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Understanding the South African Construction Services Industry: Towards a GATS Negotiating Strategy

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ABSTRACT

The South African architectural, construction and engineering services industries have notable competitive advantages, particularly in providing basic infrastructure and particularly on the African continent. However, the sector has been in decline for over two decades, threatening the survival of those advantages. Exporters face many hurdles, ranging from corruption in Africa and the Middle East to protracted licensing and visa procedures in the industrialized nations. Based on interviews with industry associations and South African companies in this sector, specific export hurdles are highlighted. Not all export hurdles are relevant to the GATS negotiations, or even the WTO, as some export barriers are linked to domestic policy issues or regulation, demonstrating the extent to which the trade strategy of a sector and its domestic policy are inextricably linked.

South Africa's trade liberalization of the architectural, construction and engineering service industries is highly advanced and therefore only modest scope exists for further offers of market access. Despite this openness, there has been little foreign entry into the domestic market, mainly due to the weakness of the Rand and the lack of familiarity of foreign competitors with local conditions and labour practices. This situation is likely to change when the imminent revival of demand in these industries is confronted with the contraction of local capacity that has resulted from two decades of falling output.

To assist the South African policy makers and GATS negotiators, the GATS commitments made by actual and potential target markets for South African construction and engineering exports are scrutinized, leading to suggestions for requests for further market access. Obstacles to the presence of natural persons prove to be most commonly employed limitation on market access. The lack of international standards for accreditation of academic achievements and professional qualifications appears to be the greatest formal stumbling block in the export of engineering services. Construction services also suffer from a lack of transparency in building regulations in target markets and the proliferation of country-specific standards. As it is unclear to what extent the current obstacles are dampening or even preventing exports, it is not possible to quantify the impact that lifting formal barriers will have on South Africa's exports. Lastly, some areas for further research are highlighted.

1. CONSTRUCTION, ARCHITECTURAL AND ENGINEERING IN THE GATS

1.1 Introduction

Upon the conclusion of the Uruguay Round of WTO negotiations in 1994 and the entry into force of the General Agreement on Trade in Services¹, WTO members committed to successive rounds of negotiations to progressively liberalize trade in services, starting no later than 2000. All services sectors and modes of supply are included in these negotiations. In March 2001 the 'Guidelines and Procedures for the Negotiations on Trade in Services' were agreed on. Negotiations on services were also incorporated into the new Doha agenda.²

One of the services sectors that will be negotiated in this round is the construction sector. The construction industry is of importance to developing countries, not only because of its role as source of employment, but also because this sector carries the added responsibility of facilitating economic development by establishing basic infrastructure, and by contributing to *inter alia* technology and skills transfer.³ Architectural and engineering services are inextricably linked to construction services; these services (particularly engineering services) are considered of particular importance to South Africa, due to its extensive expertise in the area of consulting engineering, mining and project management.

1.2 Negotiating trade in services

All WTO negotiations are conducted on a request-offer basis. Countries first identify (request) all barriers that impact on their own service exports, and these requests are subsequently traded off against new commitments (offers) of access to their respective domestic markets. In the present round of negotiations, requests for improved market access were to be submitted by 30th June 2002 (although requests can be tabled at any time during the negotiations) and initial offers of market access should be submitted by 31st March 2003. The final deadline for the negotiations is January 1st 2005, where the expanded GATS agreement will be part of a package of trade agreements (a 'single undertaking'). This paper aims to inform policy makers about the defensive and offensive interests in the current round of GATS regarding the construction, architectural and engineering services industries.

This paper is structured as follows, after defining the services concerned, the contribution of the sector to the economy and employment is outlined (sections 2-5). A discussion of South African trade in architectural, construction and engineering services follows, highlighting market access problems and general export hurdles that South African exporters in this sector are experiencing (sections 6-7). This section is based on interviews with several industry organizations, companies and experts. The final part of the paper will review South Africa's current GATS obligations and evaluate the policy options for the current round of negotiations in terms of further liberalization and requests for market access (sections 8-9). This section is intended to

¹ WTO (1994a).

² WTO (2002a).

³ WTO (1998a).

provide practical assistance to policy makers and GATS negotiators and may therefore be of limited interest to other readers. The final section features areas where further research is required (section 10).

1.3 Classification of the sector

Unlike the manufacturing sector, the service sector does not lend itself to a straightforward trade analysis. Not only is there a dearth of reliable data, but also the classification of the various sub-sectors seems designed to thwart any attempts of rigorous analysis by anyone lacking an intimate knowledge of the sector. For this reason, we begin with an 'idiot's guide' to the classification of the sector, which is collectively known as the 'built environment'.

