JOB EFFECTS OF THE TWO-WAY STREET OF OFFSHORING AND INSHORING

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Abstract

Based on a large Danish survey of firms in tradable goods and services sectors, this article 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 firms outside Denmark (i.e., inshored to Denmark) than were eliminated due to offshoring from firms in the Danish region. 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.

Keywords: Business Strategy, Labor Market, Offshoring, Offshore Outsourcing

INTRODUCTION

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 acfirming 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 article 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 firm tasks during 2002–05. The first section briefly describes existing knowledge about offshoring in Europe, the second section discusses how the offshoring phenomenon has been addressed in the international business literature, the third section presents the innovative methodology and analytic scope of the new data from Denmark, the fourth section presents the data findings, and the final section concludes with policy implications at the national and European level.

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.

INSERT FIGURE 1 ABOUT HERE

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 destination 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 incidents 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 (4% of total job reduction) lost in Europe during 2002–05 was due to offshoring whereas the most recent data (2nd quarter 2008) show that the relative importance of offshoring for job reduction has dropped even further and now accounts for 2.8% of announced job losses (figure 2).

INSERT FIGURE 2 ABOUT HERE

Roughly 50,000 jobs have by this estimate have been lost during the 2002-05 period to offshoring in EU countries, although this does not mean a net loss of 50,000 jobs to the EU as a whole, as it is likely that a significant share of jobs lost in one EU member state was shifted to another, especially among the 10 new member states. 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 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 2004, Parker 2004), which identify the occupations heavily present in these sectors as the most likely to be affected by offshoring.

In addition, numerous consulting firm and stakeholder reports, generally based on surveys of clients of the firms, 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), 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 firm 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 firms focus on the potential for firm 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, firm 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 firm 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 a certain share of citizens fear the phenomenon (in figure 1, 36 percent of Danes relate globalization predominantly to job loss, which incidentally is a notable drop from the 54% who responded in a similar way in the 2005 Eurobarometer). Furthermore, the Danish economy and firms located in Denmark are closely tied to the international economy and we can therefore view the Danish case as an example of how globalization develops in an open economy with a highly adaptive labor market and a high level of internationalization in the manufacturing and service sectors.

INTERNATIONAL BUSINESS RESEARCH AND OFFSHORING

Offshoring took off as a research field in the international business literature of the 1960s and followed an emerging phenomenon whereby US multinational corporations offshored labor-intensive manufacturing processes to low-cost production zones in developing countries like Mexico and the Philippines (Moxon, 1975; Stopford and Wells, 1972). Offshoring per se is therefore not a new phenomenon (Lewin and Peeters, 2006; Maskell et al, 2007) and is addressed throughout the international business literature in the seminal works of Buckley and Casson (1976), Dunning and Lundan (2008), Hennart (1982) and Vernon (1966). Despite the classic roots, recent authors have pointed out that there seems to be a shortage of research that

seeks to contribute to the development of a coherent theory able to capture recent years' evolution in offshoring of business activities (Mol et al., 2005), that there is a need to revisit existing theories of the international business in view of offshoring (Doh, 2005), and that a framework drawing on many theoretical perspectives is needed to understand offshoring (Kedia and Lahiri, 2007; Niederman et al, 2006; Hansen et al, 2008).

In the academic literature on offshoring from recent years there seems to be little consensus as to what the impacts of offshoring are at different levels, i.e. national, industry sector, firm (Doh, 2005). Farrell (2005) mainly stresses the economic benefits for firms of offshoring to low-cost destinations, but also notes that cost savings are only the beginning. Farrell argues that "what is needed is a total transformation of business processes to harness the new environment's potential" (Farrell, 2005, p. 679). In the same issue of the Journal of Management Studies, Levy (2005), in contrast, stresses the potential negative consequences of services offshoring for highly-skilled workers. In this respect, a number of concerns are evident in the recent offshoring literature, ranging from the possibility of rising and widespread unemployment, even among knowledge workers, as noted by Levy (2005), to the danger of the "hollowing out" of the competitiveness of firms and nations. This danger is addressed in academic work (e.g. Blinder, 2006; Kotabe, 1989; Sturgeon, 2006; Trefler, 2005) and in the business press (see Economist, 2004), but without clear conclusions as to the long-term dynamics and implications of the trend. Assessing the impact of offshoring on the demand for labour is complicated. In their book on MNCs and the world economy, Dunning and Lundan (2008) also note that the effects of MNCs on levels of employment have been the focus of considerable debate in recent years due to the increased use of offshoring of both manufacturing and services functions (see also UNCTAD, 2004). Overall, the lack of

