Employment, working conditions and labour relations in offshore data service enterprises: Case studies of Barbados and Jamaica

by Leith L. Dunn, Ph.D. and Hopeton S. Dunn, Ph.D.

International Labour Office  Geneva
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Leith L. Dunn, Ph.D., and
Hopeton S. Dunn, Ph.D.
Executive summary

This report implements resolution No. 105 concerning salaried employees and professional workers in multinational enterprises which was adopted by the ILO’s Committee on Salaried Employees and Professional Workers in May 1994. It is addressed to the ILO’s tripartite partners: governments, employers (including multinational enterprises) and workers. The study provides up-to-date information on labour practices in enterprises providing offshore computer and related services in the Caribbean. Case studies of Barbados and Jamaica are used to illustrate the main trends as these countries have the largest and most developed IT sectors.

The ILO’s Tripartite Declaration of Principles on Multinational Enterprises, globalization, advances in technology and telecommunications provide a framework for the study, which analyse the history and development of offshore data services in the region. The project examined the impact of the struggle for global competitiveness on labour practices, and used primary and secondary sources to update information on employment, working conditions and labour relations. The report presents the major findings and concludes with recommendations to governments, trade unions and the private sector on strategies that can be adopted to expand employment, and to improve working conditions and labour practices.

Data collection focused on both primary and secondary sources. Primary sources included interviews with a wide range of people and observations made on site visits to locations with a concentration of offshore data service companies. Interviews were held with policy-makers, officials in export development agencies and labour departments, as well as people in close contact with the sector. Secondary sources included previous studies, documents from national, regional and international bodies, as well as research on the Internet.

The findings confirm the original hypothesis, i.e. that global competitiveness, technological change and national investment policies, all influence the content and quality of jobs, the choice of the workforce and working conditions in offshore data service enterprises. The study indicates that these factors result in limited adherence to the ILO’s Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy.

Global competitiveness and technological advances in telecommunications and computer industries have had a major impact on the offshore data services sector in Barbados and Jamaica. Telecommunications infrastructure, pro-IT policy frameworks and generous export incentive packages have contributed to increased employment, the numerical size of the of IT sector, as well as the scale and diversity of companies operating in the last 30 years. The research confirms the findings of previous studies which established a strong correlation between gender, technology and labour practices.

Offshore companies in the Caribbean use a range of technologies to provide services to clients in the United States and other industrialized countries. Most of this work, however, involves basic data processing which is at the lower end of the technology market and uses a female-dominated workforce. Smaller “pockets” of medium and high-tech jobs are found in scanning, imaging and software development. The composition of the workforce changes from female to male in line with the sophistication of the technology. Labour practices also vary in direct correlation with the level of technology used. The gap between wages and working conditions for data entry workers and software programmers is quite wide. The common factor is that skill and technology do not affect unionization. Most of the sector is not unionized, although there are efforts in this direction in Barbados. Generally, the struggle for global competitiveness is being advanced to the detriment of workers’ rights. There is evidence of “body shopping”, which is the practice of using migrant workers to fill technology skill gaps. In Barbados, one company has imported over 300 Indian software programmers, while training Caribbean nationals. A few Jamaican companies have done the same, but on a smaller scale.

To improve global competitiveness in the IT sector, both Jamaica and Barbados have created attractive export incentive policies to encourage overseas investors, with a view to expanding
employment, upgrading IT skills and generating foreign exchange. A variety of education, training and marketing strategies has been initiated to improve the region’s comparative advantage of proximity to the United States (which reduces shipping costs), the English language facility and comparable levels of speed, accuracy, security and reliability compares with other offshore data service destinations.

An important finding is that the cost of telecommunications in the Caribbean has a greater impact on the region’s competitiveness as an offshore data entry site than the cost of labour, which is relatively higher than competing destinations. Domination by one international telecommunications company with monopoly status in the region has made Caribbean offshore data service sites more expensive than competitors such as Costa Rica, Mexico and the Philippines.

Global competitiveness is also influenced by the high cost of marketing within the United States, which is the largest client base. Fragmentation and a variety of ownership structures have limited the capacity of the two Caribbean countries to market the region as a destination for offshore data services. A collective marketing strategy is therefore needed if opportunities for investment and employment are to expand significantly. This will be a challenge, as the region is best known as a tourist destination and it will be difficult to create the image of workers capable of providing speedy and accurate data services.

Innovative marketing strategies have been adopted, such as Barbados’ flagship trade fair, “BISC ‘98”, which has been held on four occasions, and JAMPRO’s “Target Europe Programme”. The former is an IT trade and promotion fair organized by the Barbados Industrial Development Corporation (BIDC), the company responsible for export promotion and investment. The BISC ’98 programme included presentations of state-of-the-art technologies, seminars, workshops, an IT exhibition and site visits to a range of offshore data service companies. This provided opportunities for potential investors and service providers to learn about the industry. Both countries also market their offshore data services on the World Wide Web; they participate in overseas trade and investment fairs and organize promotion efforts through their embassies in the United Kingdom and the United States. For Jamaica, the Target Europe Programme is being developed to upgrade a core of companies to provide reliable and efficient services to enterprises in Europe.

Emerging trade agreements have also affected global competitiveness. Mexico’s position within the Free Trade Area of the Americas (FTAA), for example, makes it a preferred site for many United States firms and a number of companies have relocated there. Much lower wage rates in China and Eastern Europe reduce the region’s global competitiveness in labour costs. However, the Governments of Jamaica and Barbados have no control over these conditions.

Technological change has also affected competitiveness and the sustainability of jobs. New technologies such as scanning and imaging have eliminated some labour-intensive jobs in data entry and data processing, but have created other opportunities. Further research is needed to form a more accurate picture of these trends.

A comparison of research findings against the background of the ILO Tripartite Declaration shows that employment has expanded over the years, but not consistently.

Equality of opportunity and treatment are influenced by gender, although there is no evidence that male and female data entry workers are paid at different rates. Women dominate the ranks of lower paid, less skilled workers, while the majority of software programmers (with high skills and high wages) are men.

Security of employment is influenced by the ability of companies to win and retain contracts from overseas companies, and to upgrade their technology. There is evidence that technology has eliminated some jobs, created others and improved efficiency.

Training opportunities exist but they vary widely. Barbados has introduced a training scheme as an incentive to investors to encourage technology and skill transfer to locals. Most companies provide limited on-the-job training and liaise with national training and educational institutions.
The study confirms a wide disparity in wages between Caribbean workers and their counterparts in the United States and other industrialized countries. At the most basic level of data entry, findings indicate that this could be as low as one-tenth of the rate in the United States (in the case of Jamaica). This confirms that the main motivation for moving offshore is usually to take advantage of lower wage costs in countries like Barbados and Jamaica. Low wages in the latter country are apparently insufficient to provide basic needs. This, combined with other factors, leads to a high labour turnover among data entry workers. Most workers see data entry employment as a transition phase, which they cannot sustain as a career choice. Company managers in Jamaica also confirm the high staff turnover and a tendency by employees to use the training to seek less stressful jobs elsewhere.

Wages in the sector are both fixed and based on productivity, depending on the level and type of job. Employees at the lower skill levels receive basic wages and productivity incentives based on speed, accuracy and the number of keystrokes per hour. Employees at the higher levels of skill or in supervisory positions receive fixed wages. Benefits to data entry and data processing workers usually include coverage for national insurance, holidays and sick leave. Some companies offer health insurance and life insurance but this is not always the case. Shift work is the norm and most companies operate two shifts, although a few have three.

Concerns about working conditions focus on low wages, the pace of work and occupational safety and health issues but there are few complaints about the physical work environment. The layout and design of most of the companies visited are quite good and sometimes excellent. Criteria for evaluating the work environment included the provision of anti-glare filters on VDU screens and footrests under VDU terminals, space between workstations, overhead lighting in offices and exercise breaks. Most managers responded to queries about low overhead lighting by indicating that this was arranged at the request of employees. The main areas of concern are occupational illness, insufficient protective equipment and inadequate lighting.

The study confirms that while exercises and regular breaks are used in many companies, the practice is not uniform and some workers are not aware of the importance of these breaks. Education, training, more in-depth research and improved monitoring are recommended for the sector as a whole.

The major occupational safety and health issues relate to visual and musculoskeletal disorders associated with exposure to VDUs for extended periods, sometimes without protection from anti-glare filters. Reports of pain in the neck, shoulders and wrists associated with rapid and sustained keyboard use also emerged. The study confirms findings of previous researchers that these problems are associated with poor seating equipment, bad posture and limited knowledge of OSH issues, which contribute to problems such as repetitive strain injury and other illnesses. Stress emerges as a major issue affecting workers in the sector. Apart from the excessive demands of the work itself, conflicting domestic duties add to stress, because the majority of workers are women with children. Practical gender needs, such as child care and proximity of housing to work centres, are not included in planning for the sector. Transportation is also a problem and some companies provide limited support. Employees therefore experience considerable stress and have varying levels of productivity and attendance. Together these factors have given rise to the perception that workers have “poor work attitudes”.

Analysis of the industrial relations climate indicates that freedom of association and the right to organize are generally not respected in the sector. Most companies are not unionized. In the context of a social partnership, the Barbados Workers' Union has attempted to unionize four data entry companies and has met with considerable resistance (especially on the part of one American company). Some companies have threatened to relocate operations to other destinations.

Non-unionization means that wage rates are not usually established through collective bargaining. Instead, some companies base their wages on a review of compensation packages offered by other IT employers, and by the public and private sectors for comparable jobs. In the absence of a unionized workforce, procedures for consultation, the examination of grievances and
the settlement of industrial disputes is left up to the individual companies. Further research is needed on this question, but researchers have only limited access to the sector.

An interesting case study emerged of a company in Barbados which is not unionized, but which has tried to create an atmosphere of mutual respect between workers and management and has introduced worker-friendly policies and practices. Of particular note are their efforts to improve occupational safety and health and provide treatment for work-related illnesses. The manager of this company is a Barbadian woman who began as a data entry operator and has several years experience in the sector. This company demonstrates several features of a "good practice" model.

Reports of worker-management relations include both positive and negative experiences. Size of company and ownership patterns appear to have some effect on this relationship, in that small and medium-sized local companies may be able to offer a less attractive working environment than larger foreign companies, but further research is needed to confirm these observations.

In summary, it can be argued that knowledge-based industries, especially informatics services for export, have become an important strategy for development in the Caribbean region, according to the World Bank (1996:9-10). Technology has undoubtedly assisted in the evolution of this sector. Advances in computer and telecommunications technologies have combined with globalization to have a major impact on the Caribbean offshore data industry. Lower labour costs and proximity to the United States have helped to expand the sector. Gender emerges as an important feature because the majority of low-skilled jobs are held by women and the majority of high-skilled jobs are held by men.

Against this background, a number of recommendations are made to the tripartite partners to increase employment in high-skill, high-wage occupations and improve working conditions as well as labour relations. This paper argues that good practices in employment and labour relations will promote global competitiveness, increase efficiency and improve the chances of the Caribbean becoming a world leader in high-skill offshore data services.

_**Caribbean governments are encouraged to:**_

- liberalize the market for telecommunication services and expand the number of companies to increase competition and reduce costs. This would increase the region's global competitiveness;
- build market linkages between the Caribbean, North America and Europe through research and enhanced overseas marketing initiatives, and by training local companies to negotiate contracts and carry out the work effectively and efficiently. In addition, assistance should be provided to facilitate timely payment for completed contracts;
- strengthen the technological, managerial and financial capacity of local companies to help them offer higher quality, efficient and reliable offshore data services using state-of-the-art technology;
- provide training in technical skills, especially in software development;
- build the human resource capacity of companies providing services to offshore data firms;
- use investment incentives to reward linkages between local and foreign companies to enhance the development effect of the offshore IT sector. This could boost the employment and foreign exchange potential of the offshore service companies;
- collectively market the region as a reliable, efficient location for offshore data services through CARICOM or other appropriate mechanisms. Countries could target specific subsectors in the market, or focus on clients from certain regions to reduce competition;
- improve monitoring and promote good practice in offshore companies by increasing education and training in OSH and raising awareness of ILO standards for the data entry industry. Information should be targeted at workers in the sector, labour officers, trade union members and private companies;
• use incentives to reward data service companies and contractors who adhere to ILO standards, practices and local laws, especially those which relate to occupational safety and health, and labour relations.

*Offshore data service companies or contractors are encouraged to:*

• adopt policies and practices consistent with ILO standards to ensure a healthy industrial relations climate, conducive to high productivity and efficiency;

• provide appropriate equipment, regular breaks and support services to reduce the incidence of RSI and other illnesses which adversely affect productivity and profitability, as well as staff morale.

*Trade unions and workers in offshore data services are encouraged to:*

• increase their knowledge of the sector at global, regional and national level, especially of factors which affect competitiveness, then agree on ways of expanding employment opportunities and improving working conditions and labour practices;

• organize public education and training programmes for trade union members and employees, especially in the area of occupational safety and health.
Background and introduction

Caribbean countries, like many others in the developing world, have embraced technology in their search for economic development. They have introduced investment incentives and built up their telecommunications infrastructure to meet the challenges of globalization, increase employment and encourage the acquisition of skills, as well as to improve foreign exchange earnings. Advances in computer technology and telecommunications have combined to dramatically change the concept and location of work as well as labour practices. Data can be sent and received electronically at a rapid pace through electronic mail (e-mail) and satellites. Employment opportunities created by merging these two technologies and the need to retain global competitiveness have led to a symbiotic relationship between enterprises in industrialized and developing countries. Labour practices in offshore data service enterprises provide an interesting area for research in “teleworking” and the creation of offshore data service industries, hence the importance of this study. Offshore data services reflect the growing phenomenon of enterprises relocating aspects of their operations to companies or groups of companies outside their national borders to enable them to become more cost effective.

Jobs are created to take advantage of lower labour costs in developing countries to increase companies’ global competitiveness. Demand for these services is fuelled by the need for companies to store, retrieve and manage large quantities of data. The merging of information and telecommunications technologies has created the possibility of employees in one country receiving and sending electronic data for clients in remote areas of the world. Data received electronically or in hard copy can be converted into electronic form and transmitted to the four corners of the earth. Analysis of global trends shows that teleworking is conducted in a variety of forms, including the relocation of work internationally, from industrialized to developing countries to take advantage of lower labour and administrative costs. The Caribbean has experienced a phenomenal growth in offshore data service industries over the last 30 years.

This study of offshore data service industries in the Commonwealth Caribbean countries fulfils two main objectives. The first is to implement resolution No. 105 concerning salaried employees and professional workers in multinational enterprises which was adopted by the ILO’s Committee on Salaried Employees and Professional Workers in May 1994. The resolution states, inter alia, that the Committee invited the Governing Body of the International Labour Office to request the Director General “to include in ILO research, studies on multinational enterprises in the services sector with particular attention to the information technology applications (among others) and to report on the results of the said studies to the next session, in particular, on the application of the Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy to these companies”.

The second objective is to provide information on the situation in Barbados and Jamaica as it relates to employment, working conditions and labour relations in offshore data service enterprises, against the background of the ILO’s Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy. Barbados and Jamaica were selected as the two countries with the highest concentration of such industries in the region.

The main hypothesis guiding this study is that global competitiveness, technological change and national investment policies influence the content and quality of jobs, the choice of the workforce and working conditions in offshore data service enterprises. The second hypothesis is that the combined impact of these factors is likely to result in limited adherence to the ILO’s Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy.

The sub-hypotheses are that:

(a) enterprises offer lower employment compensation packages to offshore data service workers in the Caribbean than for comparable jobs in the United States and use young, female, non-unionized workers as the main source of labour, in order to maintain their global competitiveness;
(b) enterprises in the offshore data service industry deny Caribbean workers access to membership in labour organizations to keep wages globally competitive and reduce production costs;

(c) these labour practices designed to increase global competitiveness limit the level of protection provided by ILO Conventions and the Tripartite Declaration and have a negative effect on the quality of jobs available in the host country and also on the application of occupational safety and health policies designed to protect workers in the industry;

(d) the combination of these factors has a direct impact on employment, working conditions and labour relations: these are below the levels required by the Tripartite Declaration and ILO standards.

The report pays special attention to:

- equality of opportunity and treatment;
- security of employment;
- training;
- conditions of work including levels and methods of compensation, benefits and occupational safety and health.

The research methodology included both primary and secondary data collection. Secondary sources were first identified and analysed and the findings were used to collect primary data. Data gathering in Barbados included a field visit in March 1998 to coincide with the Fourth Barbados Information Services Conference, “BISC '98 — The Global Workplace: Commerce Without Limits”. The conference, organized by the Barbados Industrial Development Corporation (BIDC) and other agencies, included presentations by local, regional and international experts from leading companies in the sector, workshops to expose investors and local companies to opportunities for collaboration, site visits, in-plant workshops and guided tours to leading offshore companies. The programme facilitated access to IT companies and interviews with managers and workers. An exhibition of IT companies at the Sherbourne Conference Centre, where the conference was held, also provided opportunities to view technology and services available as well as to interview company representatives.

Interviews were also held with representatives of government institutions, trade unions, private sector organizations, Cable and Wireless staff, and workers in the sector. The latter included both data entry operators and professionals. Focus group discussions with offshore data service workers provided in-depth information on labour practices from the workers’ perspective. Additional site visits and interviews were organized with the assistance of a local coordinator and the BIDC.