The industry can be broadly divided between 'construction' and 'building' activities: construction mainly refers to infrastructure development, such as roads, bridges, dams, ports, whereas building (or *property*) generally refers to residential and non-residential structures, such as houses and offices. Traditionally, infrastructure, as a public good, was provided by the public sector, although this increasingly involves public-private partnerships.⁴ Public sector involvement in the building industry can also be significant, but this industry is generally dominated by the private sector.

As the industry involves a wide range of different skills and professions it is necessary to further demarcate the sector according to the professional services involved. Building projects generally involve a combination of different professionals, including: architects, engineers, quantity surveyors, contractors and construction managers, whereas construction projects generally do not involve architects, but involve engineers, quantity surveyors, construction managers as well as a contract manager. Involved in both types of projects are the providers of professional services, such as consulting engineers (who provide for instance a second technical opinion on projects), consulting architects and consulting quantity surveyors.

Quantity surveyors are a recognized profession in South Africa; these are people who specialize in the costing of construction and who may be involved in anything ranging from quantity surveying (including property valuations) to project costing and feasibility studies; project monitoring (including cost analysis and financial control) and project management. This term is used mainly in the U.K. and former British colonies, whereas in the US the profession is known as 'cost engineering'.

1.4 Construction and engineering services in GATS

The complicated categorisation of the different services is also apparent in the GATS classification. Engineering services are spread over in two distinct categories in the GATS agreement and discussions, namely: 'Architectural and Engineering Services', consisting of services provided by qualified architects and engineers that are classified as *professional* services, and 'Construction and Related Engineering Services', which refer to physical construction and related engineering works and are classified as *construction* services.⁵ It is not entirely clear how this distinction works in practice.

⁴ Merrifield (2002b).

⁵ WTO (1998a) and (1998b).

The GATS Agreement follows the United Nations' Central Product Classification (CPC)⁶ system and hereunder, construction and related engineering services are classified as: CPC 511 – 518, covering:⁷

- General construction work for buildings (CPC 512)
- General construction work for civil engineering (CPC 513)
- Installation and assembly work (CPC 514, 516)
- Building completion and finishing work (CPC 517)
- Other (CPC 511, 515, 518)

Architectural and engineering services are classified by the CPC as follows:⁸

- Architectural services (CPC 8671)
- Engineering services (CPC 8672)
- Integrated engineering services (CPC 8673)
- Urban planning and landscape architectural services (CPC 8674).

The two main categories are closely related and often overlap, as all major construction projects involve extensive consulting engineering services in addition to physical construction. Generally speaking architectural firms provide pre-construction services, such as designs, whereas consulting engineers can be involved in all stages of the project (providing planning, design, construction and management services for the construction of buildings, installations, civil engineering works etc).

It is conceptually difficult to separate engineering design and project management services provided to major construction projects into distinct 'construction' and 'professional' components and this difficulty undoubtedly leads to ambiguities in the data that are collected on these sectors. Moreover, these services are not clearly separable at the firm level, as many companies provide a single construction solution, including both professional services and physical construction.⁹ These difficulties inevitably complicate WTO negotiations on this sector and certainly make analyses of this sector more challenging. Due to the close relationship between the sub-sector, this paper will cover construction and related engineering services as well as architectural and engineering services as identified by the WTO.

2. DATA

Measurement of the economic importance of architectural and engineering services output is not straightforward. The contribution of architectural and engineering services is extremely difficult to quantify, as these services are often captured in broader categories of services output such as business services (which include a whole range of services such as legal and accounting services) or construction services

⁶ United Nations (1991).

⁷ WTO Council for Trade in Services (1998a).

⁸ WTO Council for Trade in Services (1998b).

⁹ Architectural firms may be an exception to this observation, as these firms tend to specialise in providing specific services and do not necessarily provide 'one-stop construction solutions'.

(which include the services of contractors and other professions involved in construction).

The data used in this paper are drawn from the South African Standardised Industry data¹⁰ (SASI), which is available at the 3-digit SIC level for the 28 manufacturing industries and at the 2-digit level for the 17 non-manufacturing industries (the classification approximates the Standard Industrial Classification or SIC system).