agreement concerns both offshoring at large across industry sectors and types of activities offshored which might be a result of the different types of effects caused by offshoring.

Based on Swedish data from the 1995-2000 period Ekholm and Hakkala (2006) address the question of the impact of offshoring on the demand for labor. The authors conclude that offshoring to low-income countries tends to shift labor demand away from workers with an intermediate level of education while offshoring to high-income countries (by far the largest share of total offshoring) does not have any significant effect on the composition of labour demand. Jensen and Kletzer (2008) discuss the effect of services offshoring on labor demand in the US and argue that the "fear" of offshoring seems inappropriate as the low-wage, low-skill job reduction from a comparative advantage perspective can be expected to be offset by high-wage, high-skill job gains from services offshoring. In this respect Dunning and Lundan (2008) outline two different types of employment impact of MNC activity on home countries. On the one hand MNC investment abroad can result in an increase in the demand for high-level skills and managerial services, and/or the increased export of intermediate goods from the home country. On the other hand, if the investment abroad simply acts as a substitute for domestic investment and the exports arising from such investment, at least the immediate effect on home country employment would be expected to be negative, although the long term effects could be positive if the domestic MNC improves its competitive position over time (Dunning and Lundan, 2008, p. 425). This means that 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 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. Moreover, one firm executive interviewed for the study expressed 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"* (for a comprehensive analysis of this issue, see Graham (2000, particularly appendix B). In other words, the direction of the indirect spillover effect on Danish employment from new FDI may be ambiguous.

METHODOLOGY

The data included in this article originate from a study carried out by a team of consultants and scholars (including the authors) under the auspices of Ramboll Management during the second half of 2005 and funded by the Danish government's Regional Labor Market Councils of Zealand, Lolland-Falster, and Bornholm regions. These three regions accounted for 45 percent of the total Danish population in 2005 and 47 percent of the national GDP in 2005 (Statistics Denmark, 2007).

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 firms—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.

Delimitation of Offshoring, Offshore Outsourcing and Inshoring

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 offshoring of activities from firms in the region, as well as the extent and characteristics of the inshoring of activities to the firms in the region—the opposite flow whereby firms 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 to other units of the firm and/or external partners of the firm located outside the country. Firm outsourcing of tasks to domestic Danish firms 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 3 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 activities

somehow rooted in Denmark prior to foreign relocation. Inshoring refers to the opposite process whereby a firm located outside Denmark transfers operations to a firm located in the eastern region of Denmark.

INSERT FIGURE 3 ABOUT HERE

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 firm abroad even though the firm 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 firms participating in the survey have revealed cases where firms 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.

Data Compilation and Sample Characteristics

The analysis is based on a 1,504-firm survey among the total population of firms in the region in the following sectors: manufacturing; utilities: electricity, gas, and oil; transportation; and business services.[i] 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 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. Our study is expanded to include additional sectors in which Denmark, particularly its eastern region, is host to large firms and where offshoring of back-office

functions could be expected. Hence the analysis only includes sectors in Denmark assumed to have activities that are tradable and that in principle can be offshored and inshored.

Firms with fewer than 10 employees are excluded from the sample, offshoring rarely being an option for such small firms. This leaves a total population of 3,580 firms in the selected sectors. We contacted all firms four or five times by phone at regular intervals during the six-week data collection period. This gave each firm ample opportunity to participate, and systematic monitoring during data collection ensured that the ultimate share of participating firms in each segment in terms of sector, geography and size corresponded to the actual share of firms in the population. In terms of sector, geography and size of the firms, we thus believe the sample to be highly representative of the firms. In total, we obtained usable responses from 1,504 firms, which make the response rate 42%.

