highly skilled foreigners must therefore be the priority for Danish national and local policy makers.

Finally, the principal findings of this survey—that an open, flexible, and high-wage region in Europe that has gone a comparatively long way in implementing the policies needed to achieve the EU Lisbon goals can generate more and better jobs from globalization in the early 21st century than it loses to it—ought to encourage European policymakers and stakeholders in those EU countries that have yet to fundamentally reform their economies along the lines outlined in the Lisbon Agenda to move in this direction.

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Table 1 Job functions

Job function	Example
Low-skilled manual work	Manual work in manufacturing, machine operation, machine fitting
Operator and process-related functions	Precision machine work, process manufacturing
Skilled trade and craft operations	Skilled machine fitting, trade and craft work
Sales and customer functions	Call-center work, sales, marketing
Administrative functions	Bookkeeping, secretarial tasks, correspondence clerking, back-office work
Specialized functions	Engineering, consultancy, legal work, logistics/supply chain management
Management functions	Operational and enterprise management

Note: The job functions are generated on the basis of the DISCO nomenclature, which is a Danish version of the EU nomenclature ISCO-88 (International Standard Classification of Occupations).

Table 2 Offshoring destinations

Destination	Percent of companies offshoring to
Western Europe	46
Asia	42
Eastern Europe	41
North America	13
South America	4
Other regions	4

Note: Total number of companies surveyed = 332

Source: Enterprise survey, Rambøll Management, 2005.

Table 3 Change in employment after offshoring, by educational category (percent)

Category	Fewer employees	More employees	Unchanged number of employees	Do not know
Unskilled workers	22	4	64	10
Skilled workers	15	6	70	8
Short and medium-length education	19	12	64	5
Tertiary education	13	17	66	5

Note: Total number of companies surveyed = 332

Source: Enterprise survey, Rambøll Management, 2005.

Table 4 Offshoring of jobs, 2002–05

Job function	Number of jobs offshored	Percent of total
Low-skilled manual work	826	31
Operator and process-related functions	301	11
Skilled trade and craft operations	527	20
Sales and customer functions	145	5
Administrative functions	791	29
Specialized functions	107	4
Management functions	0	0
Total	2,697	100

Source: Enterprise survey, Rambøll Management, 2005.

Table 5 Growth in employment after inshoring, by educational category (percent)

Category	Growth in employment
Unskilled	23
Skilled	22
Short- and medium-length higher education	50
Tertiary education	66
Do not know	1

Note: Total number of companies surveyed = 161

Source: Enterprise survey, Rambøll Management, 2005.

Table 6 Inshoring of jobs, 2002–05

Job function	Number of jobs inshored	Percent of total
Low-skilled manual work	0	0
Operator and process-related functions	203	5
Skilled, trade and craft operations	291	7
Sales and customer functions	454	11
Administrative functions	766	18
Specialized functions	2,471	59
Management functions	0	0
Total	4,185	100

Source: Enterprise survey, Rambøll Management, 2005.

Table 7 Difference between inshoring and offshoring in relation to activities (percent)

Activity	Inshoring	Offshoring	Net balance (in minus out)
Manufacturing	24	29	-5
Financial services/accounting	10	5	+5
Sales and marketing	8	5	+3
Knowledge management	7	3	+4
IT operations	6	6	0
IT programming	5	9	-4
Logistics and procurement	4	4	0
Customer service center ("call center")	3	3	0
Wage and personnel administration	3	3	0
Product development	10	5	+5
IT development	5	6	-1
Research and development	8	5	+3

Note: Total number of respondents (enterprises with inflow and/or offshoring) = 647. Kakabadse and Kakabadse (2002) primarily describe activities related to outsourcing, and the activities described in this study have used most of these categories but have added further activities related to sales and marketing and IT.