This classification mechanism is used to approximate the CPC classification used by the WTO for construction and related engineering services as follows: -

General construction work for buildings	CPC 512	SASI [51] Building construction Including: [502] Building of complete constructions or parts thereof; civil engineering (i.e. construction of buildings, homes and other buildings).
General construction work for civil engineering	CPC 513	SASI [51] Building construction Including: [502] Building of complete constructions or parts thereof; civil engineering (i.e. construction of civil engineering structures and specialist structures).
Installation and assembly work	CPC 514, 516	SASI [52-53] Civil Engineering and other construction Including: [503] Building Installation (i.e. plumbing, electrical contracting, shop-fitting).
Building completion and finishing work	CPC 517	SASI [52-53] Civil Engineering and other construction Including: [504] Building Completion (i.e. painting and decorating and other completion).
Other	CPC 511, 515, 518	SASI [52-53] Civil Engineering and other construction and part of [85] Rental services Including: [505] Renting of construction of demolition equipment with operators and [852] in particular 8522 (renting of construction and civil engineering machinery and equipment).

Source: SASI database descriptions

Unfortunately these data are not available in the desired disaggregated format. Chapter 51 is available at the 2-digit level only and Chapters 52 and 53 are only available in combined form. Furthermore this rough approximation does not follow the CPC classification item by item. Although part of Chapter 85 is included here, other parts are covered by ‘Architectural and engineering services’ and will be included in the next table. In the absence of a better alternative, the rest of this paper will rely on chapters 51 to 53 of the SASI as approximations of the construction and related engineering services.

¹⁰ Quantec Research (Pty) Ltd (2002), data available via TIPS website, hereafter referenced as SASI (2002).

Architectural and engineering services are classified by the CPC as follows:¹¹

Architectural services	CPC 8671	SASI [88] Business Services Including: (8821) Architectural and engineering activities and related technical consultancy
Engineering services	CPC 8672	SASI [88] Business Services Including: (8821) Architectural and engineering activities and related technical consultancy
Integrated engineering services	CPC 8673	SASI [88] Business Services and [52-53] Civil Engineering and other construction Including: [502] Building of complete constructions or parts thereof; civil engineering and (8821) Architectural and engineering activities and related technical consultancy
Urban planning and landscape architectural services	CPC 8674	SASI [1] Agriculture, forestry and fishing and [88] Business Services Including: (1140) Agricultural and animal husbandry services except veterinary activities, which includes landscape planning and design, and (8821) Architectural and engineering activities and related technical consultancy

Source: SASI database descriptions

In this sector the divergence between the two classification systems is even more problematic. Many of the integrated engineering services are lumped together with construction services in chapters 51 to 53 and the differentiation made between integrated engineering services (e.g. turnkey projects) and engineering design services or contract administration services is negligible. In addition, landscaping services are captured under SASI 1140 ('Agricultural and animal husbandry services, except veterinary activities'), but as this is not disaggregated from the overarching Chapter 1 ('Agriculture, forestry and fishing') this category will not provide any useful statistics for analysis of architectural and engineering services.

Moreover, the available data is aggregated to include Chapters 83 to 88, thereby including *inter alia* financial intermediation, real estate services, rental services, IT consultancy, R&D, legal services, accounting marketing and business and management consultancy activities. The importance of financial intermediation alone is likely to overshadow the importance of architectural services in this category, thereby rendering most of the data on business services inadequate for analysis in the present context.

In order to overcome some of these data issues, the paper also draws on data from Industry Insights, an organization that captures construction, architectural and engineering projects over ZAR 100,000 that are awarded in South Africa. This should at least offer some insight into the size of the sector and the level of concentration.

¹¹ WTO Council for Trade in Services (1998b).

Given the focus of this paper, the main data problem is the lack of reliable and comprehensive trade data. The South African Reserve Bank does not provide disaggregated Balance of Payment Data for 'other services' and a full survey of all firms involved in the various construction, engineering and architectural sub-sectors falls outside the scope of the present paper (although this is obviously an important area for future research). In order to get an indication of the value of the trade of these sectors, secondary data sources were used and a series of interviews was held with most of the major firms in the construction and consulting engineering/project management sub-sectors and with various industry associations. The results are discussed in Section 6.