Primary data collection in Jamaica included a meeting with representatives of the sector convened to discuss the “Target Europe Programme” and interviews with a wide range of groups: private sector, government and trade union representatives and workers in the offshore IT sector. A number of interviews were held with workers in the Montego Bay Free Zone. Secondary data were collected through the Internet and from university and institutional libraries. These included the Consortium Graduate School of the University of the West Indies in Jamaica, as well as the Jamaica Export Promotions Company (JAMPRO), the Ministry of Labour (Barbados and Jamaica), the Bureau of Women’s Affairs (Jamaica and Barbados) and the Joint Trades Union Research and Development Centre in Jamaica. In Barbados these included the Barbados Industrial Development Corporation (BIDC), the Caribbean Congress of Labour and the Barbados Workers’ Union. In Trinidad and Tobago the University of the West Indies Centre for Gender and Development Studies, UNECLAC and the ILO’s Caribbean Office.

Pantin (1995) and others have highlighted the difficulties of conducting research in this sector. Against this background, the exposure provided by the Barbados Conference and the Target Europe meeting in Jamaica were quite unique. Some companies were cautious about providing access to their premises and it was necessary to build confidence to gain access. A few
were quite open and happy to share information. Only one manager of a local company in the Montego Bay Free Zone was openly hostile, because the study was being done for the ILO and "trade unions" and he claimed to have had a bad experience in the past. The researchers observed that the physical and general working conditions in that company were not consistent with ILO standards.

Companies which formed case studies within the study were carefully selected for size, diversity of technology and ownership. While no attempt was made to select these firms on a random basis, the researchers were able to cross check and verify findings from earlier studies, newspaper clippings, sector plans and other documents.

**Structure of the report**

Chapter 1 summarizes the context of the study, provides definitions of the main terms, and explains the objectives and methodology used. An analysis of Caribbean offshore data service industries is presented within the context of globalization, competition, technological advances, telecommunications and trade policies. The chapter provides data on factors responsible for growth fuelled by the international relocation of work to take advantage of lower labour costs. Definitions of teleworking and offshore data services help the reader understand the concept, the type and range of work facilitated by the digitization of information. This section provides a framework for analysing the impact of these developments on workers in the Caribbean offshore data service sector. A brief overview of the Tripartite Declaration gives a framework for the examination of critical issues raised by the expansion of offshore work in the information technology sector. This section concludes with an overview of the hypotheses, the research methodology used and the scope and limitations of the study.

The second and third chapters present the main findings on labour practices within offshore information processing industries in Barbados and Jamaica. Each chapter starts with a brief overview of the growth of the IT sector then presents findings from the current research.

Chapter 4 analyses the data against the background of the Tripartite Declaration and selected ILO standards. The focus is on employment, working conditions and labour relations.

Chapter 5 concludes with the main findings and recommendations to the tripartite partners: governments, trade unions and the private sector.
1. Definition of offshore data services and teleworking

The concept of offshore data services is related to "teleworking" which has been defined as "distance working facilitated by information and communications technologies" in the 1996 report of the United Kingdom Trades Union Congress. Di Martino and Wirth (1990) also provide a broad definition of telework, two aspects of which are related to the offshore data service industry. The definition includes: (a) work performed in a business-determined location, which is aimed at reducing costs or is designed to improve servicing of the market; and (b) satellite centres which are separate units within an enterprise geographically removed from the central organization but which maintain constant electronic communication. Huws (1996), in a European Commission report entitled "Telework and gender", identifies five types of teleworking: multilocational, homeworking, freelance, mobile and relocated back offices, but only the latter is associated with the offshore data service sector. In the Caribbean, the sector includes data entry and data processing, telemarketing, imaging and scanning and software development.

International trends in offshore data processing

Mitter and Pearson (1992) note that the activities are quite varied, ranging from low-skill data entry jobs to high-skill, high-status professions such as software programmers and systems analysts. Women are concentrated in the lower end of the spectrum. These trends occur in the Caribbean, as do other trends which these writers note, such as the variety in the adoption and use of technology across countries and sectors.

Pearson (1995) points to a "well established, if limited trend to relocate or subcontract office services to low-wage developing countries, where women are employed to enter data at a fraction of the cost of comparable labour in developing countries". Similar issues are raised (Bibby, 1997:2) in an FIET report. Among the issues highlighted are the growing internationalization of service sector industries, including the growth of offshore data service industries, the challenges created, the impact on trade union organization in this context and the international migration of work. Also noted are changes in the organization of office work and the impact of technology on the shape of the working day. The report also examines new possibilities created by teleworking and labour issues raised by offshore teleworking, as well as collective forms of teleworking such as remote back offices and call centres. Campbell (1993) also observes that decreasing cost, increasing speed of communications and linking of international markets in real time have allowed firms to expand these strategies across borders to reduce costs. He further notes that computers, micro-electronics and information technology, together with new developments in telecommunications and satellite technology, have the potential to reshape the organization of production, corporate goals and strategies both within and among firms. These factors are combined in the offshore data service sector, which offers flexibility in work production and organization.

The ILO Tripartite Declaration

This study examines employment, labour relations and working conditions in the offshore data service sector in the Caribbean, against the background of issues that are critical to the Tripartite Declaration, such as employment promotion, equality of opportunity and treatment, security of employment, training, wages, benefits and conditions of work, safety and health and industrial relations. The latter includes respect for freedom of association and the right to organize, collective bargaining, consultation, the examination of grievances and the settlement of industrial disputes.
Findings from previous studies

The World Bank (1996:10) notes that the Caribbean region competes with countries such as India, Ireland and the Philippines in the export of software programming and other value added activities while China, Mauritius, Mexico, Sri Lanka and Zimbabwe have become fairly popular for offshore data entry activities. Nurse (1996:20) states that costs in Barbados "range around 45 per cent of those for a similar operation in the United States and Canada" and it is assumed that labour costs are included. Barbados and Jamaica were chosen as case studies because they lead the region in the volume of jobs and the number of companies as well as having a diverse range of data service activities.

Rationale for offshore data services

A clear rationale for the establishment of offshore data service industries is described in an article in the ILO’s World of Work Digest (No. 10, 1994). It highlights the issue of white-collar jobs going global and describes the growth of offshore data service industries. This and other reports confirm that the main reason for establishing them is to reduce labour costs and improve profits and competitiveness without affecting the quality of work. The ILO article points to the consolidation and relocation of back-office functions such as information processing, payment transactions, billing and bookkeeping. Analysis of trends shows that many companies within the United States are either relocating operations from large metropolitan cities to less expensive areas within the country or relocating overseas to take advantage of lower wages and an educated workforce in the Caribbean, India and the Philippines.

Joint ventures between companies in high wage areas such as Switzerland and low wage areas such as the Philippines encourage the relocation of transportable tasks from high to low-wage areas. The Caribbean is a beneficiary of these corporate decisions and as the costs of doing business increase, more companies are opting to maintain their core functions and keep control of strategic decision-making areas, while subcontracting non-core operations to companies providing these services as their main activity. This may include telephone calls, mailings, secretarial work and routine accounting such as the preparation of payrolls. Data management and storage is a large global industry and the need to keep records in digitalized form to maximize storage provides a wide range of jobs within the industry. Offshore companies in the Caribbean provide services for transforming hard copy material into digitalized format.

Technology has also played a major role in the development of offshore data services. Call centres, for example, use automated call distribution (ACD) technology, which feeds calls to available staff, who may be located anywhere in the world, with computer-telephony integration (CTI). Using CTI, telephone operators can receive information from the telephone lines and enter it on computer terminals or personal computers. The FIET report on telework and trade unions (circa 1995-96), notes that call centres can be used for telemarketing, telesales, customer billing, centralized hotel reservation services, computer technical support, telephone banking and market research, among other activities.

Factors influencing expansion of the sector

Among the factors which influence expansion in the region’s offshore data service industry are the cost of telecommunication services, labour costs related to productivity, and the quality and technological capacity of human resources. Competitiveness is influenced by companies having access to efficient, high-quality, low-cost telecommunications services. However, Caribbean countries are served by Cable and Wireless, which operates as a monopoly. As a result, there is undoubtedly access to modern digital telecommunications, either directly through the company or through the Jamaica Digiport in which Cable and Wireless is also a majority shareholder, but the cost of services is high in all Caribbean countries.
Wage rates also influence competitiveness and rates in the OECS (Organization of Eastern Caribbean States) countries quoted by the World Bank (1996) were US$1.10-US$3 per hour. The World Bank concluded that the labour productivity to wage ratio in the Caribbean was not globally competitive when "non-wage costs and rigidities in the labour market" were considered. This 1996 World Bank report on the "Prospects for service exports from the English-speaking Caribbean" noted that "fully loaded labour costs are 15 to 23 per cent higher than wages". These costs are described as payroll-related levies and "rigidities" such as "the cost of hiring (and) termination". The report further noted that "work rules restrictions in collective bargaining agreements and labour regulations increase costs and discourage investment. The cost of management-labour disputes also bid up labour-related costs". However, the payment of basic employment benefits such as national insurance, maternity and sick leave, are regarded by the World Bank as "non-wage costs" which reduce the productivity to wage ratio in the region. For most workers, these wages are very low in relation to the high cost of living. Trade unions have been the traditional channel in the struggle for higher wages and benefits and are well established in traditional export sectors such as sugar, which are male-dominated. They have not previously been very active in modern female-dominated export sectors, although there have been recent efforts to unionize workers in the offshore data services industry in Barbados.

The World Bank report also pointed to the shortage of trained workers for even the lower value added positions in the informatics sector. It noted that although basic literacy rates are high, the number of persons with basic computer literacy is limited, except in Belize. Jamaica reportedly lost an estimated 3,500 to 4,000 jobs to other countries as a direct result of insufficient trained labour, according to the Bank.

Profile of the offshore data services sector

Types of activity

In general, enterprises involved in offshore data services cover several sectors and industries such as insurance and banking, printing and publishing, and services. As previously mentioned, work in this industry also falls into two main categories: high-wage, high-skill operations such as software development and low-skill, low-wage activities such as data entry and data processing. Within the sectors mentioned, there are various types of activity which include text processing, abstracting, software development, personnel services, typing, marketing and sales. Most employment in the Caribbean falls into the low-skill category, although a few companies are engaged in medium range activities (e.g. scanning) and high-skill jobs such as software development.

Companies and employment

Pantin (1995) provides a detailed profile of the Caribbean offshore data service industry. He focuses on conditions of employment and proposes strategies to protect workers' rights in the existing and projected offshore data service sector. His study shows that there are about 74 companies active in the sector, providing employment for approximately 7,500 persons. These are concentrated in Barbados, Jamaica and the Dominican Republic, which are collectively responsible for over 90 per cent of the total number of companies and employment in the region. Jamaica ranks first with 82 per cent of companies and 47 per cent of employment. There are several small and nationally owned companies processing data for businesses in the United States and a smaller number of US-owned companies.

Pantin also shows that the service sector has grown, although these figures are not disaggregated for the informatics sector and include services for local and export markets. Growth is also seen when these data are compared with the World Bank study previously mentioned, which indicates that 72 information processing firms employed about 6,500 persons in the region in 1994. As expected, most of these are located in Barbados and Jamaica.
Table 1. Export-oriented information processing industries in the Caribbean, 1995

<table>
<thead>
<tr>
<th>Country</th>
<th>No. of companies</th>
<th>Estimated % employment</th>
<th>Estimated % data entry</th>
<th>Major markets</th>
<th>Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barbados</td>
<td>14</td>
<td>2,282</td>
<td>88</td>
<td>US, UK, Europe, Far East, Canada</td>
<td>US, UK, Barbados</td>
</tr>
<tr>
<td>Jamaica</td>
<td>49</td>
<td>3,500</td>
<td>76</td>
<td>ditto</td>
<td>US, UK, Jamaica</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>2</td>
<td>1,000</td>
<td>95</td>
<td>US</td>
<td>US</td>
</tr>
<tr>
<td>Trinidad and Tobago</td>
<td>3</td>
<td>230</td>
<td>91</td>
<td>US</td>
<td>US</td>
</tr>
<tr>
<td>Grenada</td>
<td>2</td>
<td>250</td>
<td>98</td>
<td>US, UK</td>
<td>US</td>
</tr>
<tr>
<td>St. Kitts and Nevis</td>
<td>1</td>
<td>100</td>
<td>98</td>
<td>US</td>
<td>US</td>
</tr>
<tr>
<td>St. Lucia</td>
<td>1</td>
<td>40</td>
<td>98</td>
<td>US</td>
<td>US</td>
</tr>
<tr>
<td>St. Vincent and the Grenadines</td>
<td>1</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>US Virgin Islands</td>
<td>1</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Total</td>
<td>74</td>
<td>7,502</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Table 2. Employment in informatics, financial and professional services for export domestic markets* (‘000 of workers)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Barbados</td>
<td>3.7</td>
<td>3.9</td>
<td>4.1</td>
<td>5.5</td>
<td>6.3</td>
</tr>
<tr>
<td>Belize</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>1.7</td>
<td>2.1</td>
</tr>
<tr>
<td>Guyana</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>7.5</td>
<td>n.a.</td>
</tr>
<tr>
<td>Jamaica</td>
<td>34.8</td>
<td>40.3</td>
<td>43.6</td>
<td>43.3</td>
<td>47.2</td>
</tr>
<tr>
<td>Trinidad and Tobago</td>
<td>23.9</td>
<td>27.7</td>
<td>28.8</td>
<td>27.9</td>
<td>29.7</td>
</tr>
</tbody>
</table>

* OECS data not available.

General characteristics of offshore workers

Pantin’s study shows that most employees are young women in the age group 17 to 29 years, although there are a few in the 35-39 age group. There are almost equal numbers of workers with primary and secondary education, and a few with higher education. Some may have had administrative and commercial training. Most of the workers in Pantin’s study were in their first job.

Remuneration and benefits

Pantin reports that compensation is paid on a fixed and productivity basis and based on keystrokes per hour. Wages for data entry operators are a fraction of those for similar work in the United States. For example, hourly rates for data entry ranged from US$0.80 to US$1 in Jamaica and US$2-$2.88 in Barbados. World Bank sources used in the same study quoted the following hourly rates for data entry workers in other Caribbean countries: St. Lucia — US$1.10; Dominica — US$0.80-US$1; Trinidad and Tobago — US$1.50-US$2; Grenada —
US$1.26-US$2.10; St. Kitts and Nevis — US$1.40; St. Vincent — US$1.10-US$1.57. Wages in the United States were US$7-US$10. National insurance provision for vacation and public holidays were added; they represented 9.75 per cent and 9 per cent respectively of basic wages in Barbados.

**Work hours**

Shift work and overtime are the norm, as the majority of employees interviewed in Pantin’s study worked on shifts and 89 per cent worked overtime. Shift times are: 7.00 a.m.-3:30 p.m.; 3.30 p.m.-11.30 p.m.; and 11.30 p.m.-7.00 a.m. Most enterprises operate two shifts and some in Barbados operate a smaller third (graveyard) shift, primarily for administration and to prepare work for the following day.

The nature and pace of work and the need for accuracy give little time for talking and social interaction. Pantin reports that those interviewed found their jobs repetitive (49 per cent) and monotonous (47 per cent).

**Occupational safety and health**

Previous studies have all pointed to health problems associated with visual and musculoskeletal factors. Pantin (1995) and Pearson (1989), for example, both highlight occupational safety and health problems affecting keyboard workers. The ergonomic factors examined relate to detachable keyboards and chairs with adjustable backrests and height; visibility issues relate to the length of time spent in front of VDUs; and musculoskeletal symptoms. Detachable keyboards are quite common (71 per cent of persons interviewed in the Barbados company). More than half (58 per cent) reported that their chairs were uncomfortable, although 89 per cent stated that their chairs were adjustable. Ability to adjust backrests was reported by 71 per cent and 87 per cent were able to adjust for height. Another 22 per cent found it difficult to adjust their chairs, which suggests the need for training.

Prolonged periods at the VDU emerged as a concern, with 73 per cent of respondents to Pantin’s questionnaire indicating that they spent 75 per cent of their time looking at the screen and an alarming 7 per cent stating that all their time was spent there. Only 11 per cent said that they spend less than 30 per cent of the time looking at it. The main symptoms related to prolonged exposure to screens were dull headaches, soreness, redness and itching of eyes, frequent blurred or double vision, dizziness and nausea.

The musculoskeletal symptoms most commonly reported were pains in the shoulders, neck and upper back. Almost 50 per cent reported that they sometimes experienced sleeplessness and irritability and suffered from fatigue.
2. Offshore data services: Barbados case study

Investment policy framework

Barbados has a population of 264,000 (1995) and a labour force of 136,800 skilled persons who have passed through an educational system considered to be among the best in the Caribbean. Literacy rates are reported to be 98 per cent and English is the dominant language. Productivity, according to the BIDC, is high and compares favourably with North American and European standards. Employee turnover and absenteeism are reportedly low. The BIDC's industry and product profile for the informatics sector noted that in June 1997, the informatics sector accounted for 16.7 per cent (2,701) of the persons employed in industry, spread across 44 firms, and for approximately 2 per cent of total national employment. Foreign-owned information service companies employed over 88.5 per cent of workers in the sector and estimated earnings were US$35 million annually. Sixty per cent of work done in information processing facilities was keyed. Two firms used scanning and another two used imaging processes.