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 firms 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 firms were screened against a set of criteria (size, industry sector, inshoring/offshoring behavior, offshoring destination, and others) and placed in six segments through a multivariate, statistical analysis to ensure that the firms in each segment shared similar characteristics.

While many studies are based on macroeconomic analyses (see e.g. Danish Economic Council, 2004), the method employed in this study starts with detailed information from individual firms about the job impact of offshoring and inshoring. This information is used to estimate the employment effect in the "typical enterprise", providing a standardized figure of the employment effect for the average firm in a segment. The principle may be illustrated by the following example taken from the database: In a segment sample of eight firms, five firms with offshoring had not reduced the number of jobs due to offshoring in one of the four educational categories; three firms 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. The data is then scaled up to an aggregated regional level by using data on the total number of firms and employees at the regional level. To interpret the data in view of this method, it is important to note the following limitations. First, the outcome of the analysis consists of estimates of job impact, not precise figures. Second, the survey does not take into account the effect of businesses that disappeared because the firm 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. Third, the analysis does not systematically incorporate the employment effect for Danish suppliers 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 firm." Therefore this method does not directly take into account the larger, more spectacular examples of offshoring frequently reported in the media, where a firm suddenly reduces its regional workforce by several hundred jobs. Such incidents are treated as outliers.

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 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 (recall that only the five metasectors identified as containing location-neutral employment is included in the survey (see Kirkegaard, 2005, Mann, 2003, McCarthy, 2004, and Parker, 2004, for European examples of occupational rather than sectoral analysis of offshoring). The seven job categories are listed in table 1.

INSERT TABLE 1 ABOUT HERE

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 article, is inversely related to the degree of flexibility in an organization. As such, it is more difficult to validly identify specific job functions within an organization if firms develop a higher degree of functional flexibility, whereby employees perform several parallel functions. For instance, this occurs when engineers in small- or medium-sized firms have specialist, sales, and management functions.

EMPIRICAL RESULTS

This section focuses on the dual flows of offshoring and inshoring. By way of introduction, some overall figures regarding the extent of offshoring from and inshoring to firms 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 firms' 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 firms 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 4 shows the overall distribution of offshoring and inshoring of activities for the firms in eastern Denmark.

INSERT FIGURE 4 ABOUT HERE

The analysis shows that 43 percent of the firms have participated in the international distribution of labor via offshoring and/or inshoring of their activities. Figure 4 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 4 as a firm that has offshored to a much lesser degree.

Bearing in mind these limitations, the survey nonetheless shows that the proportion of firms that have acquired activities from overseas is larger than the share of firms 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 4, 23 percent of the firms in the eastern Danish region have offshored activities during the past three years. A recent study of offshoring among Danish and other Nordic firms with 50+ employees showed that 19% of all firms located in Denmark are currently offshoring (Statistics Denmark, 2008). Yet, the finding that nearly a quarter of regional firms 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, firms 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 firms in the analyzed region on average rated “reduce wage costs” at 3.7. By comparison, the firms 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. Similar patterns are found in other studies (e.g. Lewin and Couto, 2007). Figure 5 shows the importance of different motives behind offshoring.

INSERT FIGURE 5 ABOUT HERE

In addition, the findings from the qualitative interviews with firms suggest that Danish firms 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 firms, 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. Other studies show that a typical evolutionary pattern is that firms initially offshore 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 firms and countries to which its activities are being transferred (Lewin and Peeters, 2006; Maskell et al, 2007).

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 firms 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 the firms' broader internationalization strategies would alleviate this apparent "short termism" present in their strategic considerations.

The strong emphasis on cost reduction is also reflected in firms' 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 firms. However, much offshoring is destined for Western Europe, which underpins the importance of "nearshoring" for Danish firms and the comparatively lower levels of liability of foreignness in these countries (the main trading partners are neighboring countries such as Sweden, the United Kingdom, and Germany).