3. TRENDS IN OUTPUT AND CONTRIBUTION TO GDP

3.1 Contribution to GDP

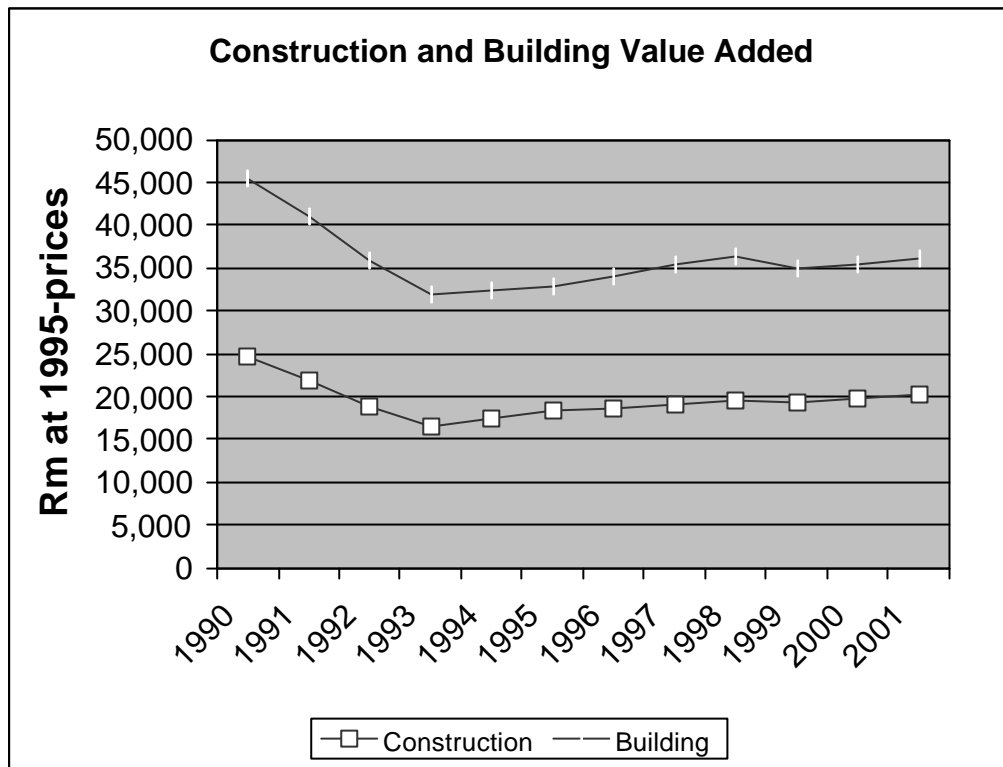
In order to isolate the construction *services* in the data, figures for value-added are used. The contribution of construction and building value-added to total GDP was relatively small and stable over the last decade at around 3.1% of GDP (compared to 4.2% for agriculture and 20.0% for manufacturing value-added as a share of GDP).¹²

The building industry's value-added component of total building output has risen slightly from 29.0% of total output in 1990 to 30.7% in 2001. The construction industry's value-added component of construction output has risen from 32.1% in 1990 to 39.5% in 2001.¹³ As the graph below shows, total investment in construction and building services over the post 1995 period has been relatively stable, supported by increased levels of private sector investment in infrastructure and building as well as higher levels of value added relative to inputs in these sectors.

¹² STATSSA (2002).

¹³ SASI (2002).

Figure 1: Construction and building value-added



Source: SASI, Quantec Research

When comparing investment in construction *goods and services* across countries, South Africa is at an average level compared to countries at a similar level of development.¹⁴ The contribution of building and construction gross domestic fixed investment as a percentage of GDP averaged between 7.4% and 5.7% of GDP over the 1990-2000 period.¹⁵

3.2 Trends in the South African building and construction sectors

The public sector is a major buyer of construction services in terms of infrastructure development and maintenance in most countries. In 1999, construction investment by the public sector was 74.9% of total construction investment in South Africa.¹⁶

The construction sector experienced a sharp decline in the early 1990s and stabilized in the second half of the 1990s. However, looking at the output trend in the 1990s only, masks the longer-term decline of the industry, which began in the early 1980's. Construction expenditure and investment rose strongly in the 1960's and 1970's, at around four times the rate of GDP. Most of the country's basic infrastructure was developed over this period, financed by buoyant mineral revenues and a high level of government capital expenditure.¹⁷

¹⁴ Comparing values for Gross Domestic Fixed Investment (GDFI). Merrifield (2002b).

¹⁵ Merrifield (2002b).

¹⁶ Based on data from BIFSA (2000).

¹⁷ Langenhoven (1998).