Telecommunications infrastructure

Two cable and wireless companies BARTEL (Barbados Telephone Company) and BET (the Barbados External Telecommunications Company) provide local and international services respectively to voice, video and data transmission services. BET provides a 512K direct line which is very fast and works with ATT, MCI and Sprint. While most companies interviewed regarded the international telecommunications rates as high, BET personnel indicated that they are lower than ATT with an international lease circuit and that the rates are comparable with the Dominican Republic, Jamaica and Mexico.

Government incentives

Among the comprehensive range of incentives provided to foreign-owned companies is the option to register as international business companies and qualify for a tax rate of 2.5 per cent. There are no taxes on capital gains, dividends, interest or royalties paid and companies are exempt from exchange controls and duties on imports. There is duty free entry of equipment, freedom from exchange controls and income tax breaks for foreign experts equivalent to 35 per cent of their salary. Equipment and modern operating space are also available for rental at competitive rates in well planned industrial parks. Companies do require a licence and have to file financial statements with the regulatory agency, but are not required to be incorporated in Barbados. A training grant scheme subsidizes the cost of workers' training and companies can apply for reimbursement of wages paid to trainees for a 12-week period, during the company's first year of operation. Barbadian companies are also eligible for the duty and tax concessions for the export component of their operation.

Development of offshore data services

Offshore information processing started in Barbados over 30 years ago, but the country has become a major player in this sector within the last 15 years. Nurse (1996) in a comprehensive report entitled "Information services in national development strategy: The industry in Barbados" traces the birth of the industry in Barbados to an American company, Fawcett Input Centre, which in 1968 started a punch card operation inputting data into mainframe computers for United States clients. All national strategic plans since 1983, he noted, have stressed the importance of the sector promoting national economic growth. The main strategies were to guarantee substantial
employment in the short term and to upgrade the level of technological skills through linkages with computer companies involved in software development and professional services.

While there have been periods of growth and decline, significant growth was experienced in 1983 when AMR Corporation established the Caribbean Data Services (CDS), to process airline coupons for American Airlines. This marked the more modern phase of its expansion. A decline in manufacturing during the 1970s prompted the BIDC to prepare a plan for the sector. This was done with the assistance of an international firm, Booz, Allen and Hamilton Inc. That report, prepared in 1983, pointed to opportunities in the information services sector (among others). Data entry was recommended as the starting point, eventually moving on to software development and professional services by gradually upgrading technical capability and skills. Recommendations on the "infostructure" required to create a climate in which the sector could flourish included training, incentives, state-of-the-art telecommunications capability and the provision of operating space.

Nurse further noted that in 1983 there were five Barbados-based information service companies working in the international market, doing basic keyboarding and data entry. Between 1983 and 1996, the number of companies operating in the sector had grown to 36, of which 13 were foreign owned, 21 were locally owned and two were joint ventures.

Growth was quite slow in the eighties, with more significant expansion during the nineties. The years 1990 and 1995 saw the most significant growth with the establishment of seven and nine companies respectively. By 1996, a total of 48 companies had been established and, of these, 36 were involved in data management and 12 were providing technical and support services to the sector. They were supplying hardware, training, equipment maintenance, networking and systems development.

BIDC reported that estimated earnings from the sector in 1995 were US$35 million; 244,562 square feet of their factory space were occupied in June 1997. The average annual cost structure in the industry was allocated as follows: wages and salaries accounted for 66 per cent; rental 5 per cent; utilities 9 per cent; and other costs 20 per cent.

Almost one-third of the companies which started up between 1983 and 1995 have closed, mostly as a result of corporate takeovers or buyouts in North America. Subsequent rationalization of their information processing strategy by some of the new owners led to downscaling in the offshore sector. Closures of local companies were related to their inability to maintain a steady flow of contracts to keep their operations viable. Analysis of these trends led the BIDC to launch the "INFO TECH 2000" programme in 1994 to assist 20 locally owned information service companies to upgrade their operations and to market their services globally. The country also decided to target more up-market operations that were less price-sensitive and required higher levels of skill because Barbados could not compete with other lower cost locations such as the Dominican Republic, India, Jamaica and Mexico. The Ministry of Education launched the "EDUTECH 2000" programme to expose students in all schools to the use of technology as a learning tool. Plans to establish a school of computer software engineering in the latter part of 1998 were also in the pipeline. Courses would be made available through teleconferencing to provide training to individuals in other English-speaking Caribbean countries as well as in Latin America.

These experiences point to the sector's vulnerability to corporate decisions, which result in loss of revenue and have a direct impact on employment levels in the sector, as well as in companies that provide technical services. Table 3 adapted from Nurse (1996) shows the rapid growth of companies in the 1990s.
Table 3. Growth of informatics companies in Barbados (1983-98)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1983</td>
<td>4</td>
</tr>
<tr>
<td>1983</td>
<td>6</td>
</tr>
<tr>
<td>1984</td>
<td>7</td>
</tr>
<tr>
<td>1985</td>
<td>8</td>
</tr>
<tr>
<td>1986</td>
<td>7</td>
</tr>
<tr>
<td>1987</td>
<td>10</td>
</tr>
<tr>
<td>1988</td>
<td>9</td>
</tr>
<tr>
<td>1989</td>
<td>10</td>
</tr>
<tr>
<td>1990</td>
<td>16</td>
</tr>
<tr>
<td>1991</td>
<td>19</td>
</tr>
<tr>
<td>1992</td>
<td>21</td>
</tr>
<tr>
<td>1993</td>
<td>25</td>
</tr>
<tr>
<td>1994</td>
<td>27</td>
</tr>
<tr>
<td>1995</td>
<td>36</td>
</tr>
<tr>
<td>1996</td>
<td>n.a.</td>
</tr>
<tr>
<td>June 1997</td>
<td>44</td>
</tr>
</tbody>
</table>


Structure of the industry

In 1998, the sector was quite diversified in company size, employment, product activities, technology use and ownership structure. Several major international service companies had offices in the country and these were mostly involved in health claims adjudication, processing bank warranty cards, database indexing and formatting, pre-press operations, electronic publishing and software development. The Government emphasized human resource development, and expansion of the telecommunications infrastructure to include satellite transmission and fibre optic cable in order to provide ISDN services. Marketing promotion was upgraded.

Interviews with IT specialists provided some interesting details about the sector. For example, size was not an indicator of technology usage, as some small companies reportedly used very sophisticated equipment. While Barbados had some very impressive clients, including one of the largest banking and financial institutions in the world, the sector was vulnerable to technology change. For example, the fact that 95 per cent of printed material could now be scanned meant that the viability of data entry operations was in question.

Size of companies

The structure of the industry is pyramid shaped, as shown in table 4. Nurse (1996) found that the majority of enterprises are small, locally owned and engaged in low-skill activities. In 1996 there were 15 medium-sized and one large company. Nurse also noted that 20 companies employed under 25 persons and eight employed between 26 and 50. The 1995 BIDC report showed that five companies employed between 100 and 500 people each and one company employed over 1,000 workers. Table 4 provides information on the distribution of companies and employees by size category and shows that at the lower end, 28 companies accounted for 12 per
cent of workers in the sector, while at the upper end a single company accounted for 40 per cent of all workers in the sector. In the lower end, the BIDC figures would suggest that most companies within the 1-25 size category are single-handed operations.

Table 4. Employment in informatics companies in Barbados by size category, 1995

<table>
<thead>
<tr>
<th>Size category</th>
<th>Number of companies</th>
<th>Total employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-25</td>
<td>20</td>
<td>23</td>
</tr>
<tr>
<td>26-50</td>
<td>8</td>
<td>353</td>
</tr>
<tr>
<td>51-100</td>
<td>2</td>
<td>114</td>
</tr>
<tr>
<td>101-200</td>
<td>2</td>
<td>333</td>
</tr>
<tr>
<td>210-300</td>
<td>1</td>
<td>224</td>
</tr>
<tr>
<td>301-400</td>
<td>1</td>
<td>335</td>
</tr>
<tr>
<td>401-500</td>
<td>1</td>
<td>400</td>
</tr>
<tr>
<td>500-1,000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>over 1,000</td>
<td>1</td>
<td>1,168</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>2,950</td>
</tr>
</tbody>
</table>


In the area of software development, Barbados has a unique feature. Whereas most offshore software development companies employ an average of 80-100 persons, there is one company in Barbados which employs nearly 400 software programmers.

Employment

The sector has grown steadily since 1980 when 61 people were employed. Nurse’s analysis shows that whereas it took nine years for the first thousand jobs to be created in the sector, the next thousand took half that time and the third thousand just two years. His projection was for an additional 1,000 jobs per year for the next two to three years, after which growth was expected to stabilize at a lower level based on natural replacements and new enterprises.

In 1997, there were 2,972 persons employed in information services, including the offshore data service industry. In December 1997, the BIDC’s statistical report of employment in manufacturing and services (provisional) showed that the information services subsector recorded the highest net growth of 115 jobs over the previous quarter. Employment rose from 2,857 to 2,972, an increase of 4 per cent. Comparison with data for December 1996 shows an 11 per cent increase in employment from 2,672 to 2,972, or 300 new jobs. This sector ranked second in importance, behind the food, beverage and tobacco subsector. In the last quarter of 1997, six new companies were established in the sector. There was a net increase of 115 jobs, with 142 new jobs being created and 27 lost.

Types of product activity

Analysis of data provided by the BIDC in 1998 indicated 19 types of product activity, the number of companies involved and ownership patterns. Table 6 presents the findings.

It should be noted that, though diversified and wide-ranging, these activities focus primarily on data entry and data processing. Barbados has already established enterprises with a higher value added component such as the areas listed in table 7.
Table 5. Employment in the informatics sector

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>61</td>
</tr>
<tr>
<td>1981</td>
<td>24</td>
</tr>
<tr>
<td>1982</td>
<td>42</td>
</tr>
<tr>
<td>1983</td>
<td>311</td>
</tr>
<tr>
<td>1984</td>
<td>435</td>
</tr>
<tr>
<td>1985</td>
<td>459</td>
</tr>
<tr>
<td>1986</td>
<td>568</td>
</tr>
<tr>
<td>1987</td>
<td>851</td>
</tr>
<tr>
<td>1988</td>
<td>1,007</td>
</tr>
<tr>
<td>1989</td>
<td>1,220</td>
</tr>
<tr>
<td>1990</td>
<td>1,366</td>
</tr>
<tr>
<td>1991</td>
<td>1,528</td>
</tr>
<tr>
<td>1992</td>
<td>1,861</td>
</tr>
<tr>
<td>1993</td>
<td>2,006</td>
</tr>
<tr>
<td>1994</td>
<td>2,344</td>
</tr>
<tr>
<td>1995</td>
<td>2,950</td>
</tr>
<tr>
<td>1996</td>
<td>2,672*</td>
</tr>
<tr>
<td>1997</td>
<td>2,972**</td>
</tr>
</tbody>
</table>

Source: Nurse (1996-95), and updated from BIDC data in 1998.

Table 6. Type of product activity in information technology, 1998

<table>
<thead>
<tr>
<th>Type of product activity</th>
<th>Number of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software development</td>
<td>19</td>
</tr>
<tr>
<td>Desktop publishing</td>
<td>3</td>
</tr>
<tr>
<td>Information technology network design</td>
<td>1</td>
</tr>
<tr>
<td>Data entry and analysis</td>
<td>10</td>
</tr>
<tr>
<td>Market research</td>
<td>1</td>
</tr>
<tr>
<td>Data processing, payroll, general accounting and preparation of financial reports</td>
<td>9</td>
</tr>
<tr>
<td>Data communication services</td>
<td>2</td>
</tr>
<tr>
<td>Integrated circuits and computer software</td>
<td>2</td>
</tr>
<tr>
<td>Training</td>
<td>3</td>
</tr>
<tr>
<td>Typesetting</td>
<td>1</td>
</tr>
<tr>
<td>Consulting</td>
<td>1</td>
</tr>
<tr>
<td>Telemarketing</td>
<td>1</td>
</tr>
<tr>
<td>Abstracting articles</td>
<td>1</td>
</tr>
<tr>
<td>Insurance claims processing</td>
<td>1</td>
</tr>
<tr>
<td>Medical transcription</td>
<td>1</td>
</tr>
<tr>
<td>Computer graphics</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
</tr>
</tbody>
</table>

Source: Compiled from BIDC data, Mar. 1998.
Table 7. Data processing and related activities with higher value added

<table>
<thead>
<tr>
<th>Transaction processing</th>
<th>Publishing</th>
<th>Marketing</th>
<th>Document conversion</th>
<th>Surveys/research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance claims</td>
<td>Typesetting</td>
<td>Telemarketing</td>
<td>Medical and dental transcription</td>
<td>Computer-aided design (CAD)</td>
</tr>
<tr>
<td>Purchasing and billing</td>
<td>Pre-press</td>
<td>Direct mail</td>
<td>Data entry</td>
<td></td>
</tr>
<tr>
<td>Airline tickets</td>
<td>Indexing</td>
<td>Fulfilment (GIS)</td>
<td>Geographic information systems</td>
<td></td>
</tr>
<tr>
<td>Credit cards (application and transactions)</td>
<td>Archiving</td>
<td>Are not specified</td>
<td>Are not specified</td>
<td></td>
</tr>
</tbody>
</table>


Ownership structure

Table 8, compiled from 1998 research findings, shows that 31 companies are owned by Barbadians and 26 by foreigners; there are no joint ventures. The gender distribution of company managers and CEOs in this female-dominated sector is 36:21 in favour of males. Field visits confirmed that the majority of front-line managers are Barbadian. Among the nine companies which the BIDC considered most successful, were five which were owned by United States citizens, three by Canadians and one by Barbadians. Of these, four were working in data entry and data processing, two were engaged in software development and one each in abstracting, telemarketing and insurance claims processing. Case studies of IT companies operating in Barbados are presented later in this chapter.

Table 8. Ownership patterns of information service companies in Barbados, 1998

<table>
<thead>
<tr>
<th>Nationality of owners</th>
<th>Number of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>1</td>
</tr>
<tr>
<td>Barbados</td>
<td>31</td>
</tr>
<tr>
<td>Canada</td>
<td>11</td>
</tr>
<tr>
<td>Trinidad and Tobago</td>
<td>1</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>3</td>
</tr>
<tr>
<td>United States</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
</tr>
</tbody>
</table>

Source: Compiled from 1998 research data.

Findings from the current study confirmed those reported by Nurse (1996) regarding diversification and the quality of jobs available. Those reported by Nurse included payroll accounting, computer-aided design, pre-press activities, insurance claims processing, database development, market and consumer surveys, archiving, in-bound telemarketing, document indexing and abstracting, basic data entry and software development.

In 1996, a quarter of the companies in informatics were involved in software development; seven of these were locally owned and provided services to the domestic and regional markets. Middle-level operations accounted for the majority of other companies and required staff with sound basic education and technical competence. The introduction of scanning technology had expanded the number of jobs and improved efficiency, thereby enabling a few companies to attract larger volumes of work, without incurring the costs associated with moving hard-copy source documents. In 1996, two-thirds of the work volume in Barbados depended on lower-end keyboarding, with an estimated output of over 55 billion keystrokes per annum. Accuracy levels
were very high, averaging over 98 per cent with several companies reporting highs of 99.97 per cent. Research from interviews in 1998 indicated that these levels of efficiency had been maintained, making Barbados globally competitive in terms of quality.

Profile of workforce

This profile was developed from previous studies, site visits to several companies, observations in the main industrial complex for IT companies and group discussions in March 1998. The findings confirm the reports of Pantin (1995) and others.

Gender distribution

Over 95 per cent of workers employed in the informatics sector are women under the age of 29 years and the majority have children. In the enterprises visited, there are a few men engaged in data entry but more are found in management and supervisory positions. For example, one company has ten male operators (4 per cent) within a total workforce of 250 operators, so women account for 96 per cent of all workers. Among software programmers the ratio is reversed, with a bias in favour of men.

Education

Most data entry operators have a basic secondary education, while those required to do more advanced or technical jobs need qualifications related to the subject. For example, those abstracting medical literature are required to have CXC or GCE "O" level biology. Some workers doing abstracting have university degrees.

Wages and working conditions

Results from the current study confirm that the BIDC provides wage guidelines for workers in the sector but some companies fix wages according to market forces, in which case they may be higher. Interview data shows that some companies carry out an annual review of wage rates for data entry operators, based on market surveys which compare hourly rates for similar jobs across IT and other private sector companies. For one company, hourly wage rates for data entry operators in January 1997 were reported as Bd$6-Bd$7 (US$3-US$3.50). These are higher than BIDC rates quoted in table 9 below and between US$1-US$0.62 or about 33 per cent higher than the rates of US$2-US$2.88 quoted by Pantin for 1995. Interviews with data entry workers show that hourly wages vary between Bd$2.50-Bd$6.75 (US$1.25-US$3.38). In comparison with BIDC rates, the starting salary is US$0.50 lower and the maximum is US$0.13 higher.