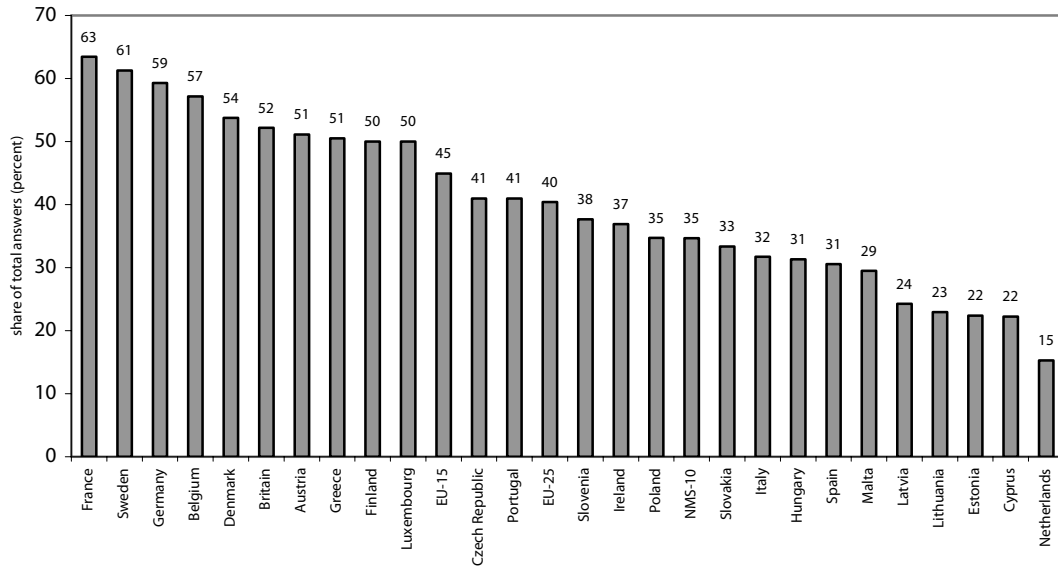
Source: Enterprise survey, Rambøll Management, 2005.

Table 8 Net job growth from offshoring and inshoring, by job category
(number of jobs)

Category	Offshoring	Inshoring	Net
Low-skilled manual work	-826	0	-826
Operator and process-related functions	-301	203	-98
Skilled trade and craft operations	-527	291	-236
Sales and customer functions	-145	454	309
Administrative functions	-791	766	-25
Specialized functions	-107	2,471	2,364
Management functions	0	0	0
Total	-2,697	4,185	1,488

Source: Enterprise survey, Rambøll Management 2005.

Figure 1 What do Europeans think of "globalization"?

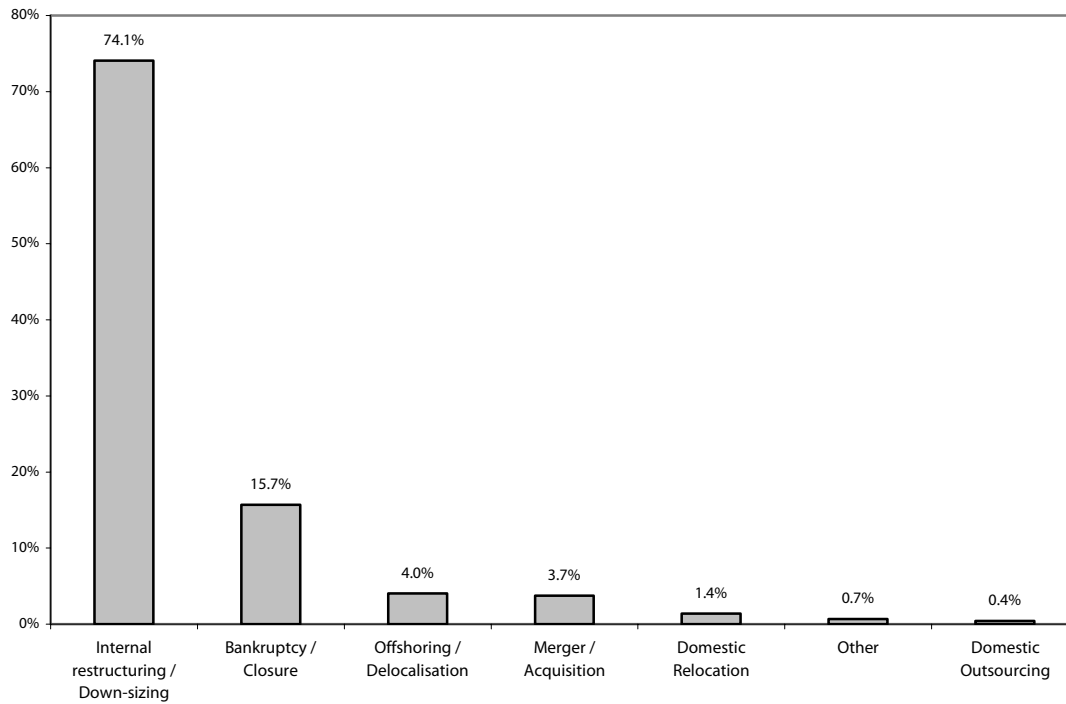


NMS-10 = new member states

Note: Percent of Europeans who think of delocalization of companies to countries with cheap labor when they hear the word "globalization."

Source: European Commission, Eurobarometer 63, spring 2005, question Q6.