Despite a few temporary booms in the 1980s, construction works have fallen consistently over the last few decades. This downturn was particularly severe in the early 1990s, when output fell by more than 10% p.a. between 1991 and 1993.¹⁸ Although construction value added has increased since the 1993 decade low (below ZAR 17 billion in constant 1995 Rands) it has not fully recovered and in 2001 amounted to 81.9% of the 1990 level (constant 1995 Rands).¹⁹

3.3 Infrastructure investment by the public sector

Given the dominant role of Government in the domestic construction sector, much of this decline has been attributed to the fall in Government capital expenditure as a share of the total budget. However, a number of other important factors also played a role. The sharp decline in the early 1990s has been attributed to reduced investor confidence and uncertainty associated with the political turmoil the country experienced in the final days of the apartheid regime. The continued decline in the latter half of the 1990s is partly attributable to reductions in public sector spending on infrastructure (either reduced budgets or budgetary roll-overs) and partly due to increased competitive pressures as trade barriers were lowered and non-discriminatory tendering procedures were implemented. In addition, reduced financial overhang due to the relaxation of foreign exchange controls and changing investor attitudes towards property as an asset class could be contributing factors to dampened domestic building investment.²⁰

Infrastructure projects provide a politically attractive means to create employment, stimulate demand, connect rural areas to industrial centers and access donor funds. However, in the long run, infrastructure investment tends to only contribute to economic growth when combined with human resource development and other policies that are conducive to technological innovation and economic growth.²¹

In South Africa, infrastructure investment was essential to redressing the imbalances of the past and was an important component of the post-apartheid economic policy as the new dispensation required roll-out of infrastructure into under-serviced areas. At the same time however, infrastructure expenditure was subjected to new fiscal restraints and public financial management criteria – implemented by a civil service undergoing rapid transformation – leading to an initial decline in public infrastructure expenditure.

Public sector infrastructure spending thus declined in the first few years of the new Government, despite the expansionary public infrastructure investment programme that was envisaged by GEAR, as fiscal restraint took precedence. Although capacity problems persist, infrastructure investment has begun to accelerate and has, more recently, been accompanied by renewed efforts to maintain and rehabilitate existing infrastructure stock. It would therefore seem that the construction industry has entered a critical upturn, with further stimulus expected from increased budget allocations for

¹⁸ SASI (2002).

¹⁹ SASI (2002).

²⁰ Merrifield (2002b).

²¹ Merrifield (2002a).

infrastructure (e.g. the doubling of capital expenditure budget allocations by provincial authorities between 2000/1 and 2003/4).²²

3.4 Building investment

The building industry has seen the proportion of turnover generated by public sector projects decline from 37.9% on average in the 1970s, to 31.2% in the 1990s and down to 17.9% in the 1990s.²³ As is the case with the construction industry, the building industry seems to have been recovering since the beginning of 2000, driven mainly by increased private sector spending on building and construction.²⁴

Conventional economic wisdom suggests that the demand for building industry output is closely correlated (with a 9-12 month lag) to a number of macro-economic indicators, such as interest rates, changes in budgetary allocations of central government and investor confidence. Recent research however, indicates that investment in property is *'less motivated by general investor sentiments and more by expectations of generating a return commensurate with other asset classes'*.²⁵ Given the recent upturn in building expenditure at time of disappointing economic growth and rising interest rates, the latter explanation appears to be a more plausible one.

4. TRENDS IN EMPLOYMENT

4.1 Building and construction employment

Despite its labour-intensive nature, formal employment in the building industry has halved over the last decade, falling from 251,625 employees in 1990 to 119,006 employees in 2001, in line with the decreased output. Similarly, employment in construction has fallen by 38.4%, with most of this decline occurring after 1996/7.²⁶

Most employment losses have occurred among the semi- and unskilled. The proportion of highly skilled employees rose from 4.0% in 1990 to 5.6% in 2001, largely at the expense of semi- and unskilled workers whose share fell from 76.0% to 74.9% over the same period. The share of skilled workers has remained relatively constant at around 20% of total employment.

²² Merrifield (2002a).