Data entry workers consider that the methods to qualify for higher rates are onerous. To move up the scale they have to maintain an average of 14,000 keystrokes per hour over a three-month period, which they find difficult and stressful. Interviews identified several other concerns. For example, training periods are reportedly extended beyond three months, and in one case an employee had worked for eight months at the training rate of Bd$2.50/hour. Table 9 presents BIDC's figures on direct labour costs and other production costs.

Analysis of table 9 and interviews with personnel working in the sector revealed that supervisors are paid approximately 15 to 18 per cent above the minimum rates for data entry operators, which is about Bd$7.10/hour, and they also receive a productivity incentive. Incentive rates for data entry operators are usually 12 to 15 per cent above the basic rate. Employees earning less than Bd$15,000 do not pay taxes and the only other deduction is for national insurance. Average take-home rates, according to one manager, are between Bd$350-Bd$375 per week which includes basic wages, productivity and overtime. Overall this works out at between US$2.92 and US$3.13 an hour as most employees work an average of 20 hours overtime per
week, which means a 60-hour week. Overtime rates are calculated at time-and-a-half during the week up to four hours and double time after four hours. Work on Saturdays is time-and-a-half for the first eight hours and double time after this. Sunday work begins at double time and after eight hours this rate is again doubled.

Table 9. Direct and indirect labour costs in the offshore data services sector, Barbados

<table>
<thead>
<tr>
<th>Labour costs</th>
<th>US$ per hour</th>
<th>US$ per month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct labour costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data entry operator — trainee</td>
<td>1.75-2.25</td>
<td></td>
</tr>
<tr>
<td>Data entry operator — skilled</td>
<td>2.50-3.25</td>
<td></td>
</tr>
<tr>
<td>Data entry supervisor</td>
<td>4.50-7.00</td>
<td></td>
</tr>
<tr>
<td>Typesetter</td>
<td>3.75-6.50</td>
<td></td>
</tr>
<tr>
<td>Proofreader</td>
<td>3.50-8.00</td>
<td></td>
</tr>
<tr>
<td>Insurance claims processor</td>
<td>3.00-3.75</td>
<td></td>
</tr>
<tr>
<td>Indirect labour costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General manager</td>
<td></td>
<td>2 000-4 000</td>
</tr>
<tr>
<td>Computer programmer</td>
<td></td>
<td>1 200-2 400</td>
</tr>
<tr>
<td>Production manager</td>
<td></td>
<td>1 200-1 800</td>
</tr>
<tr>
<td>Executive secretary</td>
<td></td>
<td>900-1 440</td>
</tr>
<tr>
<td>Clerk/typist</td>
<td></td>
<td>750-900</td>
</tr>
<tr>
<td>Fringe benefits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National insurance</td>
<td></td>
<td>9.75</td>
</tr>
<tr>
<td>Provision for vacation and public holidays</td>
<td></td>
<td>9.00</td>
</tr>
<tr>
<td>Cost of facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company rental</td>
<td></td>
<td>6.25</td>
</tr>
<tr>
<td>Building insurance and taxes</td>
<td></td>
<td>no cost</td>
</tr>
<tr>
<td>Air-conditioning (approx.)</td>
<td></td>
<td>2.50</td>
</tr>
</tbody>
</table>

Note: Official rates quoted by BIDC for the sector.

General working conditions

Data from the group discussions helped to identify other concerns about working conditions which may affect morale and contribute to labour unrest, although these views may not be a reflection of the entire industry. Concerns included dissatisfaction with wage rates, poor management/worker relations, poor work practices and occupational safety and health. Common views were that "management want quantity not quality", management is "mentally beating workers" and "pushed workers to the limit". The wage and productivity incentive structures were severely criticized and perceptions were that "they make you chase money and even if your hands hurt, you still work" and "management expect us to work seven and three-quarter hours out of eight at the computer". Probing, however, revealed that in reality there is a 15-minute break every two hours. Women workers also reported that in many companies there is no pay for the half-hour lunch break or when they go to the bathroom.
Occupational safety and health

Illnesses reported by workers included eye strain, back pain, fatigue, headaches, pains in the neck, shoulders and hands, burning and irritated eyes, general irritability, blurred vision, pains in arms and legs, lower back pains, nervousness, stomach pains, swollen joints and swelling in the arm and below the elbow. Bladder and urinary infections are caused by having to retain urine for long periods. Carpal tunnel syndrome, repetitive strain injury and stress emerged as the most common occupational concerns based on reports from workers, managers and health professionals. Relatively few companies visited had VDUs with anti-glare screens because they “built up dust” although companies with more modern equipment had machines with built-in protection. No footstools were observed and ergonomic keyboards were rare.

Other complaints related to the provision of wrist pads, but in insufficient numbers; the existence of adjustable chairs which were uncomfortable; computer desks that were too high; or differences in the quality of equipment for data entry workers and administrative and management employees (accountant, receptionist and manager). It was not possible to verify this. Other concerns related to the absence of a medical plan, non-reimbursement for eye tests which cost Bd$1,000 (US$500) and limited sick leave provisions.

Stress was related to several factors: the content and pace of work; the psychological environment; conflicts created by management’s high expectations of productivity and the physical and psychological needs of employees; work deadlines; the need to maintain high productivity targets to earn bonuses; and security systems.

Perceived poor attitudes and lack of respect from managers and supervisors also created stress. The complaint was that some supervisors and managers “expect to get respect but don’t give it”, are verbally abusive or “don’t know how to deal with people and use an aggressive approach”. Non-delivery of urgent telephone messages related to sickness of family members caused anger, frustration, distrust and heightened tensions in the workplace. Expressions of frustration and demotivation were common. For example: “even when you try your best, your best is not good enough”. There was the perception that some managers “are not trained to deal with people”, and are insensitive to employees’ needs (e.g. “I don’t care how you get something to eat”, although there are no facilities to purchase food on site).

Perceptions of poor administrative, personnel and payment systems were also reported. Workers spoke of late salary payments, difficulties in collecting wages, insufficient funds at banks to cash company cheques, incorrect spelling of names on cheques and expectations of payment for Christmas which all contributed to stress, anger and embarrassment; absence of formal work contracts and inadequate orientation of new employees. New employees are reportedly told that the policy manual is in the computer and they can read it in their spare time.

Management’s approach in the company which exhibited these problems had reportedly changed for the worse since workers asked the union to support them in getting better wages and dealing with occupational injuries. It was reported that “the management is applying double and triple pressure” and “people are being interrogated”. Peer pressure was also used (e.g. “tell the girls to behave themselves”). Management reportedly held meetings in which workers were told not to go into the lobby or not to change slippers (on the job).

Transportation problems also contribute to stress, although Barbados has a good bus service. Balancing reproductive and productive roles is also a factor because 90 per cent of the women have children, who have to be organized before their mothers start work at 7 a.m. each day. Long overtime hours (often in excess of 36 hours weekly) also cause fatigue. Ironically, the extra income is needed to support themselves and their children. At times they work from 7 a.m. to 11.30 p.m.

Strategies to address occupational health and safety problems in the sector are being addressed by all tripartite partners. The Labour Department has prepared a draft bill on health and safety at work which proposes, inter alia, annual eye tests; regulations for VDUs, keyboards, work surfaces and work chairs; schedules for work and rest; and lighting. An educational booklet
has also been produced on ergonomics related to computer use. The BWU has also produced a manual written by an ILO consultant. The union’s occupational safety and health officer has an active educational programme. Within the private sector, at least one company visited has a physiotherapist who provides diagnosis, treatment and educational programmes.

Work organization

Interviews provide an overview of work organization in a data entry company. In addition to data entry workers, there are production supervisors, verifiers and quality controllers, as well as managers and administrative personnel. Work comes in electronically, in hard copy or on CDS. Data entry operators are assigned batches of work and key information from the credit card applications into the computer, using assigned codes and fields. “Bank girls” for example, do 800 records a day on which each sheet has a lot of information. Another data entry operator then checks what has already been entered, verifying content and adding any additional information needed. Data are then dispatched by satellite or on disks sent by courier back to clients overseas.

Productivity standards and rates

Productivity rates are tagged electronically and the standard expected is an average of 10,000 keystrokes per hour, which most workers reportedly exceed. An accuracy rate of 98 per cent is also expected after a three-month training period. Productivity analysis is carried out every three months and productivity rates range from Bds3 to Bds7 per hour. Workers complain of computer errors, which corrupt their production statistics and rob them of wages. Productivity rates reported by workers and managers range from a high of 20,000 keystrokes per hour to a low of 7,000. Analysis of interview data indicates that productivity rates are influenced by attitude, aptitude and job satisfaction. Productivity rates are affected by the type of job (e.g. image work versus keying paperwork) and the length of time spent on the same operation. Productivity rates are affected by job changes. To attain high productivity rates data entry operators are recruited from technical, trade or polytechnic schools, and are required to have typing and shorthand skills.

Observations of data entry operators working at top speed have to be seen to be believed and create an image of “flying fingers”. Sustaining a rapid pace for prolonged periods will understandably cause problems if ergonomically designed equipment and regular breaks are not provided.

Terms and conditions of service

Provisions include:

(1) **Vacation leave:** In accordance with the Holidays with Pay Act, employees are entitled to three weeks on completion of the first year, and four weeks after five years.

(2) **Sick leave:** A doctor’s certificate is required after two consecutive days’ absence from work. The employee has to submit two complete and certified copies of an N1 Medical Certificate of Incapacity to Work form if sick leave lasts more than three days.

(3) **Casual leave:** Three days per six-month period which cannot be taken in more than two-day periods at a time. During the probationary period, all casual leave is without pay; all part-time employees are considered to be on probation. Excessive absenteeism is considered sufficient grounds for disciplinary action and this includes absences of more than three days in a six-month period.

(4) **Compassionate leave:** This is granted at the discretion of management and may not exceed three days in a six-month period.

(5) **Maternity leave:** This is granted after 12 months’ service, in accordance with the Employment of Women (Maternity Leave) Act, Cap 345A of the Laws of Barbados.
include six weeks before confinement and six weeks after confinement. Maternity leave is granted for a maximum of three confinements. An additional month's leave without pay may be granted on request.

Labour relations

This section of the report presents an overview of the trade union environment, examines the social partnership or social contract in Barbados and addresses other aspects of labour relations as they relate to the offshore data services industry.

Trade unionism and labour relations

Barbados' history of trade unionism dates back to the 1940s and the Barbados Workers' Union is the oldest, having been registered in 1941. It celebrated its 56th anniversary in October 1997. In 1998, the country had 30 registered unions, but the BWU is the largest, with a membership of 6,000 persons and several active programmes. The BWU is linked to regional and international labour organizations.

The annual report of the Barbados Department of Labour for 1994 noted that Barbados has ratified 36 ILO Conventions, including Conventions Nos. 87, 98 and 100, which guarantee basic workers' rights. The educational level of the population translates into a perceptibly more equitable class relationships between the social partners and a high quality of trade unionism.

Interviews with BWU leaders and staff, and a tour of its buildings and library facilities, demonstrated that the BWU is a well developed modern union, committed to national development. It plays a leadership role on the boards of strategic national institutions such as the BIDC and the National Productivity Council. Programmes and structures seek to upgrade the capacity of members and staff, to effectively analyse and intervene in labour matters. Membership is growing, especially among young women workers.

The Social Partnership and labour relations

Trade unionism has evolved since the 1990s and a Social Partnership or Social Contract was developed in 1991. It is known as the "Negotiated Prices and Incomes Protocol (Social Contract)" and it attempts to regulate wages and prices, encourage job security and support policies to increase the number of jobs. A tripartite subcommittee was established to resolve problems and avoid work stoppages. Through this arrangement all three partners are involved in social planning, contributing to investment goals as well as policies on taxation and revenue generation. Interview data with trade union leaders reveals that the trade unions are now part of the Government's external negotiating team for CARICOM and the European Union. Reports from the unions indicate that since its inception in 1991, fewer workdays have been lost in strikes and confidence in the economy has increased. Significant labour market reform has also taken place and the labour environment has changed, so that wage negotiations are based on research and productivity data. Key performance indicators, job evaluation programmes and performance appraisal systems have also been introduced. A National Productivity Board has also been established and all the partners are collaborating to identify ways to reduce the cost of doing business and increase overall productivity, because wages in Barbados average Bd$10/hour. There is agreement on the principle of basic and productivity wage rates. These wages are still 50 per cent lower than the average hourly rate of US$10 for data entry workers in the United States.

As previously noted, most companies in the sector are not unionized and as such they contravene ILO Conventions Nos. 87 and 98, which guarantee freedom of association and the right to organize. According to Mr. Bobby Morris, Deputy General Secretary of the BWU, the union has served a representational rights notice on four companies to represent data entry and
data processing workers. The dispute lasted for several months and in the end three of the four companies officially recognized the union after a survey by the Labour Department in compliance with recognition procedures which have been in place for 50 years. One company refused, demanding an independent audit to examine the recognition claims. At the heart of the dispute was the attempt to replace a voluntary system of recognition with a legislative system. The dispute evoked considerable interest and support at national, regional and international levels and resulted in the intervention of the Prime Minister of Barbados. Government support for the Social Partnership and unionization in the offshore sector also came from the Minister of Industry, the Hon. Reginald Farley, in his presentation to the opening plenary of BISC '98.

Monitoring of working conditions in the sector is limited by the human, technical and financial resources of the Department of Labour. This reality, together with the low level of union representation, means that employees have to depend on the generosity of individual managers and company owners to establish reasonable wages and working conditions.

Two distinct private sector positions emerged on the issue of labour relations and the Social Partnership. On the one hand were the positions articulated by the Barbados Employers' Confederation (BEC) and the Barbados Chamber of Commerce (BCC) which support the Social Partnership and unionization. On the other hand was the position of the Informatics Employers' Association (IEA), which was established as a result of the dispute and has as its spokesperson the manager of one of the companies in the dispute.

The view of the IEA was outlined in a statement made on 24 October 1997, which noted that once legislation, a tripartite protocol or some enforceable process were in place, recognition of the union by the individual companies would not be a matter of contention. The reasons given were that: (a) the companies wanted clarity and predictability in the local industrial environment; and (b) their proposals were in keeping with industrial relations practice in many countries including the United States and Canada. The IEA also felt that Barbados' industrial relations regulation and practice must keep pace with current realities in the global environment. They maintained that their proposals would create a more level playing field and bring clarity and predictability to the industrial relations environment.

Mr. Frankie Ford, CEO of the Barbados Chamber of Commerce, was of the view that overseas companies needed to “count on the continued reasonableness of the BWU”, understand the Social Partnership and the culture of industrial relations in Barbados. Similar sentiments were expressed by Mr. Collis Blackman of the BEC, who felt that the offshore companies involved in the dispute with the BWU had violated the principles of the Social Partnership and had challenged national sovereignty. More attention should be paid to ergonomic issues and to ensuring that workers in the sector have a basic living wage.

A Joint statement of the social partners dated 4 February 1998, and signed by the Government of Barbados, the Congress of Trade Unions and Staff Associations and the Barbados Employers' Confederation, confirmed a tripartite commitment to the process. The statement described the attitude of the Offshore Keyboarding Corporation towards recognizing the Barbados Workers' Union as “inflexible and unreasonable” . Their approach was described as “alien to Barbadian industrial relations practice”. The social partners responded strongly to the company's reported proposal “not to expand its operations in Barbados [and] to relocate new business to Trinidad” and expressed confidence in the initiatives taken by the Government and the private sector to increase employment opportunities in the informatics sector despite any jobs lost in the short term. The statement concluded with the view that the company had intended to “withdraw its operations from Barbados anyway” and was only using the union as an excuse.

Newspaper clippings also highlight widespread public support for the union's position as well as concerns about the impact the dispute would have on the sector, given the efforts of the BIDC to promote it overseas.

Other evidence of this underlying respect for labour traditions and Barbadian workers is seen in the BIDC's promotional material, which speaks of “reasonable basic rates and moderate fringe
benefits [which] are combined with high productivity and low rates of turnover [to] result [in] a very cost efficient workforce". These are considered important distinctions because, unlike a number of other developing countries, Barbados does not market itself as a "cheap labour" destination to potential investors.

Good practice model

While there can be no substitute for an organization of workers, one IT company visited during March 1998 serves as a model of "good practice" in the sector in a non-unionized environment. Caribbean Data Services (CDS), whose managing director Carol Webster started working in the company 14 years earlier as a data entry operator, has introduced systems to maintain good management/worker relations, promote a productive and harmonious work atmosphere, involve employees in the decision-making process and create a worker-friendly environment. There are mechanisms to share information, maintain harmony and provide support for employees who fall ill on the job. The company operates a full human resource department supervised by a trained HRD manager. The physiotherapy department has the services of a trained physiotherapist who provides treatment and education, as well as analysis and advice on workstations. The company also has a sick bay with a full-time trained nurse. The company runs its own canteen.

In a comprehensive presentation on "Outsourcing: Strategies for a winning partnership" at BISC '98, Ms. Webster pointed to the importance of good management practice and employee participation in decision-making. The representation of employees' rights is an important norm and is good for business. It complements other winning strategies such as providing good quality, reliable and dependable service as well as good financial indicators. She noted that the rewards of a company should be reflected on both sides. Threats to the success of outsourcing companies include greed, unethical company practices and mistreatment of employees. The success of the company is based on developing employees as stewards of the outsourcing process. Excellent service depends on the fair treatment of employees: it is important to educate and train workers to understand the nature of business and to keep up with technology. It also helps them to understand procedures and see how their work and productivity affect the customer, as well as profits.