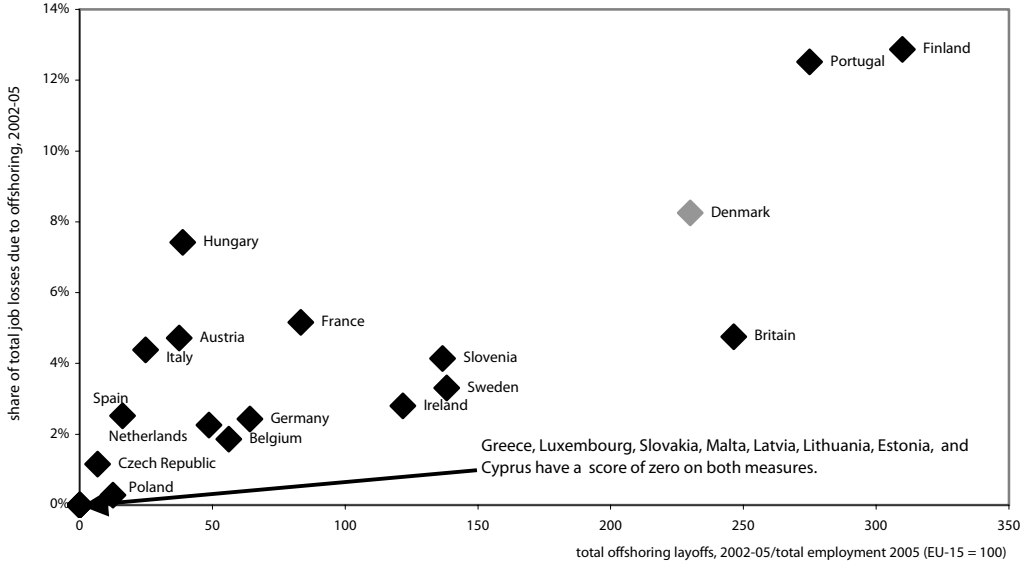
Figure 2 Job loss in the EU-25, by reason of layoffs, 2002–05



Note: Offshoring/delocalization is when the activity is relocated or outsourced outside of the country's borders. Outsourcing is when the activity is subcontracted to another company within the same country, and relocation is when the activity stays within the same company but is relocated to another location within the same country. Total number of layoffs covered from 2002 to 2005: 1,229,217.

Source: EMCC European Restructuring Monitor.

Figure 3 Offshoring intensity by EU member state



Sources: EMCC European Restructuring Monitor; Eurostat Labor Force Survey.