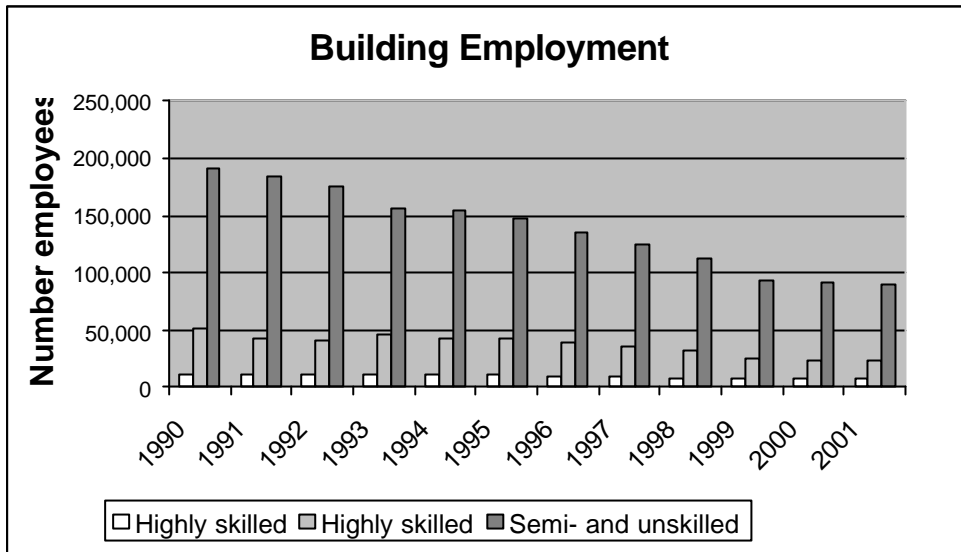
²³ Based on data from BIFSA (2000).

²⁴ BISFA (2000).

²⁵ Merrifield (2002b).

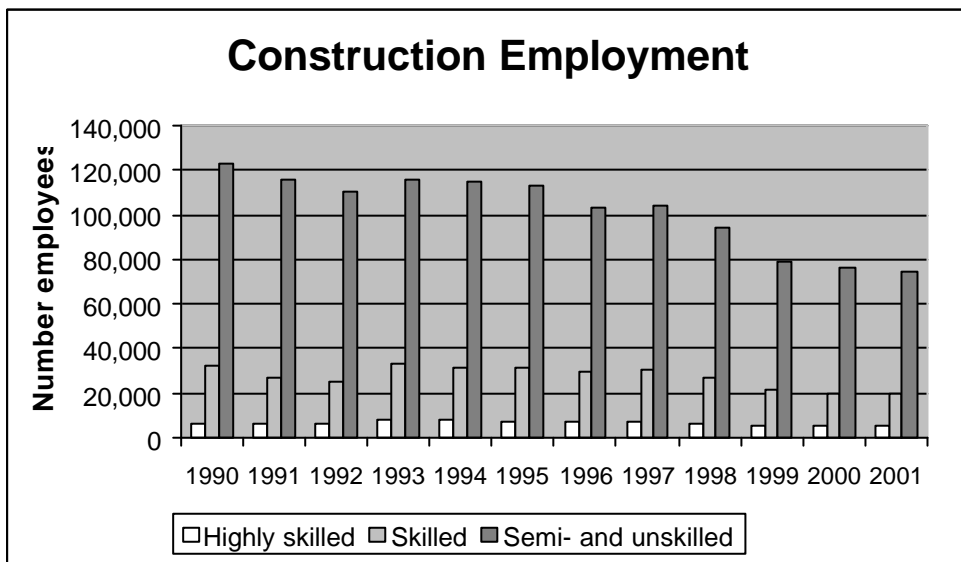
²⁶ SASI (2002).

Figure 2: Employment in the building sector



Source: SASI, Quantec Research

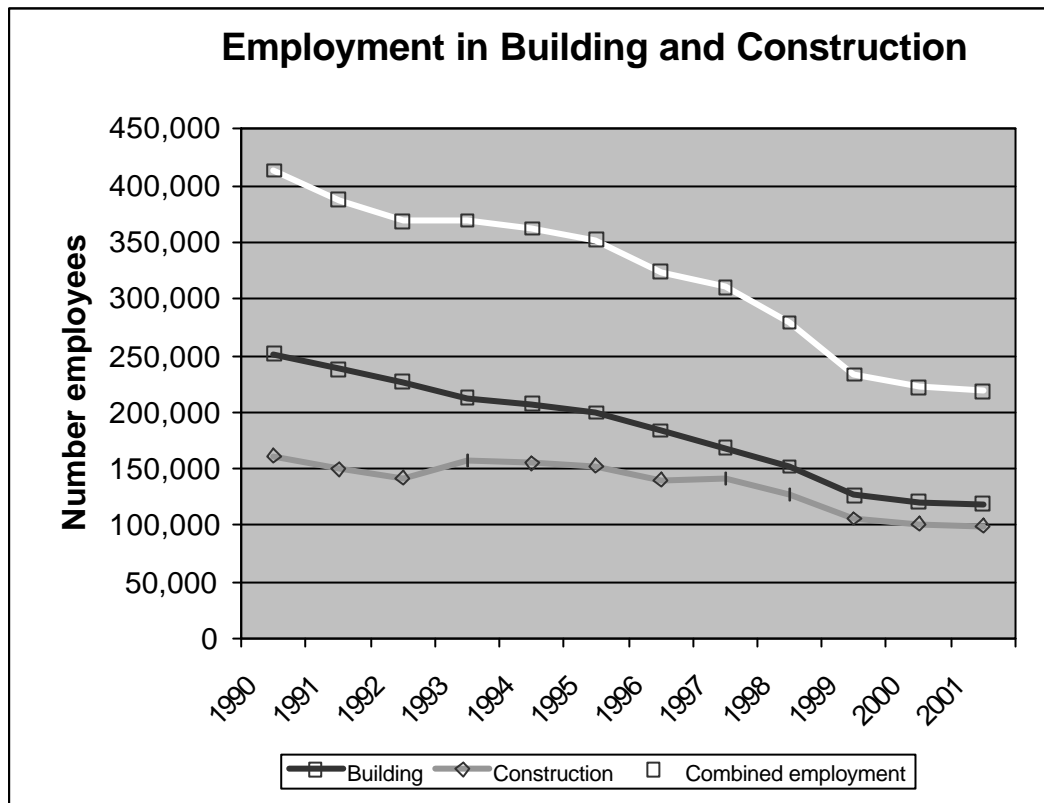
Figure 3: Employment in the construction sector