Social and economic impact of offshore data service enterprises

Research findings revealed that the presence of professional offshore workers has had an impact on Barbadian society. Wage differentials between local and offshore companies for the services of software professionals make employment in the offshore sector less attractive for nationals. For example, local software programmers with a university degree earn an average of Bd$3,000-Bd$5,000 (US$1,500-US$2,500) monthly whereas salary rates offered by offshore software companies are US$1,200-US$2,400 monthly.

The offshore sector is creating a multinational workforce, which, though welcome, is putting pressure on the existing housing stock and contributing to rent increases. For example, monthly rentals for suitable accommodation have reportedly increased from Bd$1,000-Bd$1,200 to Bd$1,600. Offshore business is also creating a two-tier IT sector, differentiated by companies with varying access to advanced technology. The increased presence of international companies with top executives has broadened the band of executive salaries, and has visibly changed consumption patterns. Heightened security and secluded housing with high walls have become more common. Among administrative staff, a two-tier salary band is being created, with employees in offshore companies receiving higher wages than their counterparts employed by local organizations. This has reportedly established salary expectations that cannot be met in local companies.
Barbados: Case studies of information technology companies

Case study 1: PRT (Barbados) Ltd. — Software programming

PRT (Barbados) Ltd. is a subsidiary of PRT Group Inc. (New York, United States), a company employing 1,000 people in 13 offices worldwide. Founded in 1989 by an American Douglas Hellinger, the company provides a comprehensive range of information technology services including strategic consulting and software engineering solutions. PRT began operations in Barbados in February 1995 and provides technology and software development consulting services for US Fortune 500-sized companies in such fields as banking, insurance and customer product industries. The company achieved Level 3 of the Capability Maturity Model Certification from the Carnegie Mellon University’s Software Engineering Institute within 24 months of starting operations, a process which reportedly takes most companies 40 months to achieve. This placed PRT (Barbados) Ltd. among the top 13 per cent of 533 companies worldwide assessed by CMU. PRT has expanded from an initial space of 5,000 square feet in 1995, and in March 1998 occupied 59,000 square feet on three floors. Among PRT’s clients are companies such as GP Morgan in the United States.

Employment

In March 1998, PRT (Barbados) Ltd. employed approximately 400 persons from 16 countries. The majority are involved in software programming, while others are engaged in engineering and communications and a small core of 49 are in administration. The staff include a management team of nationals from India and Barbados, while the majority of Barbadians are employed in administrative jobs. Three hundred software programmers from India formed the bulk of the workforce. The other employees include 89 Caribbean nationals; eight are technical and professional employees and the others are administrative support and management staff. PRT prides itself on being a pioneer in applying CARICOM legislation on the free movement of nationals within the region and actively seeks to recruit Caribbean nationals.

The main focus of PRT’s work is on designing software programmes to meet client needs, problem solving for clients and creating new products. Engineers, who comprise a significant portion of the workforce, are engaged in the design, management and maintenance of the sophisticated equipment used by the company.

The gender distribution of the workforce is predominantly male. The company states that it encourages a family-friendly environment and employs qualified married couples as software engineers. The management is predominantly male but a few women are employed as managers and project team leaders.

Recruitment

Most software programmers are university graduates with degrees in computer studies or engineering and applied knowledge of software development and business, especially in the fields of insurance and banking. The majority of PRT’s Indian programmers are graduates of that country’s top four universities, well known and respected in the field. PRT provides ongoing training in several software programming languages. The company runs a formal training school and has started its “own batch” of programmers. Forty junior programmers have been recruited and trained and so far 25 have graduated. These were attached to projects for practical training in software engineering and after 12 months they graduated as programmers. The company collaborates with the UWI in information sharing and seminars. Training is further enhanced by a state-of-the-art library which provides programmers with up-to-date reference materials and data sources on the Internet.
Working conditions

The physical design, temperature and layout of the company is excellent and reflects first-world conditions. Software programmers have well-designed partitioned office cubicles. The working environment exudes an atmosphere of quiet, relaxed productivity, with employees comfortably installed at their workstations. State-of-the-art computer and electronics equipment are available, with anti-glare screens for software production. A very high level of security is maintained in all sections of the company. A spacious canteen with a seating capacity of 100 is available to employees.

The administrative team provides support services to expatriate staff, including assistance with housing, transportation, schooling for children and work permits. A bus service is available to all staff at a nominal fee to support work attendance. Interaction, integration of expatriate staff and celebration of cultural diversity are supported by a facilitation and community relations manager. Cricket, swimming and other sports, as well as cultural and national festivals and holidays are used to integrate expatriates into Barbadian society. PRT also helps expatriates with banking transfers and remittances to their home countries. An operations unit serves as a clearing house for problem solving.

Labour relations

The company is not unionized.

Case study 2: Caribbean Data Services Inc. —
Data processing

Caribbean Data Services Inc. (CDS), owned by the National Processing Company in Kentucky, United States, was established in 1983 to provide data entry services for its sister company, American Airlines and clients of AMR Corp. The company grew significantly, offering an increasingly wider range of value added outsourced services to various North American clients. In March 1998, it occupied 100,000 square feet of space and handled a complex chain of data management. Data entry was only a small part of the operation and was required to service clients. The main types of job included preparing and sorting documents; accounting and payroll, health claims processing, reject resolution processing, financial report verification and data entry of lifted coupons. Work arrived via e-mail through dedicated lines for clients or in hard copy by courier. It was then processed and dispatched electronically or by courier.

Employment

In March 1998, CDS was the largest data entry facility in the Eastern Caribbean and employed 950 employees, of whom 95 per cent were female; 700 are employed in data entry and the others provide support services for accounts and administration. The staff is 100 per cent Barbadian. The managers are Barbadian and have reportedly fostered the development of a local culture within the organization. CDS is unique in that its general manager is a woman. She has worked with the company for several years, starting her first job as a data entry operator.

Working conditions

The company operates three shifts: 7 a.m.-3.30 p.m.; 3.30 p.m.-11.30 p.m.; and 11.30 p.m.-7 a.m. The first two are full shifts of data processors, while the latter includes a skeleton staff required to download data, carry out computer-related work and prepare transhipment documents and freight.

Salary rates for data entry employees start at Bd$4-Bd$5.50 per hour for the first three to six months. The general manager noted that there is no average as payments relate to the complexity of the job and individual learning curves. The hourly rate after the initial training period is Bd$6. Wage rates are set by the company.
Research indicated that CDS places a great deal of emphasis on occupational health and safety. There is a department, an OSH committee, an in-house physiotherapist, a nurse and an active public education programme to encourage high OSH standards. Data entry operators have exercise breaks every two hours to help prevent repetitive strain injury (RSI). Nevertheless, the problem exists and the professionals are kept busy. Among the most common problems reported are tendonitis, pains in the shoulders and forearm, carpal tunnel syndrome, with pains in the shoulder and neck. Ultrasound, heat and massage treatment are used by the physiotherapist, who also provides education and analyses workstations. Equipment is fairly modern with screens and adjustable chairs, but none of the workstations observed have footrests. CDS is an equal opportunity employer and persons with disabilities were observed working in the HRD department during the site visit.

Labour relations
In March 1998 the company was not unionized. Representatives of the management team reported that the company focuses on “quality management”, which means consultation, communication, workers’ participation in decision-making, adoption of an informal work atmosphere to remove barriers between management and employees, monthly meetings between supervisors and employees to deal with problem solving and quality control, as well as customer and employee satisfaction. Quarterly reports are given to employees on the company’s financial position.

CDS also encourages an entrepreneurial culture and staff are reportedly given roles within the organization to encourage the development of these skills. Employees manage and operate the staff canteen as a business and profits go into an employee fund. This experience provides employees with training in business skills which include strengthening their knowledge of revenue generation and operating costs.

Recruitment
Data entry employees are recruited as secondary school graduates and basic requirements are three CXC subjects (Caribbean Examination Council) which must include English. Recruitment also targets individuals with qualifications in subjects related to certain jobs (e.g. mathematics for financial reconciliation jobs). Applicants for data processing have an interview and a test, and supervisory and management applicants undergo psychometric tests to determine their suitability for the job.

Data entry workers are predominantly female and their ages range from 18 to 42 years, with an average age of 28 years.

Training
CDS encourages personal and professional development, has an HRD department staffed by professionals and operates the CDS Academy. Educational programmes are customized for the company’s needs and include leadership in action, quality control, personal growth, interactive social and communication skills, problem solving and total quality management. Supervisors are also given training in leadership, coaching, counselling and mentorship. Managers are encouraged to further their education as part of their personal evaluation and quarterly objectives are set.

Case study 3: EBSCO Casias Inc. — Publishing
EBSCO Casias is a subsidiary of EBSCO Publishing Co. (Ma., United States) and is involved in abstracting articles from magazines, periodicals and other materials as well as preparing full-text publications for reference libraries. It reportedly has the abstracting rights to over 3,000 titles, including USA Today, Newsweek, the Wall Street Journal, Cosmopolitan and several academic publications. The full-text aspect of the company’s work involves on-line
publishing which is transferred to clients via the Internet, CD-ROMs or magnetic tapes. The majority of employees are involved in scanning, editing, proofreading and spell checking.

Employees involved in data processing work at a very rapid pace as the turnaround time for scanned data averages two days. This compares favourably with four days for the Philippines and reflects higher productivity rates as well as less time for shipping. The productivity rate for abstracting is approximately eight articles per hour. The company reports that this is 50 per cent higher than the rate for similar work in the Philippines and the quality is better, because of the English language facility of Barbadians.

Recruitment

Employees producing abstracts are required to have higher levels of education than their counterparts engaged in basic data entry and data processing. They are obliged to have English language at CXC or GCE levels.

Employment

EBSCO has 137 employees: 10 per cent males and 90 per cent females.

The findings from the Barbados case study demonstrated that employment has expanded and the offshore data services sector had become more diversified and technologically sophisticated. The majority of employment opportunities however were still being created at the lower end of the technology spectrum. Extensive efforts were being made to upgrade and market the offshore data services sector by building technical and educational capacity and to attract investments using higher levels of IT skills.

Working conditions in the sector varied according to the skill, technology use and job status. These factors were also influenced by gender, as women workers were concentrated in data entry jobs while software programmers were predominantly male. There were distinct differences in their physical and psychological work environment, as a comparison of case studies between software and data entry companies showed.

Occupational safety and health, wage levels for data entry operators and labour relations emerged as the most important areas of concern in analysing working conditions. The creation of operating standards for both management and workers in the sector, education for workers on occupational health and safety, and closer monitoring by the relevant authorities on workplace practices should help reduce work-related illnesses and promote a more productive and harmonious working environment. The Social Partnership and a strong labour tradition are foundations on which the country can further develop what already appears to be a thriving offshore data services sector.
3. Presentation of findings: Jamaica case study

History and development of the offshore data services sector

Jamaica has a population of 2.5 million and a labour force of approximately 1.1 million, with approximately 500,000 workers in the service sector. Offshore data entry operations started in the 1960s with one company providing services for a number of American corporations. Like Barbados, government policies and incentives in the 1980s stimulated the growth and development of the sector. Relevant laws include the Export Industry Encouragement Act (EIEA), the Jamaica Export Free Zone Act (JEFA) and the Moratorium on Duties (MOD). After 1988 the EIEA and the MOD were repealed.

By the 1980s three data entry companies were providing employment for 300 people and the sector was generating revenues of US$1.5 million. With further expansion, there were 20 data entry companies operating by 1991, employing over 3,000 people and generating US$17 million from export services. This rapid growth made data services the fastest growing subsector in the country and the trend continued both within and outside the Montego Bay Free Zone. Estimates of the sector’s contribution to the national economy were approximately US$70 million in 1995-96. In 1996, there were 20 data entry companies employing approximately 3,000 data entry operators. But by December 1997 the Information Technology Unit of JAMPRO, the Government’s export promotion agency, listed only 13 data entry companies, employing 1,407 workers. These figures reflect the dramatic downturn in data entry operations. Seven companies were located in the Montego Bay Free Zone and occupied 76,000 square feet of office space. Interview data and documentary analysis from sources within the Government and private sector confirmed that many local enterprises which dominated the sector had closed down for a number of reasons. The main activities of offshore data service companies were data entry, information processing, telemarketing and software development.

Employment and growth in offshore data services have continued to expand because of regulatory requirements for several industries in the United States. For example, enterprises in manufacturing, health care, publishing, car rental agencies and the financial sector have a high demand for data entry services. The majority of employment in offshore data services is concentrated in this group.

Major markets and competitors

The major markets are the United States and Canada. Global competitiveness relates to labour, productivity and telecommunications costs, as well as rental and other factors. Jamaica’s main Caribbean competitor is Barbados, for the reasons outlined above. St. Lucia, Dominica and the Dominican Republic are the second most competitive group in labour rates followed by Grenada, St. Kitts and Nevis and St. Vincent, which have higher wage rates. The main non-Caribbean competitors are Ireland, India, Mexico, the Philippines and Eastern Europe, according to JAMPRO. Rental and electricity costs in Mexico are 30 per cent lower than in Jamaica, according to one free zone manager.

Jamaica’s advantages cited by JAMPRO, the Export Promotion Agency, are relatively low labour costs, a trainable English-speaking workforce with a relatively high degree of productivity, excellent telecommunications links, time zone affinities with major international markets, guaranteed profit transfer, duty free importation of all material for production, minimal customs procedures and 100 per cent tax relief on profits. Companies operating in the Montego Bay Free Zone also benefit from preferential access to many world markets through duty free concessions granted through trade agreements such as the Caribbean Basin Initiative (CBI), CARIBCAN,
LOME and CARICOM. Companies also have access to cheaper telecommunications rates because of the Jamaica Digiport, which is described below.

As in Barbados, productivity varies from highs of 20,000 keystrokes an hour to less than 10,000 keystrokes an hour. This compares favourably with the reported United States average of 12,000 keystrokes an hour. Workers in some companies consistently produce 15,000-20,000 keystrokes an hour with a high rate of accuracy.

Jamaica Digiport International

The Jamaica Digiport International was established in February 1988 as the Caribbean’s first teleport and was a joint venture between AT&T, Cable and Wireless and (then) Telecommunications of Jamaica. It provides advanced telecommunications capabilities for data and telephone transmission using a 15-metre high dish (the earth station), AT&T's 5ESS switching system. This equipment affords high-speed telecommunications services to companies that depend on a fast turnaround time for their work. Telecommunications facilities also provide free zone clients with lines for transmitting high-quality dedicated services at speeds of up to 1,544 MBPS which is equivalent to 2.04 in European standards. The Digiport also offers long distance services as well as advanced 800 services, switched 56 Kpbs and dedicated private line services from 56 Kbps to 1.5 MBPS. Costs for circuit speed rates such as a T1 line required to transmit high speed data are high. Local rates for a T1 line, for example, are reportedly three times higher than in the United States and the rate quoted by Cable and Wireless personnel interviewed is over US$20,00 per annum for a half circuit.

The Digiport and free zone are close to Sangster International Airport which is served by over a dozen international airlines and provides flights, freight, cargo and courier services. The Montego Bay Free Zone has 441,320 square feet of space available for factories, offices and information processing. An additional 30,000 sq. ft (of a total of 60,000 sq. ft) were made available in 1998 to meet the demand for additional office space for the IT sector. The average lease rates for company buildings in the zone in the same year were US$6.50 per square foot for a minimum of 5,000 square feet per annum and these prices include exterior lighting and 24-hour security.

Fiscal incentives

Promotional literature from JAMPRO indicates that companies operating in the Montego Bay Free Zone enjoy 100 per cent tax relief on profits in perpetuity, are not subject to import licencing, are subject to minimum customs procedures and may import items such as capital and consumer goods, and building materials free of customs duty, sales tax or stamp duty.

Legislation granting single entity free zone status was passed in 1996, granting benefits to companies outside the designated zone so long as they meet the stated criteria. However, relatively few companies had taken advantage of this legislation by May 1998.

Training facilities

Companies in the Montego Bay Free Zone have collaborated with the Government to establish a training school in the zone for potential data entry employees. In addition, the HEART Academy (Human and Employment Resource and Training Agency) also provides training from a nearby location. A network of primary, secondary, tertiary and vocational institutions provide qualified graduates for the sector. Most companies carry out on-the-job training to equip workers with specific skills in addition to basic keypunching. This training enables employees to find other jobs within and outside the sector and many of them use their experience in offshore data services to seek jobs in banking, insurance and tourism, where keyboarding skills are in high demand.
Profile of the offshore data services industry in Jamaica

Ownership structure and size of companies

According to JAMPRO, data entry companies fall into the following categories:

1. 100 per cent Jamaican owned, with an average of 30-50 workstations which mainly serve cyclical contracts;
2. 100 per cent Jamaican-owned companies with 30-100 workstations servicing long-term contracts with US-based broker-marketing support;
3. joint ventures between foreign and local companies with the local partner managing the facility and the foreign partner being responsible for marketing support. The average number of workstations is 150;
4. 100 per cent foreign-owned companies with expatriate senior management and Jamaican middle management in charge of production. These companies tend to be larger, with an average of 300 workstations.