INSERT TABLE 2 ABOUT HERE

Table 3 shows the sectoral division of tasks offshored and reveals several phenomena regarding offshoring in Denmark. More than half of the 332 offshoring firms have offshored manufacturing activities. Forty-five percent of firms 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 since the late 1990s, 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. 29 percent of offshoring firms have offshored various types of R&D activities.

INSERT TABLE 3 ABOUT HERE

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 firms tend to reduce the number of unskilled workers following offshoring and tend to hire more workers with higher education. The study 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.

Table 4 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 firms that have offshored their activities. A somewhat smaller number of firms have reduced the number of skilled employees in the wake of offshoring.

INSERT TABLE 4 ABOUT HERE

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 firms 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 firms that engaged in offshoring more often took on additional highly skilled employees than they laid off. In other words, offshoring of activities by firms has had a net positive effect on the employment opportunities for highly educated people. Many other factors influence this evolution, but the firms have in follow-up interviews 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 5 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 people in the included sectors.

INSERT TABLE 5 ABOUT HERE

As mentioned above, the manufacturing sector accounts for approximately 57 percent of the offshored activities in the region. Table 5 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 may 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 4, 30 percent of firms in the Danish region have had inshoring of activities during 2002–05. More firms have inshored activities compared with the number of firms 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 firms located in the region.

In general terms, many factors both positively and negatively influence the desire of firms 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. A typical reason is the transfer of existing activity portfolios within the firm or the establishment of new functions in the firm. In these instances, several motives may occur separately or together. These include, first, the transfer of activities to the firm in Denmark in order to achieve economies of scale through the concentration of specialized knowledge in the firm's Danish entity. Second, the activities are consolidated in the firm's Danish entity in order to improve centralized management of the firm (applicable to Danish parent firms). Third, the activities are consolidated in the firm'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. Fourth, the activities are located in the Danish enterprise to gain access to labor, competences, and technology that exist in the region's firms.

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 (table 3). Thirty-five percent of firms, 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 firms that have engaged in inshoring have imported service activities. A total of 26 percent of firms that have engaged in inshoring have imported R&D activities.

Most notable about inshoring service activities is that they are disproportionally 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. 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 firms expand their regional payroll, indicating that close to two-thirds of inshored tasks are taken on solely by the existing eastern Danish workforce. 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.

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 161 firms that inshored activities, two-thirds of firms experienced growth in the total number of employees who possessed a tertiary education (table 6). Half of these inshoring firms hired short- and medium-length educated employees, while unskilled and skilled workers were only hired in less than a quarter of the instances.

INSERT TABLE 6 ABOUT HERE

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 7 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 3 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.

INSERT TABLE 7 ABOUT HERE

The sales and customer relations' functions saw some inshoring of jobs. This goes against the general trend of moving sales and customers 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 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 firms.

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, 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.

INSERT TABLE 8 ABOUT HERE

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 firms 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 3 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 3 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.

The Role of MNCs in Inshoring and Offshoring

Globalization is closely related to the rising importance of MNCs, also in the eastern Danish region. These are the firms that through their established organizational channels for knowledge and technology flows, administrative capacities, and financial strengths should be more likely than domestic-only firms 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 firms that are a part of a multinational group. The data show that MNCs, as expected, are far more likely to participate in the global division of labor than other areas of the domestic-only business community. Among firms 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 firms, more than twice as many firms—41 percent—are currently not involved in offshoring or inshoring and do not expect to participate in the next year. An analysis of the flows of tasks inside MNCs (between their parent or sister firm outside Denmark and their regional subsidiaries located in Denmark) and local MNC (between the local, Danish, parent firm and its foreign subsidiaries) shows that foreign multinational firms inshore activities to the eastern Danish region almost twice as often as they offshore activities, while local multinational firms transfer activities in and out of their regional headquarters and foreign subsidiaries at an equal level. The flows between a foreign parent/sister firm and the subsidiaries located in Denmark included 57 cases of offshoring from Denmark and 105 cases

of inshoring to Denmark, creating a net balance of 48 cases of inshoring. The flows between a Danish parent and its foreign subsidiaries included 83 cases of offshoring from Denmark and an almost equal number of cases – 84 – of inshoring to Eastern Denmark. MNCs 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.