Source: SASI, Quantec Research

As the following graph shows, the decline in building industry employment has been more rapid in the 1990s than that of the construction industry in the 1990s. This could be attributed to the greater sensitivity of the building industry to short-term fluctuations compared to construction projects that tend to have a more long-term planning cycle.

Figure 4: Employment in building and construction



Source: SASI, Quantec Research

Employment in the construction and building sector has not only fallen in absolute terms but also in relative terms. In 1990 building contributed 3.1% of total formal sector employment, compared to 1.6% in 2001. Likewise, employment in construction fell from 2.0% of formal employment to 1.4% over the same period.²⁷ These employment figures do not take account of the informal sector, which is estimated to account for 35-40% of the total number of people employed in the construction and building sector. The informal sector is growing and projected to account for 50% of total employment in construction and building by 2003.²⁸ It thus appears that the decline in output in the building and construction industries has contributed to a casualisation of construction workers.

4.2 Employment in architectural and related engineering services

Unfortunately no current employment data are available for the architectural and related engineering services sector. The most recent census data is the 1993 CSS Census, which shows that consulting engineers accounted for the largest share of employment and turnover in this industry.

²⁷ SASI (2002).

²⁸ BIFSA (2000).

Table 1 Indicators architectural and engineering service providers

	Consulting Engineers		Architects		Quantity Surveyors		Total
Number of practices	758	(37.3%)	980	(48.2%)	297	(14.6%)	2035
Employment	12,107	(64.2%)	4,812	(25.5%)	1,931	(10.2%)	18,850
Gross output (ZAR mln)	1,720	(72.3%)	450	(18.9%)	210	(8.8%)	2,380

Source: CSS (1993)

5. STRUCTURE OF THE INDUSTRY

One of the main arguments in favour of trade liberalization is that it increases competition in the domestic market. In order to appreciate the possible benefits that could accrue to consumers from multilateral negotiations in this area, it is important to obtain an indication of the current level of competition in the South African construction sector. Concentration indicators are helpful in this regard, with the qualification that the structure of the industry does not necessarily provide a reliable indication of the (anti-)competitive conduct of the players involved.

For a meaningful analysis of the structure of the industry and the market shares of the major players, detailed data are required on the various categories of service providers, including turnover for each firm relating to the different sub-sectors. As this level of detail is not available, the values for all contracts over ZAR 200,000 awarded in South Africa to South African companies were used to derive the following tables.²⁹ For this analysis a supply approach is used for the market shares, i.e. focusing on the total contract value per company in each profession (instead of differentiating between demand for construction and building services for instance). This serves the purposes of this paper better, as it will provide an insight into the industry structure differentiated by profession.

The following caveats apply: the total value of the contracts the professions were involved in was used in this case, not their respective shares of these contracts (i.e. when a contract is subcontracted, both companies involved are assigned the total value of the project). As double-counting is therefore inevitable, these values were used as an approximation of the market shares of the companies in each sub-sector only.³⁰ In addition, not all of the turnover per sub-sector could be allocated to individual firms or bidding consortia, also due to data constraints. This error margin has been indicated in the tables for each sub-sector. Other problems include bidding consortia (not always clear who are the constituent members) and projects that are not captured at all (e.g. due to closed tender procedures or other information problems). These market shares are therefore, at best, estimates.