The first three categories are more numerous and tend to be located in Kingston and outside the Montego Bay Free Zone; they employ fewer workers. There are two main locations for offshore data companies, Kingston and Montego Bay, and of 27 IT companies registered with JAMPRO in 1996, 19 (68 per cent) are located in Kingston and six (22 per cent) are in Montego Bay. Manchester and St. Elizabeth (two rural parishes) also have one company each (5 per cent each).

Table 10. Jamaica: Number of employees in data entry companies

<table>
<thead>
<tr>
<th>Size of company — number of employees</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 20</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>20-40</td>
<td>5</td>
<td>38</td>
</tr>
<tr>
<td>41-60</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>61-80</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>81-100</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>101-200</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Over 200</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>100</td>
</tr>
</tbody>
</table>


The largest category within this subgroup are companies employing between 20 and 40 people. There is one company with 700 employees.

Major activities

Major activities indicate the areas of employment and skills within the sector. As in Barbados, most companies are involved in data entry and data processing, especially text keying, image processing, voice application, mailing lists, coupon fulfilment, coding, litigation support, electronic support, electronic publishing and batch processing. Other services available include software development, computer-aided design and computer-aided manufacturing (CAD/CAM), geographic information systems and telemarketing. The following table presents a profile of the industry.
Table 11 shows that between 1993 and 1997 the market contracted significantly from 49 companies to 27 companies. Data entry firms suffered most, with 24 companies closing. As a percentage, telemarketing expanded by almost 50 per cent. Software development also expanded but the export component contracted in 1998 and several of these companies were concentrating on local clients.

Table 11. Jamaica: Structure of the offshore data services industry

<table>
<thead>
<tr>
<th>Type of activity</th>
<th>1993 No. of companies</th>
<th></th>
<th>1997 No. of companies</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>%</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Data entry</td>
<td>37</td>
<td>76</td>
<td>13</td>
<td>48</td>
</tr>
<tr>
<td>Software</td>
<td>n.a.</td>
<td>n.a.</td>
<td>9</td>
<td>33</td>
</tr>
<tr>
<td>Telemarketing</td>
<td>4</td>
<td>8</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Sales, training, marketing</td>
<td>5</td>
<td>10</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>CAD/GIS</td>
<td>3</td>
<td>6</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td>100</td>
<td>27</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Compiled from JAMPRO data (1997).

Factors reportedly contributing to the decline included the national (and global) economic climate of 1995-98. At the local level, this was a very difficult period and several financial companies had to seek “bailouts” from the Government. The high interest rate policy (over 50 per cent interest on loans) and lack of awareness of financial decision-makers about IT potential were also cited as factors by IT company representatives attending JAMPRO’s Target Europe Seminar in March 1998. Limited access to loans had also adversely affected the ability of companies to retool and update their equipment which in turn reduced their ability to provide stable jobs. Problems with marketing overseas and collecting payment for jobs completed also had a negative impact, especially on smaller local companies which were not linked to larger United States counterparts. Interview data suggested that some companies had to wait between 60-90 days for payment and lived on overdrafts. The cost of tendering for contracts was also a negative factor because the process was expensive to small companies and there was no guarantee of success in securing a contract. Most contracts were shared through a small network in the industry. High interest rates and low profit margins put local data entry companies at a disadvantage.

Trends

In addition to its periods of contraction and expansion, the sector also became more diversified as time went on. In 1998, telemarketing was expanding, and data entry was on the decline. Three new telemarketing companies were reportedly established in 1997 and three more were coming on stream in 1998 according to JAMPRO staff. Most of these companies were involved in sports telemarketing for which there is a growing demand in the United States. Employment levels and stability depend on overseas contracts, the ability of companies to access technology, market themselves overseas and to train and retain skilled employees.

Corporate restructuring

Retrenchment in the offshore data processing sector is associated with corporate restructuring decisions over which the Government and local companies have no control. Closing the “back office” of larger United States companies, for example, usually results in the reabsorption of data entry operations by the parent company or their relocation to more
competitive sites. Costa Rica and Mexico emerged as favoured sites for some companies leaving Jamaica.

Technology

Companies’ inability to upgrade technology to take advantage of new market opportunities affects employment. In addition, the availability of ready-made software packages with various applications has reduced the demand for programmers.

Trade agreements

Mexico, with NAFTA parity, poses a threat to the local offshore data services industry. Together with advances in the field of telecommunications technology, this has eroded the advantage of Jamaica’s geographical proximity to the main United States market, as technology facilitates real-time processing for companies globally. Contractors in the Philippines, for example, can download information via e-mail and the Internet, process and return it in the same time as local companies.

Interviews suggested that while there will always be scope for paper-based work, the cost of labour, the cost of financing operations and overseas marketing are together having a negative impact on the cost effectiveness of the local data entry sector. JAMPRO was also restructuring during the same period and was therefore limited in its ability to assist the sector. The country’s economic crisis has significantly reduced the Government’s ability to help companies.

Bureaucracy

Success relates directly to turnaround time and accuracy; turnaround times for data entry range from 24 hours to five working days, depending on the complexity of contracts. Interviews with company managers suggest that national bureaucracy has contributed to a loss of contracts, which in turn has had a negative impact on employment and the viability of data entry companies. This problem was also identified by JAMPRO. For example, the 1996-97 Marketing Plan for the sector acknowledged that “there is still a high level of bureaucracy involved in doing business in Jamaica. It is not uncommon for imported goods to be detained by customs officials who are unmindful of the short turnaround times on such jobs. The effect of such actions could result in cancellation of contracts as United States suppliers are usually very precise in keeping their delivery schedules”. One company manager lost a contract because customs officers detained the CD-ROM on which the client had sent work and it took two weeks to clear the item.

Work ethic, wages and working conditions

The downturn in the sector is related to what some company managers perceive as a poor work ethic at the basic data entry level. They complain that women workers are not always keen to use opportunities for earning higher wages, and many leave the industry after they have been trained and have developed some expertise in keying skills. These facts will be examined in more detail later in this chapter.

Profile of the workforce

Unlike Barbados, which has two distinct groups of workers in the sector, Jamaica has three main categories of workers: data entry operators, telemarketers and software programmers. Data entry operators tend to be female and within the age group 18-58 years; the average age is 24 years, which is lower than in Barbados. This broad age range reflects a core of older women employed for several years in the long-established data entry companies, some of whom have been with these companies for up to 20 years. The gender distribution of the workforce is
overwhelmingly female (over 90 per cent). There is, however, a noticeable increase in the number of males entering the sector; they account for 5 to 10 per cent of data entry operators.

Most data entry workers have primary, secondary or vocational education. As previously stated, the majority of employees are working mothers with dependent children. Telemarketing operators are young females within the 18-25 age range, tend to have a secondary education and have dependent children.

Software programmes tend to be male university graduates, in their twenties. There is a reported shortage of programmers and the gap is filled by Indian nationals recruited from overseas. A high premium is paid for programmers because the UWI is unable to supply the number of graduates needed by the sector. Actual salary rates were not available at the time of writing this report.

As in Barbados, managers and supervisors tend to be nationals. Analysis of 27 companies on the JAMPRO database for 1996-97 showed that managers tend to be males in a 2:1 ratio with females (18 males to nine females).

**Wages and working conditions**

Labour legislation provides for a 40-hour work-week. Most data service companies inside and outside the free zone operate two shifts. Some have the potential and would like to operate a third shift, but transportation problems and concerns for personal safety of employees do not make a third shift viable. Most of the female-dominated workforce has to travel long distances to adjoining parishes because affordable housing in the Montego Bay area is limited. Most of these employees are also mothers with young children and as such have to balance their time to fulfill their productive and reproductive roles. Absence of day-care facilities in the Montego Bay Free Zone reduces the amount of overtime women are willing to work.

**Remuneration and benefits**

Jamaica's National Minimum Wage Act establishes a minimum wage of J$800 per week (US$23 average) for a 40-hour work-week, which is equivalent to US$0.57 per hour. The Act also establishes that work in excess of an eight-hour day or a 40-hour week attracts time and a half (US$0.86). Work on rest days (Saturday and Sunday) and public holidays attracts premium rates at double the basic hourly rate (US$1.14). All employers are required to pay statutory deductions which include the National Insurance Scheme (NIS), Education Tax and National Housing Trust (NHT).

Official sources as well as employers within the sector indicated that wage rates and earnings vary in accordance with a number of factors. Apart from the minimum wage, there are no official wage guidelines for the sector and all companies reportedly pay above the minimum wage. At US$0.57 an hour, wage rates for data entry workers are, however, a small fraction of rates offered for similar work in the United States or Canada. Interviews in 1998 indicated that data entry workers in the United States are paid US$10 per hour or US$400 per week for a 40-hour work-week. Jamaican data entry operators by comparison earn between J$700-J$1,500 (US$20-US$43) weekly. Employees in more specialized jobs in the Montego Bay Free Zone earn between J$1,200-J$1,500 per week (US$34-US$43). Companies in the zone tend to pay more because they are larger, have more regular contracts and more advanced technology.

Mullings (1995) noted that in January 1994, the basic weekly wage for data entry workers was between US$13-US$18 for a 40-hour work-week. Hourly rates were US$1-US$1.67 per hour, which was less than workers in the United States who then earned US$7-US$10 per hour. Take-home pay for data entry operators was then J$1,200-J$2,000 per week. A comparison of the wages between 1993 and 1998 suggests that data entry workers earn between one-seventh and one-tenth of the basic hourly earnings of a United States worker. The real value of these wages is lower when inflation and currency devaluation are considered.
Findings from the study suggest that wage levels are influenced by company size, the type and complexity of the job, the technical level of the worker, the volume of work available (which may require overtime), the frequency of jobs available and the process required for the job (straight key punching, more complex and advanced applications, or reading handwritten material rather than typed text). Telemarketing workers receive a basic rate plus commission based on sales volume. These employees earn between J$1,500-J$1,800 per week (US$43-US$51), because higher levels of skills and knowledge are required. Software programmers, at the higher end of the scale, have a different wage structure and earn a monthly salary or work as consultants on contract. The majority of Jamaican software engineers are contracted to companies for specific time-bound jobs. Average earnings are estimated by an official source within the industry as J$50,000-J$80,000 monthly (US$1,429-US$2,286). These are better starting rates than those quoted from the BIDC, which list the range for this category of employees as US$1,200-US$1,400.

**Fringe benefits**

According to JAMPRO, fringe benefits vary between companies but generally represent 22-25 per cent of wages. This is more than the 18.75 per cent estimated by the BIDC. Benefits to Jamaican workers are examined in the following section.

**Sick leave**

Staff who work for 110 days continuously within the first year of employment are entitled to one week's sick leave with pay. After a full year, they are due two weeks' leave with pay annually. A medical certificate is required from a licensed physician if an employee is ill for more than three consecutive days.

**Maternity leave**

All female workers are entitled to 12 weeks' maternity leave, eight of which are paid by the employer. Each woman is entitled to three paid maternity periods with each employer.

**Vacation leave**

Each employee is entitled to paid vacation leave after 110 working days. After one year's service, two weeks of paid vacation leave are due each year. Some companies in the zone have more attractive provision. For example, one provided three weeks after five years, four weeks after ten years and five weeks after 15 years.

**Probation and termination**

Every employee serves a three-month trial period before being permanently engaged. After this period the employer must serve notice of termination and provide compensation based on length of service, as specified by law.

**Other benefits**

Welfare services include canteens, sanitary facilities, first aid and rest rooms. Optional fringe benefit packages include health and accident insurance, retirement benefits, protective clothing (as needed), uniforms and bonus payments.

The range and scope of benefits varies between companies. For example, a few of the larger companies have their own health insurance scheme or provide health benefits. The law requires all companies to have a rest room as well as regular breaks, but it is left to the discretion of the
company to decide on the frequency and length of breaks. A few data companies provide uniforms and pension schemes and these tend to be foreign owned. One large company operating in the Montego Bay Free Zone, for example, provides a total health care package for employees and their dependants, which covers eye examinations among other services. Life insurance coverage is also included.

The Montego Bay Free Zone has a medical centre (clinic) which caters to the needs of clients and employees, and the facility is operated by the local hospital (Cornwall Regional Hospital) which has access to 80 doctors and 17 consultants. The zone clinic treats emergencies, provides general health care and family planning services. In Kingston, few IT companies offer health benefits, as they tend to rely on part-time contracted data entry operators and maintain a small core of employees. One company in the Montego Bay Free Zone provides transportation for employees from the zone into the city of Montego Bay.

Occupational safety and health

Standards established for companies using VDUs and computer workstations generally include provisions which outline the obligations of employers to ensure that the health and safety of employees are addressed. These provisions usually relate to eyesight, physical disorders, mental stress, noise and training to ensure proper seating posture and seating adjustment. Jamaica, like Barbados has drafted such legislation and it relates to display screens, keyboards, work surfaces, chairs, work and rest schedules, lighting and task lighting. An assessment of these factors is presented below.

Physical conditions

Physical conditions vary in the companies visited. The physical size of the company usually affects the layout and the space between workstations. Some appear cramped while others are more spacious.

Visual problems

Interviews indicated that eye problems affect a number of workers. Additional research would be needed to determine the frequency of occurrence and explore a correlation with the length of time workers are employed in the data entry sector. In the absence of these data it is not possible to comment on the extent of the problem.

Physical disorders

Interviews with female and male employees as well as company managers pointed to occupational health problems. Further research would be needed to determine the range of problems and their frequency among offshore data service workers. Similar problems to those cited in Barbados were reported, including stiff hands and fingers, visual problems, dizziness, backaches and mesocarpal syndrome. The latter is usually found among employees who have been working in the sector for a long time. The manager of one company in the free zone reported that the employees affected have been moved to other jobs and have received physiotherapy treatment. This was confirmed in interviews with employees. More extensive and detailed research is needed in this area, as recommended by Pearson (1991).

Work/rest breaks

Limited access to work areas reduced the level of verification of this factor. It was difficult to assess the extent to which companies provided breaks or the frequency and length of those
breaks. A similar pattern emerged to that described in Barbados, with 15-minute breaks after two-hour work periods and a staggered half-hour lunch break.

Interviews with Ministry of Labour staff in Montego Bay revealed limited monitoring capacity and awareness of OSH issues in the data entry sector. Interviews with JAMPRO staff, as previously noted, suggested that breaks are obligatory, but their frequency and timing are left to the discretion of company managers.

Equipment

Data from companies showed that most have adjustable chairs. However, one of the companies visited in the zone provides plastic stacking chairs which are not adjustable. In most cases keyboards are movable, but few of the companies visited or interviewed have ergonomic keyboards. There was no evidence of footrests among the companies visited. Some companies have anti-glare screens attached, others have them built in and a few work with no protection from glare. Further research is needed to ascertain practice and establish norms and standards.

Lighting and ventilation

Most Jamaican companies, like their Barbadian counterparts, keep overhead lights dim to reduce glare; this is done at the request of employees. Similarly, most offices are air-conditioned.

Workers’ concerns

Data from interviews and documentary sources confirmed that there is a very high rate of turnover among data entry operators ranging from between six months and a year to two or three years. A few companies manage to retain the services of their employees for up to 20 years. The main factors contributing to high turnover rates are:

- low wages;
- the boring and repetitive nature of data entry and data processing and inability or unwillingness on the part of some companies to rotate jobs;
- limited scope for promotion and the absence of a clear career path in the industry;
- the lack of benefits in most companies, especially the smaller local companies;
- poor treatment from some employers which undermines the self-respect of employees;
- lack of job security.

JAMPRO reported that while most companies comply with the payment of statutory deductions, the treatment of employees varies: some companies are good employers, while the practice of others contributes to high labour turnover. Most complaints to the agency are about poor wages and benefits and not about occupational safety and health issues, which is the reverse of the pattern observed in Barbados. It could be explained by the fact that employees in Jamaica do not stay long enough to develop some of the more painful occupational injuries reported. It could also be the level of contact between Agency staff and workers in the sector, but channels for communication were not explored.

Trade unionism and labour relations

Like Barbados, promotional literature from JAMPRO emphasizes the fact that Jamaica has a vibrant trade union movement which upholds the provisions of all labour and industrial relations legislation on behalf of the labour force. Jamaica has also ratified ILO Conventions Nos. 87 and 98 which guarantee freedom of association and the right to join a trade union. The Labour Relations and Disputes Act (LRIDA), which was passed in 1975, makes provision for the establishment of a Labour Relations Code which formalizes workers’ right to form a union.
Workers' bargaining rights are conducted through ballots. Collective agreements are common among the unionized workforce and usually include a grievance procedure. Jamaica has an industrial court, called the Industrial Disputes Tribunal (IDT). The LRIDA makes provision for the Minister of Labour to declare a strike as being against the public interest and to impose compulsory arbitration. There are also provisions for joint consultation to resolve issues. Despite these provisions, however, none of the companies in the sector is unionized.

Interview data revealed the existence of strong anti-union sentiments among a few company managers. For example, one manager of a local company operating in the Montego Bay Free Zone who has been in the sector for many years, regards trade unions as a major danger to the sector and "an obstacle to doing business". He feels that unions create unrealistic demands. Employees had tried to bring unions into the offshore data sector ten to 15 years ago and this led to a number of companies relocating to other countries. He also expressed the view that unions would increase costs as they would want union dues from workers and they would demand higher wages from employers.