DISCUSSION AND CONCLUSIONS

Offshoring Flows Result in a Net Employment Gain

This article presents the results from a survey of more than 40 percent of all firms with more than 10 employees in sectors exposed to offshoring from the high-wage eastern region of Denmark. The study 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 metaphor of a two-way street for globalization in eastern Denmark is appropriate.

The Benefits of Offshoring Flows are Unequally Distributed

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. The study 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. 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.

The Organizational Designs of MNCs and Offshoring

Multinational firms were found to be much more likely to engage in offshoring and/or inshoring than domestic firms, and foreign multinationals were found to be inshoring activities to the region far more often than shifting them abroad. That foreign and Danish MNCs, 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 Copenhagen indicates that the region possesses strong comparative advantages in the areas this survey has found growth in—high-skilled specialized functions—and indicates that presumably even very high tax rates can be overcome to attract high-skilled jobs.

While offshoring is not confined to MNCs, different organizational models of the MNC in the international business literature are helpful in this regard as one explanation of the link between offshoring and firm organization. A traditional model of the organization of the MNC is the "multi-domestic MNC" (Bartlett and Ghoshal, 1998) which implies a dispersed value chain, where the foreign subsidiaries are mini-replicas of the parent firm (see also e.g. Pearlmutter, 1969, who refers to this model as the "ethnocentric" MNC). In contrast, the concentrated value chain configuration is driven by the fundamental idea to build critical mass and specialization in regional, or global, clusters, e.g. with "centres of excellence" in the firm or shared services centres. As mentioned earlier, this trend is observed in the inshoring of activities to the region. The international business literature refers to this organizational model with different constructs, such as the network-based MNC (Forsgren et al., 2005), the MNC heterarchy (Hedlund, 1986), the meta-national MNC (Doz et al., 2001) or the transnational MNC (Bartlett and Ghoshal, 1998). The study's data appear to support the view that when MNCs change their global organization from the multi-domestic model to the transnational (or any similar) model, offshoring of firm functions becomes a product of this organizational change.

Offshoring and Inshoring Make Firms Move Up the Value Chain

The findings of the study are roughly in line with what the comparative advantage economic trade theory (Bhagwati et al, 2004; Farrell 2005; Markusen 2005) would predict them to be as the consequences of offshoring and further points to several implications for the region, as well as for Europe as a whole. A somewhat similar pattern as in earlier studies (Ekholm and Hakkala, 2006) is found in our data as offshoring from Denmark reduces the demand for unskilled labor but only implies a relatively small reduction in the demand for higher skilled

specialists, although groups with intermediate level educations do experience a reduction in demand. Although the study does not allow for a thorough investigation of the issue, our interview data indicates that primarily one of the two types of employment impact outlined by Dunning and Lundan (2008) follows in the wake of offshoring: The offshoring of MNCs and domestic firms increases the demand for high-level skills and managerial services at home (and so does the inshoring to the region). On the other hand, we did not find any evidence, in our interviews with executives, that offshoring functions as a substitute for investments at home. Most often, the competitive pressures in the environment of firms necessitate offshoring in order to sustain existing jobs in Denmark.

Policy Implications

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. Florida (2005) describes the importance of cities as the "spikes" in the economic landscape. The data further indicate 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 firms 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 study—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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ANNEX

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

Table 2: Offshoring destinations

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

n = 332

Table 3: Difference between inshoring and offshoring in relation to activities (percent)

Activities	**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
Payroll and HRM	3%	3%	0
Product development	10%	5%	+5
IT development	5%	6%	-1
Research and development	8%	5%	+3

N = 647, total no. of respondents (firms) with inshoring and/or offshoring.