Figure 4 Eastern Denmark and the Nordic countries

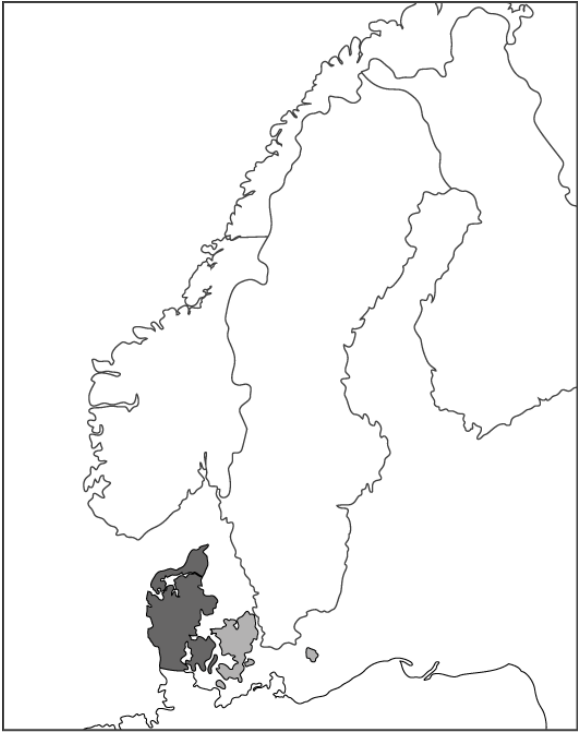


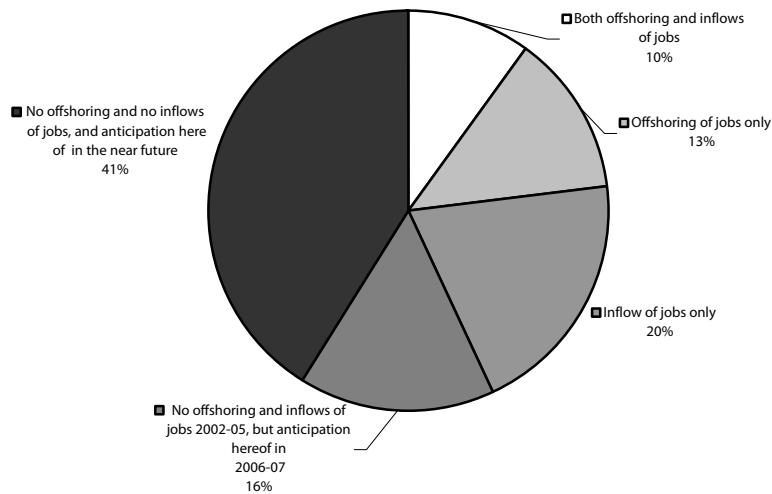
Figure 5 Firms' outsourcing options

	Internal	External
Domestic	Domestic in-house production (relocation)	Domestic outsourcing
International	(Captive) Offshoring	Offshore outsourcing

Note: Shaded cells indicate option is covered in this study.

Source: Adapted from UNCTAD (2004)

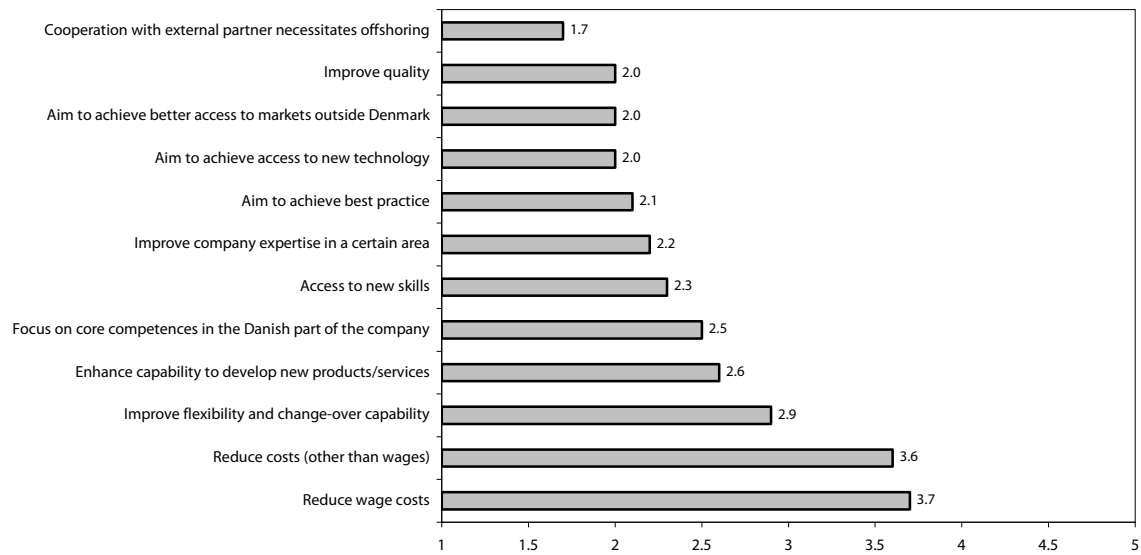
Figure 6 Offshoring and inshoring of jobs in eastern Denmark, 2002–05 (percent)



n= 1,504; true population = approximately 3,500.

Source: Enterprise Survey, Rambøll Management, 2005.

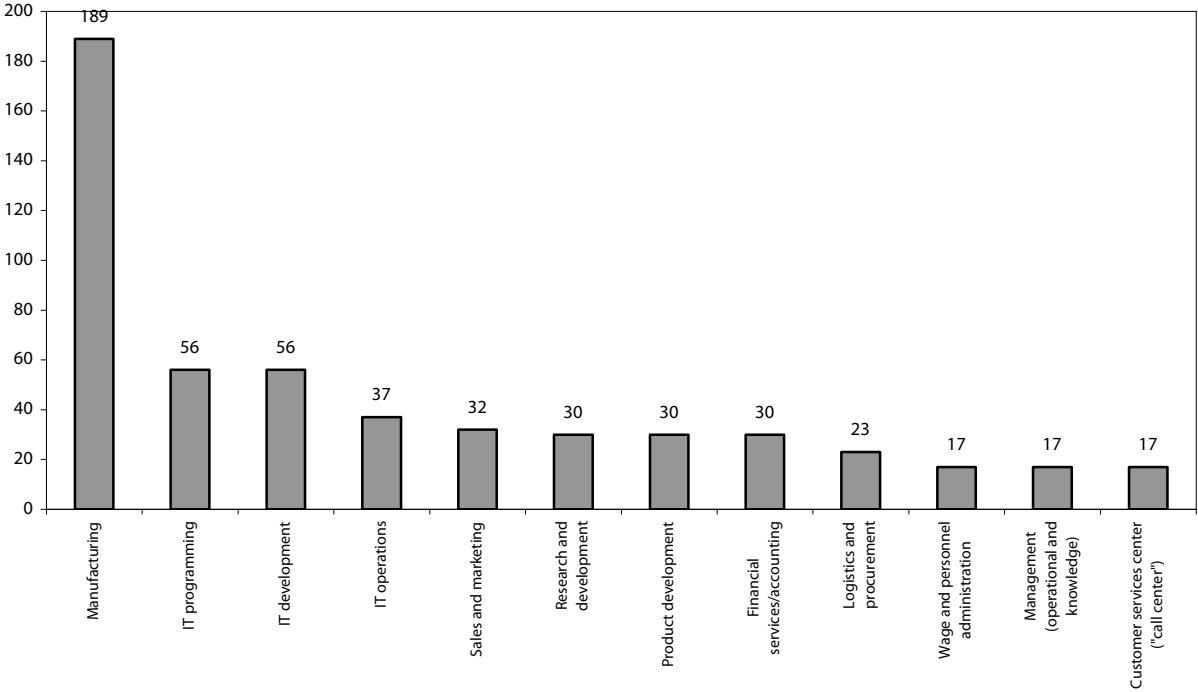
Figure 7 Importance of reasons for offshoring