Interviews with representatives of one of the main unions in Jamaica indicated that none of the unions is active in the free zone although they have received reports of occupational illnesses and low wages. Research on the offshore data services sector is very limited within the trade union network.

Jamaica: Case studies of information technology companies

Case study 1: MRS (Mirand Response Systems), Montego Free Zone, Jamaica

Ownership and operations

MRS was the largest information processing firm operating in the Montego Freeport in 1997-98. It is owned by the United National Processing Company (NPC) of Louisville, Kentucky, in the United States. NPC’s own parent company is a major bank in the United States, with manufacturing subsidiaries in Mexico. MRS was originally owned by a parent firm of the same name, specializing in health care claims. Although the Jamaican subsidiary was sold to NPC in June 1997, it retained the old initials MRS as its trade name in Jamaica. NPC also operates information processing companies in Barbados (CDS) and the Dominican Republic.

The original company started operations in Jamaica in 1990. Its main business is data entry and other forms of information processing for large United States health care and health insurance providers and accounting companies. The data and the processed information are conveyed both electronically and by air cargo. The form of receipt and delivery depends on the capacity and requirements of the client.

The executive managers of the company are American, French Canadian and Indian, while supervisory, management and administrative staff are mainly Jamaican.

Personnel and employment practices

In the period under review, MRS employed 650 workers; it plans to increase this number, subject to training and the competence levels of potential employees. Eighty per cent of the staff are women and 20 per cent are men. The average age of data processing employees is about 22 years, the range being from 18 to 32 years.

Staff are recruited among secondary school leavers in western Jamaica, using such methods as job fairs, advertising, visits to institutions and word of mouth. The main criteria for recruitment are tested abilities in the English language, basic mathematics, typing skills and aptitude for the job. The new recruit has three months of intensive on-the-job training in specialized keyboarding and in processing health care and accounting data.
Trained staff are paid a basic weekly wage, supplemented by a quality and productivity-related incentive, based on document-completion accuracy and certain keystroke-related calculations. The normal standard in the company is 97 per cent document perfection and 99.96 per cent keystroke accuracy for each entry. These targets are frequently exceeded by the best employees.

Working conditions

Employees work on two shifts, from 7 a.m. to 3.30 p.m. or from 3.30 p.m. to 11.15 p.m. The company hopes to operate round the clock in future, but regards local conditions as unsuited for such a step at present. Employees are transported by company vehicle to and from designated points in Montego Bay. They are also covered by a limited health insurance provided by the company.

Management reports low staff turnover, attributed to wage rates that are marginally higher than local competitors, health care provision for employees and up to three dependants, on-the-job training and improved staff relations generated through transport to and from work and special training for supervisors and managers. Staff who leave are those weary from stringent shift and keyboard requirements and those able to use acquired skills in other better paying jobs.

Wage rates vary with competence and experience. Untrained recruits begin at under US$30 a week (J$800), but this is increased within a month by productivity incentives based on speed and efficiency. According to management, a fully trained information processing specialist working on highly technical jobs may earn up to US$330 for a five-day, 40-hour week (J$12,000). However, employees interviewed separately indicate that the average is closer to half that figure.

While attempts are made to maintain good working conditions, there are some complaints about occupational illness, including mesocarpal syndrome, stiffness in the hand, eye and back problems. These are rarely relieved by routine visits to the general practitioner whose costs are covered by the health insurance. One employee was moved from data entry to supervisory work because of stiff and painful fingers. Employees are satisfied with most seating, lighting, spacing and keyboard conditions, although only a few workstations have ergonomic keyboards.

Labour relations

There are no trade unions or employee organizations in the company. A regional office of the Ministry of Labour and a department of JAMRO, the trade promotion company, maintain dialogue within the company regarding work and training conditions. Employees do not regard this as a substitute for trade unions, but are cautious about the implications for their jobs if they are involved in a labour organization.

Case study 2: ABC Processors (not the real name)

Ownership and operations

ABC is a small Jamaican data entry company operating in Kingston. It is owned by a local entrepreneur and has been in operation for a number of years, working for companies overseas in entertainments and the holiday industry. Their accuracy rate is reportedly 97 per cent. Most of the data they receive is transmitted by air freight in the form of questionnaires. Data are then keyed in and retransmitted by e-mail to the contractor.

Personnel and employment practices

In eight years ABC’s workforce was reduced from 200 employees (the majority of whom were women) to 15 in 1997. This experience illustrates the fate of many small data entry companies on the island. Their overseas contractors have moved business to countries like Mexico and Malaysia, primarily because of cheaper labour costs. The IT sector is extremely competitive and as ABC’s proprietor noted, a one-cent difference in the price quoted for a job
is enough to make a contractor relocate to another country. Many local companies lose on jobs, or have very small profit margins.

Competitiveness is influenced by a number of factors, the first of which is operating costs. While this manager considers that the cost of telecommunication lines for data entry are “not bad”, overhead costs are high. For example, rental is J$57,000 per month for 500-600 per square feet of space (US$1,600 per month). This averages US$2.67 per sq. ft. Electricity costs between J$10,000-J$14,000 per month (US$278-US$389 per month).

The standard of machinery and equipment is also a factor. ABC’s machines are old 386 computers. The cost of recapitalizing the company and upgrading the machines has been considered and loans are available through JAMPRO, Jamaica’s export promotion company. Companies like ABC are afraid to take them up, however, because they have no guarantee of regular overseas contracts to service and repay the loans.

Marketing overseas is also expensive for small companies like ABC. Again it is a “Catch 22” situation. The female manager reported that “no one knows us overseas [and] Jamaica is not known as a data entry destination”. Some companies award contracts on the basis of nationality or company loyalty. Small independent Jamaican companies such as theirs had the experience of American contractors giving business to their own subsidiaries in Mexico, even when they (ABC) offered a lower bid and a higher rate of accuracy. International standards are high and the market demands 100 per cent accuracy. The only contracts ABC has managed to negotiate were gained by aligning themselves to a few companies overseas. This provides “pocket money” which though small and slow, is steady.

Working conditions

In the past, the industry was a gold mine. ABC and other companies have adopted many survival strategies to stay in business: reducing the workforce; placing the remaining workers on three-month contracts; and paying workers according to records produced (piece-rates). Sick leave and holidays were adjusted accordingly. Workers reportedly receive a fortnightly wage of J$6,000 (US$167). This is US$28 per week or approximately US$18 per day.

The uncertainty of contracts means that there are days when there is no work. ABC works one shift, which is the norm for most companies in Kingston because of the limited work available.

Labour relations

This company is not unionized.

Case study 3: SRL Limited (not the real name)

Ownership structure and operations

SRL is another small data entry company owned by a Jamaican entrepreneur. In December 1997, the company closed its doors after four years of operations. The last two years were spent struggling to stay in business. When the company closed, it had debts of millions of dollars and was trying to sell its machines and other assets to pay creditors. SRL’s main business was data entry, working for United States companies in several sectors.

Personnel and employment

Between 1994 and 1997, SRL’s workforce dropped from 23 to one and all the workers except the manager/owner were female. All were in the age group 18-30 years. The majority were secondary school graduates with skills in maths, English and typing. Staff were paid a basic weekly wage of J$3,000 (approximately US$83) they received productivity incentives common to the industry.
Working conditions

There was one shift, 7 a.m.-3.30 p.m. The manager reported a high level of commitment to the organization while the company was in operation, with very little turnover. In fact some employees worked without pay in the last months before the company closed in the hope of keeping it alive. There were no interviews with staff as the company had closed shortly before this study was carried out.

Labour relations

The manager reported very good relations with his staff, stressing that they had been very loyal. The company was not unionized.

Global challenges for local IT companies

The experience of SRL illustrates several of the problems cited in the ABC case study. Interviews with the owner highlighted issues such as the impact of technological developments and scanning on the data entry industry. While acknowledging that there was still a lot of scope for paper-based jobs such as data entry, SRL’s experience was that with the increased availability of scanning and imaging, there was less demand for jobs requiring keystrokes (data entry).

Securing overseas contracts is quite challenging to small companies like SRL. Among the experiences cited by the manager were the following:

1. The practice of United States investors who complain that the quality of the work is poor and refuse to pay. This means that the data entry company has to pay the transmission costs, without compensation.

2. The unscrupulous practices of overseas contractors who cease operations after receiving the completed job. They refuse to pay, then reopen as a new company. This is reported to be quite common in the industry.

3. Contractors who require subcontracted companies to wait 120-160 days for payment, which means that costs incurred in completing that job (salaries, rental, utilities) are being subsidized by the local company. High interest rates for overdrafts make this uneconomical.

4. The absence of affordable credit has adversely affected the survival of SRL as a small company. Having invested approximately J$500,000 (US$13,889) to establish a company with ten workstations, software, cabling and network software, the company is several million dollars in debt as a result of problems associated with operating in the business. They are unable to service the loans offered by the Government which are reportedly at 45 per cent interest per annum and 70 per cent on overdrafts. SRL’s manager cited many small companies in a similar situation that need assistance in debt rescheduling.

5. The prohibitive cost of overseas marketing. Marketing overseas is not cost-effective for one company and efforts by a group of companies to collaborate have not been successful, because competition is the nature of the business. Overseas companies also try to play off one local company against another, letting them know that although company X had bid for $60/1,000 keystrokes, they would get the contract if they did it for $55/1,000 keystrokes.

6. Bidding for contracts is also a costly investment which is not recoverable. Companies usually have to meet the cost of subcontracting services required for the design specifications of a contract (e.g. software engineers). If the bid is not successful, the company has to absorb the time and money invested.

7. Global competition is challenging for small companies like SRL that face stiff competition from counterparts in Pakistan, India and China. SRL’s manager noted that some United States companies send jobs to those regions, because their labour costs are cheaper, despite a lower level of accuracy. Labour costs in Jamaica, they noted, are $0.45/1,000 keystrokes compared to $0.20/1,000 keystrokes in Pakistan.
These case studies illustrate many challenges faced by small local IT companies competing in a global environment. In summary the main challenges are: changes in trade policies which have diverted business from Jamaica to countries such as Mexico and parts of Asia. Then there are the high costs of marketing overseas, the difficulty in securing contracts from overseas companies and receiving payment. High operating costs, low profit margins, limited affordable loans, and the risks associated with borrowing are all important constraints. Technological changes have shifted the market for offshore data services and companies unable to make the necessary adjustments in a timely manner are forced out of the industry.

The impact on the predominantly female workforce is downsizing, uncertainty in income earning and reduced job security.

[Note: The names of the last two companies have been changed to protect their identity.]
4. Conclusions

Global competitiveness and low wages

Perhaps the single most important finding is that low wages and low-skill jobs cannot by themselves make developing countries such as Jamaica and Barbados globally competitive in the rapidly changing offshore data services sector. Results from the two case studies show that although basic wages in Jamaica's offshore data services sector have been declining in US dollar terms as a result of currency devaluation and other factors, this has not been enough to stop job losses in the sector. Indeed, low-wage low-skill jobs have continued to be the main source of investment and that investment has declined significantly.

The research also shows that lower wages rates are part of the incentive package used to encourage foreign investors. Caribbean governments and labour unions have established minimum wages, benefits and labour standards, but these are perceived by some foreign investors as additional indirect labour costs which make the region less globally competitive than Mexico or the Philippines, for example. The findings suggest that these benefits provide a "cushion" to supplement the very low wages and that these benefits are essential to maintain the labour force. Evidence from Jamaica suggests that very low wages and poor working conditions tend to undermine the stability of the workforce and contribute to high labour turnover in the sector. Low wages also increase operating costs because companies are constantly training workers who stay for short periods and then move on to more lucrative jobs in other sectors. There is evidence that poor working conditions and the perceived negative attitudes of employers both have a negative impact on productivity. Interview data from Barbados in particular bring this out clearly, as workers increase or decrease their productivity according to the perceived attitudes of their employers and the level of respect given to them.

Labour relations

The study shows that workers' rights which are guaranteed under the Constitution of both countries and by the ILO Conventions which they have ratified are undermined to varying degrees in the interests of maintaining global competitiveness. There is a perception that unions drive away foreign investors. Therefore, while labour legislation for the zones does not explicitly prohibit unionization, unions are not encouraged. Indeed, none of the offshore data service companies in Jamaica is unionized, either inside or outside the Montego Bay Free Zone. The sector has not been unionized in Barbados, although it has been in operation for over 16 years. In the previous year, efforts to represent workers in four offshore data service companies had created considerable unrest in the sector. This has occurred despite the fact that Barbados has a Social Partnership which all tripartite partners respect and support; it aims to establish basic norms and practices which respect the rights of workers, guarantee stability of employment and enhance productivity. This case study has many lessons for the tripartite partners in Barbados and other countries across the region.

Technology, telecommunications and trade

Another important finding is that technological change, access to new technology, the cost of telecommunications and trade relations have a greater impact on global competitiveness than cheap labour. These factors also appear to have an interactive effect on growth and development in the sector.

The Caribbean case studies confirm that workers in the sector receive wages that are much lower than their counterparts in the United States and that these wages vary in relation to the level of skill. The wage gap is widest at the lower end of the technology scale. Lower wages in
developing countries have made Caribbean locations attractive and the sector has grown because of globalization. As reported by Pearson (1991), Pantin (1995) and others, the need to become globally competitive has forced companies to relocate some aspects of their work overseas to reduce production costs. Corporate decisions made by companies in the United States and other industrialized countries to outsource the low-skill aspects of their business overseas and retain their high-skill core business, have undoubtedly expanded employment opportunities in the Caribbean. In addition, the region has benefited from exposure to more advanced technology, the generation of foreign exchange earnings from renting facilities, the payment of utilities and income from wages earned by nationals. The levels of employment created, though important, have not been dramatic and are subject to cycles of growth and decline. Jobs have been created not only for data processors, but also for persons with technical, administrative and professional skills. The offshore sector has also generated indirect employment through companies which provide a wide range of services to the sector.

Despite the greater diversity of technology, most of the offshore data service jobs which come to the Caribbean are still at the low-skill, low-wage end of the spectrum. Technology has also had a major impact on the region’s competitiveness. Dunn (1995) analyses the impact of globalization on the Caribbean and the convergence of four technologies which have had a profound impact on telecommunications in the region. These are satellites, computers, optics and lasers (CDs and CD-ROMs) and digitalization (using zeros and ones as universal digits to store and transmit high volumes of information). This convergence of technologies and the impact of globalization have facilitated expansion of the offshore data service industry in the Caribbean. Countries can increase their global competitiveness by targeting companies engaged in high-tech offshore activities.

Trade agreements such as NAFTA have reduced the global competitiveness of Caribbean countries. Mexico’s preferential trade status with the United States has encouraged some companies operating in the Caribbean to relocate their operations. The study also shows that corporate decisions play a major role in the location of back offices and outsourcing, decisions over which developing countries have little control.

Speed, accuracy, reliability and flexibility emerge as important factors influencing location decisions and competitiveness. The problem of poor work attitudes among employees was cited by some persons as a factor contributing to the downturn in the data entry sector. However, this view is based on the assumption that if there are incentives to earn money, women will automatically want to work harder and longer. That view does not take account of basic economic, social and psychological needs which have to be met through employment in the sector. It ignores factors such as exhaustion, sickness and demotivation related to feelings of disrespect. Moreover, the impact of gender roles and gender needs are not adequately considered. The study clearly demonstrates the role conflicts experienced by data entry operators as workers and as young mothers who have to combine productive and reproductive responsibilities. Without adequate support to enable them to fulfil both roles, conflicts are inevitable as they try to balance care for children, sick and elderly relatives with full-time work during the week, and overtime work in the evenings and weekends.

Important findings related to occupational safety and health also emerge from the study. There is a high cost to “flying fingers” operating at sustained speeds above 10,000 keystrokes an hour. The conclusion is that with inadequate OSH training and less than adequate equipment to reduce occupational injuries, employees will not be able to maintain high levels of productivity, and it will not be possible to blame reduced output on “poor work attitudes”. Paying closer attention to the human factor and adopting a gendered approach to managing the workforce could help minimize these problems and increase global competitiveness.

The study leads to the conclusion that global competitiveness in the offshore service field is significantly influenced by the cost of telecommunications and access to technology. Mullings (1995), writing on telecommunications restructuring and the development of export information processing in the Caribbean, noted that the convergence of telecommunications, information
technologies and electronics has given rise to new services and products which offer greater reliability, capacity, speed, and compatibility, but that it has also generated new levels of demand from consumers. The case studies provide an illustration of these developments. In 1998 the sector was markedly different from the 1960s when early companies did basic card punching on IBM machines.

The cost of telecommunications emerges as a significant factor influencing employment; this poses a major challenge for the Caribbean which operates within a monopoly. Dunn (1991) stressed the impact of a monopoly telecommunications carrier on reducing a country's global competitiveness, citing the position of Cable and Wireless in the Caribbean. Barbados and Jamaica both have separate government-owned companies (in which Cable and Wireless are minority shareholders) to provide local and international telecommunications services. The Jamaican Government restructured the telecoms sector in 1987 by merging the Jamaica Telephone Company (JTC) and Jamaica International Telecommunications (JAMINTEL) and made Cable and Wireless the holder of 79 per cent of shares in the new company, Telecommunications of Jamaica (TOJ) (Dunn, 1991). Under the new agreement signed in 1988, the Government “granted TOJ a 25-year licence for the exclusive provision of both domestic and international telecommunications services” (Mullings, 1995). The licence is renewable for a further 25 years and entitles TOJ to charge rates sufficient to result in post-tax consolidated earnings of no less than 17.5 per cent. The licensing agreement which Cable and Wireless has with the Jamaican Government guarantees this monopoly at least until the year 2013 and possibly for another 25 years to the year 2038.