Table 4: Change in employment after offshoring, by educational category (percent);

Category	**Fewer employees**	**More employees**	**Unchanged no. 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

n = 332

Table 5: Offshoring of jobs, 2002-2005

Job function	**No. 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

Table 6: Growth in employment after inshoring, by educational category (percent)

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

n = 161

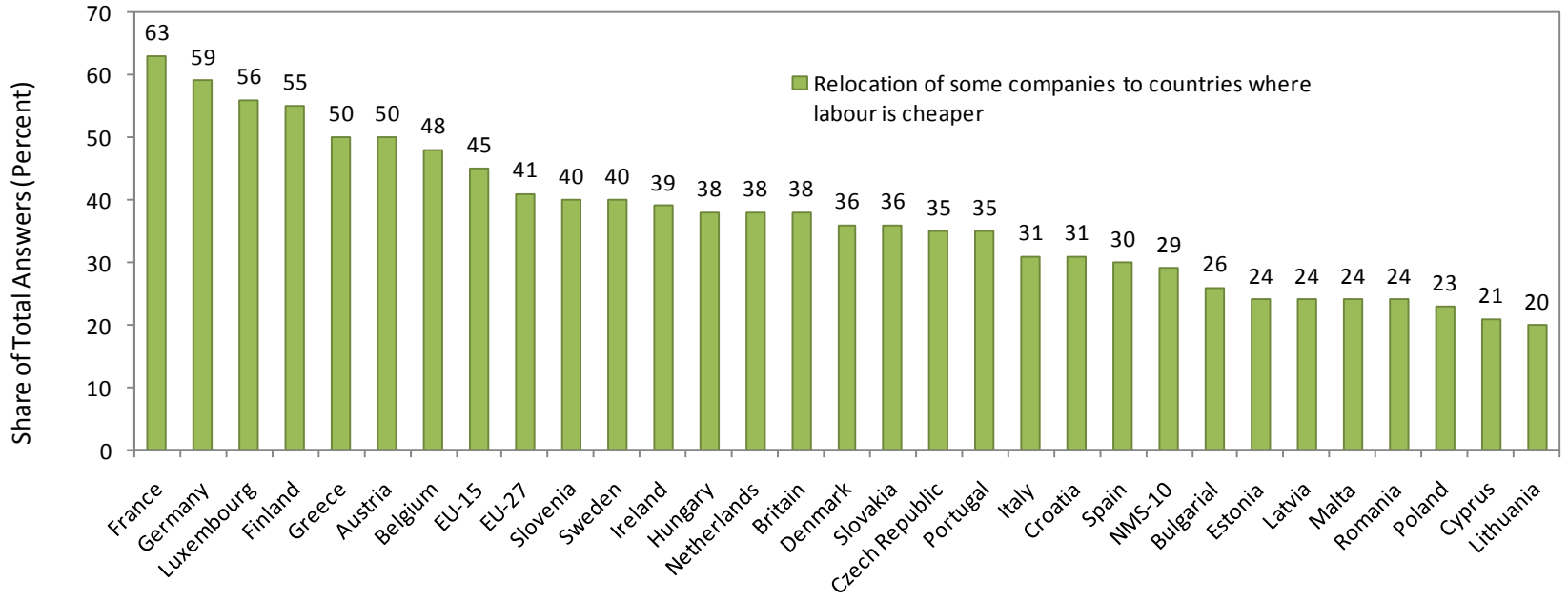
Table 7: Inshoring of jobs, 2002-2005

Job function	No. 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

Table 8: Net job growth from offshoring and inshoring by job category (no. of jobs)