Note: 1–5 = index; 5 = most important.

Source: Enterprise Survey, Rambøll Management, 2005.

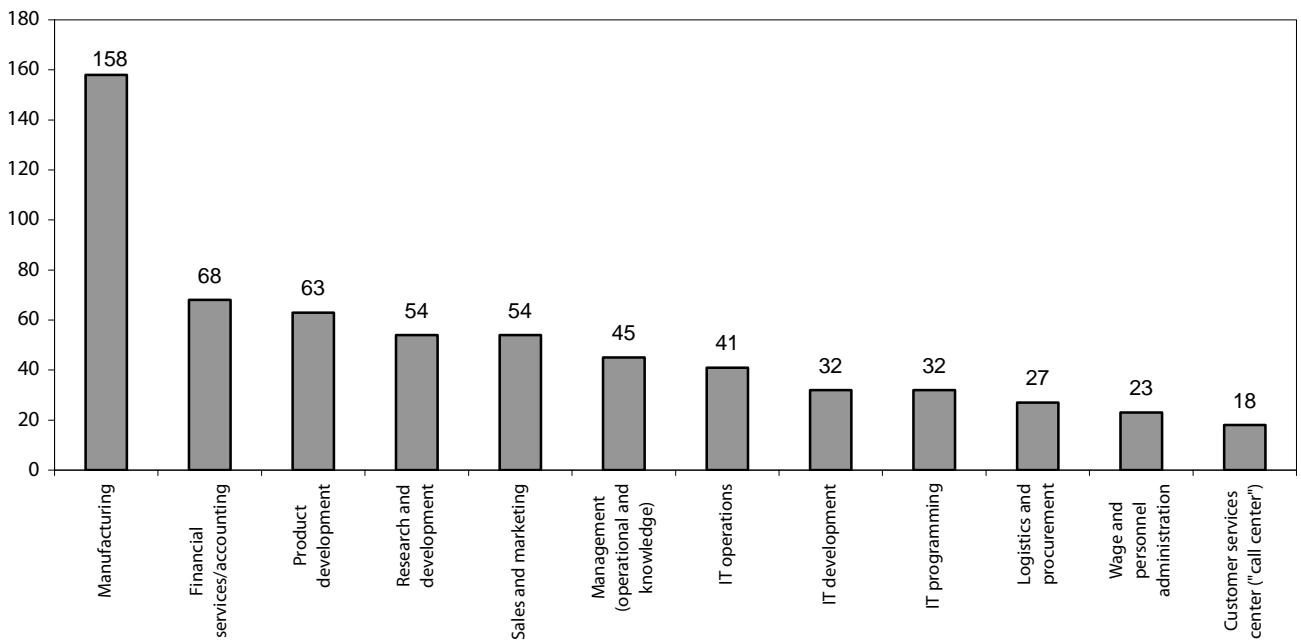
Figure 8 Companies that have offshored activities to eastern Denmark by sector of activity, 2002–05^a



a. The total number of companies are 332, and each company may have offshored activities in several sectors.

Source: Rambøll Management, 2005.

Figure 9 Companies that have inshored activities from eastern Denmark, by sector of activity, 2002–05 ^a



a. The total number of countries is 450, and each company may have inshored activities in several sectors.

Source: Rambøll Management, 2005.