This monopoly and the terms of the agreement have effectively prevented the region from taking advantage of lower and more competitive rates for telecommunications services at a time when the global costs of these services are being reduced because of increased competition. Offshore data service companies pay a high price for these services because they cover the cost of half-circuits from Cable and Wireless; they then have to pay costs for the other half-circuit to a United States domestic carrier, which effectively increases their total costs for data transmission.

Cable and Wireless’ investment in telecommunications infrastructure has improved access to global markets. Jamaica’s investment in the International Digicor has provided some advantage over Barbados in terms of cost, but these services are still expensive in comparison with Mexico and other competitors. Services in Barbados currently accommodate data, text and image transmission.

Despite these constraints, a list provided by Cable and Wireless on rates in the informatics sector suggests that most Caribbean countries are involved in offshore data services. Further research is needed to learn more about the sector. Evidence of this is found in a Cable and Wireless 1997 rate sheet for T1 and E1 lines which are used for data transmission. It lists rates for the following countries: Anguilla, Antigua, Bahamas, Barbados, Bermuda, BVI, Cayman, Curacao, Dominica, Dominican Republic, Grenada, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and Trinidad and Tobago. An ECLAC study on the offshore financial services sector in the Caribbean indicates a well established network of international business corporations (IBCs) which are involved in offshore data service transactions.

**Jamaica and Barbados as regional leaders**

The study confirms that Jamaica and Barbados are leaders in the region, having both the largest number of offshore data service companies and the largest number of persons employed in the sector. Statistics on the number of companies and the number of jobs created should be treated with some caution because of limitations observed in the official data collection methods used. These are affected by the daily movement of employees into and out of the sector and weaknesses in the reporting mechanisms between companies and government agencies collecting data from them. Data collection methods therefore need to be upgraded and centralized within
government institutions responsible for monitoring employment, health and other matters. Data should be disaggregated according to gender, age, educational background, training, employment levels for part-time and full-time jobs and other factors.

**Employment statistics**

The study found that estimates of employment created in the offshore data services sector vary and are often misleading. Employment data are generally presented in composite figures. A more precise classification of employees in the IT sector is needed, with clear distinctions between offshore data services and the domestic sector. Other weaknesses were observed in the absence of gender data according to skill and technology classifications, level of expertise or category of worker (e.g., management, administrative and technical personnel). For example, JAMPRO’s estimates of employment in data entry in Jamaica were 1,407 in December 1997. Pantin (1995) estimated employment at 3,500 for 1995 and Pearson (1991) estimated employment at 2,500 in 1989. This could suggest an increase between 1989 and 1995 followed by job losses in 1997, but it is not possible to verify this.

Similarly, Pantin (1995) reported estimates of 2,282 in the export-oriented information processing sector in Barbados and Nurse (1996), quoting BIDC statistics, estimated employment in informatics companies at 2,950 for 1995. Data from the BIDC in March 1998 estimated employment at 2,972, which from either source indicates a positive trend in employment. Estimates of total employment for 1997-98 across both countries are therefore 4,379 jobs.

Analysis of employment data suggests that:

1. Barbados has replaced Jamaica as the region’s most important site for offshore data services based on the number of persons employed and the number of companies operating in the sector;
2. between 1995 and 1997-98, Jamaica may have lost an estimated 2,093 jobs in the sector — an annual average loss of 1,047 jobs;
3. despite job losses for a variety of reasons, employment in the Barbados sector increased by 690 between 1995 and 1998. It is not clear whether this pattern will be sustained because more recent reports from Barbados indicate that there have been layoffs since March 1998 and at least one offshore company which signed a collective agreement with the BWU has closed its doors;
4. women still dominate the sector and are concentrated at the lower end of technology, although a few are working in software development. The results also show a small but growing number of males going into data entry. Gender analysis of managers shows male dominance although females are well represented.

Analysis of companies operating in both countries reveals some interesting trends. Pantin (1995) reported 49 companies in Jamaica, similar to the number reported by Mullings (1995) for 1993. JAMPRO (1997) reported 27 companies including 13 data entry companies in December 1997. *This indicates the loss of either 22 or 36 companies between 1995 and December 1997.*

In Barbados, Nurse (1996) reported 36 companies using BIDC data and Pantin (1995) reported 14 companies. In 1998 the BIDC reported 57 companies, *suggesting an increase of either 21 or 43 companies* between 1996 and 1998. These trends suggest that the two countries are moving in opposite directions: expansion in the case of Barbados, and contraction in the case of Jamaica.

Despite these constraints, the research shows that both countries have a well established offshore data services sector, with good telecommunications infrastructure and a well educated workforce. Several internal and external factors have combined to influence employment, working conditions and labour relations in the sector.
Technology, training and skill

Both countries have a similar history of offshore data services, which have been marked by periods of growth and decline. Technological changes have helped diversify the sector and have expanded employment opportunities and skill levels well beyond the basic tools used for card punching which characterized work in the 1960s and 1970s. There are now more jobs using developments such as scanning, imaging and voice technologies. The methods for receiving and processing data have also expanded. Some data still came in hard copy by courier, but a growing number of companies receive work on-line via e-mail, the Internet and CD-ROMs. These changes imply exposure to new skills within the workforce. Technological change has therefore influenced the content and quality of jobs.

Adaptation to technological change is encouraged through the introduction of educational programmes mainly targeted at youth. Barbados has established “INFO TECH 2000” while Jamaica has launched “EDUTECH 2000” and “Jamaica 2000”. Both are targeted at young people to encourage them to take up careers in the IT sector.

Working conditions

National investment policies which provide incentives for companies involved in services for export influence the quality of jobs and working conditions. In Jamaica, for example, there are distinct differences in the profile and performance of local companies and foreign counterparts. The free zone gives a protected and less hostile environment as these companies have access to subsidized production facilities and services. It would be interesting to know why more companies operating for export which are located outside the zone do not apply for registration as single entity free zones, because this may improve their production costs, access to technology and equipment.

The study shows that although benefits are seen as indirect labour costs, the statutory conditions of employment such as sick leave and paid holiday are respected in both countries. Preliminary findings, however, suggest that lack of awareness of occupational safety and health issues should be a cause for concern.

The wage and productivity schemes designed to maintain global competitiveness create considerable stress for employees and indeed for managers. Pressure to maintain high speed and accuracy and to meet strict deadlines tends to pit company managers/supervisors against workers, with the result that considerable pressure is put on employees. Low wages and productivity schemes also cause employees to push themselves beyond the productivity norms to earn more money. The choice of a female workforce, under pressure to support their families, is not unintentional. Elson and Pearson among others have pointed out the logic of using a non-unionized female workforce within the new international division of labour.

Women workers, many of whom are new entrants to the labour force, are highly vulnerable because they lack awareness of their rights as workers. They are ignorant of ILO safety standards and do not understand the dangers to their health of sustaining high speeds, poor seating, lighting and posture. Without the protection of labour organizations and adequate monitoring by official bodies, they remain vulnerable to crippling occupational illnesses. Some employees do not appear to understand the long-term effects of working under poor conditions or the need for good posture and adequate ergonomic equipment, such as adjustable chairs, anti-glare screens and footrests. Without urgent attention to these problems, workers are likely to be permanently damaged.

A few companies pay attention to these issues and one company in Barbados has a physiotherapist working on site but, in general, too little attention is given to the occupational health hazards associated with new technology. The 1997 dispute between the Barbados Workers' Union and a few offshore data service companies has heightened public awareness about these issues, but this still needs to be strengthened. Although the Ministry of Labour in Barbados and
the trade unions have been active, the legislation drafted in 1997 needs to be implemented, staff have to be trained and public education expanded. The booklet on ergonomics and the OSH manual need to be circulated widely among employees using workstations and VDUs. Extensive research on OSH issues in the sector, as recommended by Pearson (1991), Pantin (1995) and others, should be supported in order to guide policy and practice in the sector. This would help reduce the incidence of repetitive strain injury, carpal tunnel syndrome, stress and deteriorating vision. Training programmes for the sector should include OSH in the curriculum.
5. Policy and programme recommendations

The vision emerging from this research is the introduction of policies, programmes and strategies to improve adherence to the ILO’s Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy. Maintaining global competitiveness is also important and the two goals could be achieved by embracing technological change, maximizing its advantage to ensure high-quality jobs in the offshore sector and wages that would guarantee an adequate standard of living. To achieve these goals, the following recommendations are made to the tripartite partners.

Caribbean governments are encouraged to:

- adopt a code of conduct and standards for the sector guided by the tripartite declaration, ILO conventions and research data. Use this code to encourage data service companies to adopt high OSH standards and labour relations practices;
- develop and market the region as a location with a reputation for excellence, reliable work, high productivity and the use of advanced technology;
- liberalize telecommunications services by establishing a policy framework which would reduce the cost of services between the region and major client markets;
- promote and build market linkages between the Caribbean, North America, Latin America and Europe by supporting overseas marketing initiatives, training local companies to negotiate and implement contracts and providing assistance to facilitate timely payment for contracts completed;
- strengthen the technological and management capacity of local companies to offer higher quality, efficient and reliable offshore data services, targeted at the higher end of the market;
- provide training to build the human resource capacity of Caribbean residents in technical and technological skills, especially in software development and hardware services to expand the range of jobs in the sector;
- strengthen the technical capacity as well as the financial viability of local companies which are providing services to offshore data service operators;
- use incentives to reward linkages between local and foreign companies to enhance the developmental effects of the offshore IT sector. This could boost the employment and foreign exchange potential of the offshore service companies;
- collaborate with other governments through CARICOM or other mechanisms, to collectively market the region as a reliable, efficient location for offshore data services;
- improve monitoring and promote good practice in offshore companies by increasing public education and training for workers in the sector, labour officers, trade union members and private sector companies, in OSH and ILO standards for the data entry industry;
- use incentives to reward data service companies and contractors who adhere to ILO standards, practices and local laws, especially those which relate to occupational safety and health and labour relations.
- Policy-makers should develop a consistent and coherent policy framework to develop, train and sustain local companies in the sector.

Offshore data service companies or contractors are encouraged to:

- adopt policies and practices consistent with ILO standards and collective agreements to ensure a healthy industrial relations climate, conducive to high productivity and efficiency;
provide appropriate equipment, regular breaks and support services, to reduce the incidence of RSI and other illnesses among employees, which adversely affect productivity, profitability and staff morale;

• adopt strategies which address the practical needs of women workers, such as child care and transportation, to enhance productivity;

• establish or promote the concept of a social partnership between government, the private sector and trade unions.

*Trade unions and employees are encouraged to:*

• establish or promote the concept of a social partnership between government, the private sector and trade unions;

• increase general knowledge of the offshore data service sector at global, regional and national levels;

• help workers understand factors which affect competitiveness, then agree on strategies to support the expansion of employment opportunities and improve working conditions as well as labour practices in the sector;

• organize public education and training programmes for trade union members and employees, especially in the area of occupational safety and health.
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Freeman, C.: *High-tech and high heels: Barbadian women in the offshore information industry*, Paper presented to the Fifteenth Annual Conference of the Caribbean Studies Association, Trinidad and Tobago, 22-26 May 1987 (mimeo.).
—: *Revised Draft Health and Safety at Work Bill* (The Labour Department, 1997).
ILO: *Follow-up and promotion of the Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy*, Summary of reports submitted by governments and by employers' and workers' organizations for the Sixth Survey on the Effect Given to the Tripartite Declaration of


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Pantin, D.: *Export-based information processing in the Caribbean with particular respect to offshore data processing* (FIET, 1995).


-: *New technology and the internationalization of office: Prospects and conditions for women’s employment in LDCs*, Gender Analysis in Development (Discussion Paper No. 5, School of Development Studies, University of East Anglia, Norwich, United Kingdom, 1991).


Appendix I

List of persons interviewed and organizations visited

1. Barbados: Companies visited

<table>
<thead>
<tr>
<th>Company</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRT (Barbados Ltd.)</td>
<td>Software development</td>
</tr>
<tr>
<td>EBSCO Casias Ltd.</td>
<td>Abstraction from publications</td>
</tr>
<tr>
<td>Caribbean Data Services Ltd.</td>
<td>Data processing payroll and general accounting</td>
</tr>
<tr>
<td>Cast Information Processing Inc.</td>
<td>Data processing</td>
</tr>
<tr>
<td>Commercial Data Processing</td>
<td>Data processing payroll and general accounting</td>
</tr>
</tbody>
</table>

2. Persons/organizations consulted

Barbados External Telecommunications Company — Dr. Lawson Nurse, Director of Marketing; Mr. Cameron Vaughan, Director of Information Technology
BARTEL — Mr. James Corbin, Head of Information Technology

Offshore companies

Caribbean Data Services Ltd. — Mrs. Carol Webster, General Manager; Mr. Hensley Sobers, Human Resource Development Manager
CEO Commercial Data Processing — Mr. Livingston Headley
Barbados Employers’ Confederation — Mr. Collis Blackman, Executive Director
Barbados Chamber of Commerce — Mr. Frankie Jordan, Executive Director

Government of Barbados

Barbados Investment and Development Corporation (BIDC) — Mr. Basil Lavene, Director of Research and Planning; Mr. Erskine Thompson, Director (Ag.) Industrial Development Division
Ministry of Labour — Mr. Kenneth Walters, Chief Labour Officer
Barbados Bureau of Women’s Affairs — Ms. Marva Alleyne, Director
Barbados Workers’ Union — Mr. Bobby Morris, Deputy General Secretary; Mrs. Veronica Griffiths, Research Supervisor; Mr. Orlando “Gabby” Scott, Occupational Safety and Health Officer
Caribbean Congress of Labour — Mr. Kerist Augustus
Former Minister of Industry, Barbados and former Head, Barbados Labour College — Mr. Evelyn Greaves
Centre for Gender and Development Studies, Trinidad and Tobago — Dr. Rhoda Reddock
Information Technology Specialist — Mrs. Brenda Nichols

3. Jamaica: Persons consulted

Offshore data service companies

Bay Telemarketing Ltd. — Mr. Michael Hicks
Mirand Response Systems — Mr. Philippe Castonguay, Vice-President for Human Resources
English Sports Information Processing — Mr. Tom Langford, CEO
Olympic Sports Data Services — Mr. Spiras Athanans
Media Track Ltd. — Mr. Charles Owen, CEO
Standard Data Ltd. — Mr. Ron Abamonte, CEO
Satellite Imaging System — Ms. Deborah Farley, representative
Simone Rachelle (company closed) — Mr. Steve Higgins, President
Data Key Processors Ltd. — Ms. Cowan, Manager
Eagle Information Systems Ltd. (company closed) — Ms. Maureen Webber
Central Data Processing Inc. Ja. Ltd. — Mrs. Brenda Francis
Data Entry Services Ltd. — Ms. Carol Matthews, Managing Director
Consortium Graduate School, University of the West Indies — Prof. Norman Girvan, Director
Cable and Wireless (Jamaica) Ltd. — Ms. Angela Nelson
Jamaica Digiport International (JDI) — Mr. Maxwell Wynter, CEO; Mrs. Veronica Smith Rutty, Marketing Coordinator
JAMPRO — Ms. Claudette White, Director, Information Technology Unit; Ms. Rose Williams, Data Entry Specialist, Information and Technology Unit
Montego Bay Free Zone — Mrs. Sheila Stephens, Client Services Manager
Ministry of Labour, Social Security and Sport — Mr. Claude Thompson, Chief Director of Industrial Relations; Mrs. Lorna Givons
National Workers’ Union — Mr. Vincent Morrison, Island Supervisor
Joint Trades Union Research and Development Centre — Research Officer and CEO
ILO Caribbean Office — Mr. Willi Momm
UNECLAC — Mrs. Sonia Cuales
Appendix II

The monographs and working papers are published under the ILO’s Programme on Multinational Enterprises in response to requests made by the ILO’s constituents at meetings of the Governing Body Subcommittee on Multinational Enterprises and sectoral meetings held under the ILO’s Sectoral Activities Programme. The working papers, which are signed by their authors, are intended to stimulate discussion and critical comment.¹

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² The studies carried out in the 1970s are included since they may be useful to those persons wishing to examine developments in a given industry or sector over the decades. They are listed in the language(s) for which there are still stocks.
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ISBN 92-2-302268-1 (Spanish version)

by Mark Casson
ISBN 92-2-105428-2

\(^1\) This updates the two earlier studies: *Employment effects of multinational enterprises in industrialised countries* and *Employment effects of multinational enterprises in developing countries* (published in 1981, 2nd impr. 1985).
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ISBN 92-2-105429-2

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by Eduardo Basualdo
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by Aatchaka Sibunruang and Peter Brimble
ISBN 92-2-106738-6

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by Robin Mansell and Puay Tang
ISBN 92-2-110138-X

by İşik Urla Zeytinoğlu, principal researcher, and Mikaela Crook, research assistant
ISBN 92-2-110693-4

by Stanley C. Wisniewski
ISBN 92-2-110730-2

par Riad Meddeeb
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