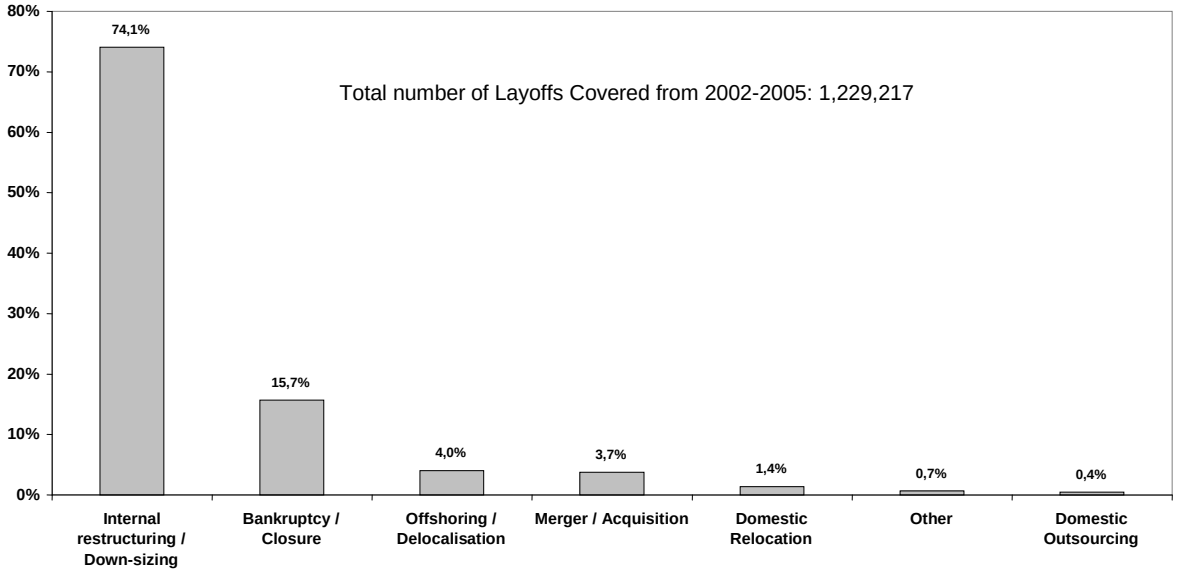
Job function	Offshoring	Inshoring	Net
Low-skilled manual work	-826	0	-826
Operator and process-related functions	-301	203	-98
Skilled trade and craft operations	-527	291	-236
Sales and customer functions	-145	454	309
Administrative functions	-791	766	-25
Specialized functions	-107	2,471	2,364
Management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

Figure 1: What Do Europeans Think Of "Globalization"?



Note: Percent answers to the question; "There are multiple consequences of the globalisation of trade. When you hear the word "globalization", what comes first to mind? Source: *European Comission - Eurobarometer 69, Spring 2008* question QA51a, p.129

Figure 2: Job Losses in the EU-25 2002-2005, by Reason of Layoffs



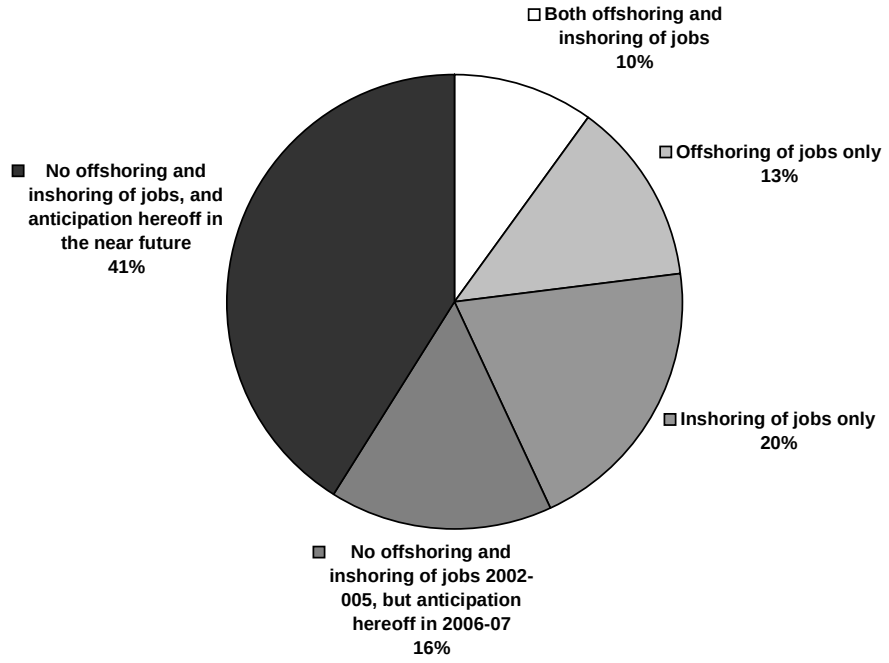
Note: Offshoring/Delocalisation is defined as when the activity is relocated or outsourced outside of the country's borders. Outsourcing is defined as when the activity is subcontracted to another company within the same country, and relocation is when the activity stays within the same company, but is relocated to another location within the same country. *Source: EMCC European Restructuring Monitor*

Figure 3: Firms outsourcing and offshoring options

	Internal	**External**
Domestic	Domestic in-house production	Domestic outsourcing
International (offshoring)	(Captive) offshoring	Offshore outsourcing

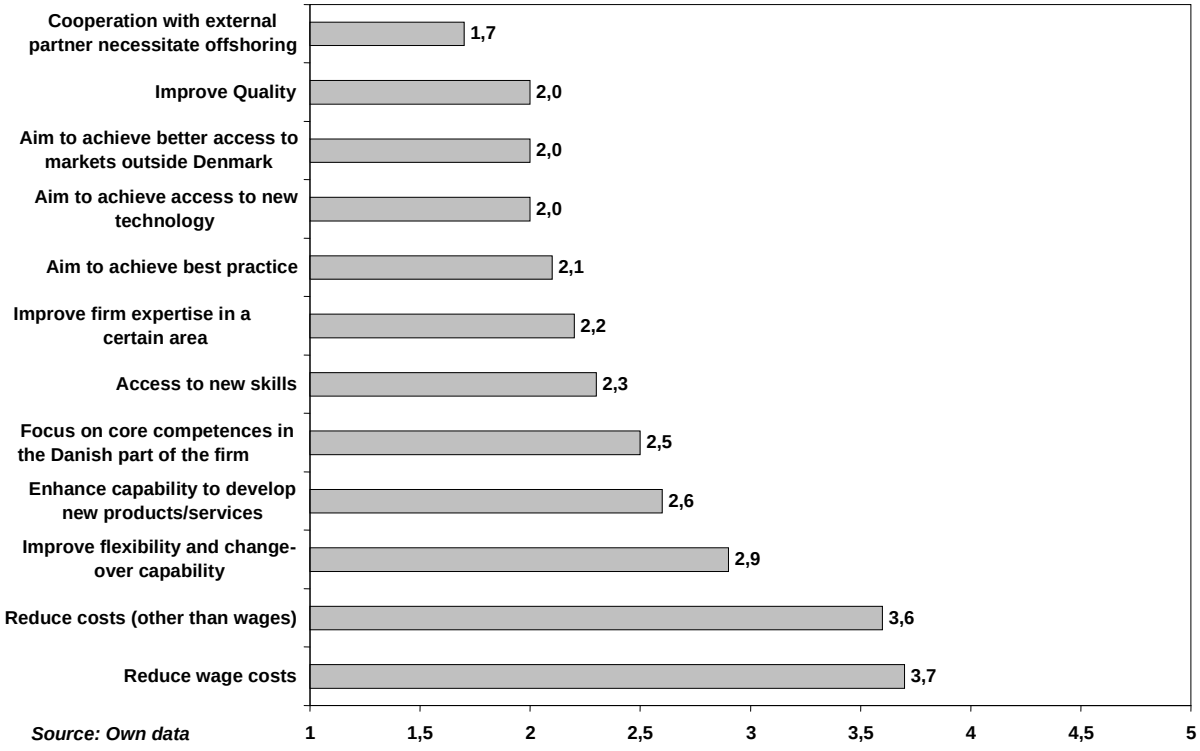
Note: Shaded cells indicate option is covered in this study
Source: Adapted from UNCTAD (2004)

Figure 4: Offshoring and Inshoring of Jobs in Eastern Region of Denmark 2002-05



N = 1,504; True population = approximately 3,600. *Source: Own data*

Figure 5: Importance of Reasons For Offshoring (1-5 Index, 5 = Most Importance)



Source: Own data

[i]. 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.