²⁹ Data from Industry Insights. Only projects put out to tender in South Africa with a value greater than ZAR 100,000 are captured. In the contractors' data 4 projects with a lower value are included, totaling ZAR 250,000.

³⁰ As the various professions do not contribute equally to the total project cost, adding their turnover would lead to misleading market shares. However, since both the denominator and the numerator overstate turnover equally, the resultant percentage is a rough approximation of the company's market share. Technically the resultant percentage indicates the share of contracts the company in question was involved in compared to the total of the contracts all companies in its sub-sector were involved in.

Generally speaking, these sub-sectors appear to be highly competitive, with no single firm dominating any of the sub-sectors analysed below (i.e. no individual market share exceeds 50%, or even 35%). The increased competitive pressures referred to earlier are indeed noticeable in this industry, as in 2000 and 2001 construction prices rose less fast than PPI (i.e. tender prices rose a slower rate than the input prices), a trend that has been attributed to increased competition in the construction industry.³¹

All of the 1,766 contracting firms active in 2001 (i.e. those companies involved in physical construction who were awarded for at least one domestic tender of at least 60,000 ZAR in 2001) have a market share smaller than 8%. The top 5 companies have a market share between 2.5% and 7.9%, together accounting for only 24.4%.

Table 2 Construction and building contracts to contractors

CONTRACTOR ¹	COMPANY MARKET SHARE (%) ²
Murray and Roberts	7.9
WBHO	6.7
Frankipile SA Ltd	3.8
Grinaker LTA	3.5
Group 5	2.5

¹ Refers to all subsidiary companies in the holding company as well as projects where the contractor is part of a consortium. ² Due to data constraints 11.7% of the total contractors' turnover has not been allocated to any company.

Source: Industry Insights

Murray and Roberts, WBHO and Frankipile are mainly active in non-residential building. Grinaker LTA also does significant construction projects and Group 5 is equally active in both the construction and building sectors.

As table 1 showed, architectural businesses are generally small in terms of turnover and employment. On average, architectural service providers employ 4.9 persons compared to 16 in consulting engineering businesses and 6.5 in quantity surveyor firms. The average turnover of architects is less than ZAR 0.5 mln, compared to ZAR 2.3 mln of consulting engineers and ZAR 0.7 mln for quantity surveyors.

In 2001, 273 architectural firms were awarded a domestic tender with a value of at least ZAR 100,000. The largest market share of any one company amounted to 7.7% and the top 5 companies have a market share between 5.5% and 7.7%, together amounting to 30.6% of the market.

Table 3 Construction and building contracts to architects

ARCHITECT	COMPANY MARKET SHARE ¹ (%)
Stauch Vorster Ltd	7.7
Bentel Abramson & Partners Ltd	6.0
Revel Fox & Partners	5.9

³¹ BIFSA (2000).

Lucien le Grange Architect	5.5
Architects Van Der Merwe Miszewski	5.5
¹ Due to data constraints 14.0% of the total architects' turnover has not been allocated to any company.	

Source: Industry Insights

The consulting engineering industry is slightly more concentrated. In 2001, 174 consulting engineering firms were awarded a domestic tender with a value of at least ZAR 250,000. The largest market share amounted to 11.4% and the top 5 companies have a combined market share of 38.1%. The individual market shares of the top 5 companies range between 5.1% and 11.4%.

Table 4 Construction and building contracts to consulting engineers

CONSULTING ENGINEER	COMPANY MARKET SHARE ¹ (%)
Wilkinson: KFD Ltd	11.4
Asch Consultants	10.0
Africon Engineering International Ltd	6.1
Orrie Welby-Solomon CC	5.5
Partnership De Villiers CC	5.1
¹ Due to data constraints 14.7% of the total consulting engineers' turnover has not been allocated to any company.	

Source: Industry Insights

The remaining category of 'other engineers' (consisting of mechanical engineers and electrical engineers, who are mainly involved in building completion) consists of 81 electrical engineering firms (minimum project value ZAR 600,000) and 51 mechanical engineering firms (minimum project value ZAR 1.3 mln).

The mechanical engineering industry is the most concentrated of all subsectors analysed here (see Table 7). The largest market share amounted to 16.3% in 2001 and the combined market share of the top 5 companies is 42.6%. The individual market shares of the top 5 companies ranges between 3.7% and 16.3%, which although higher than the other sub-sectors does not constitute a concentration concern per se.

Table 5 Construction and building contracts to mechanical engineers

MECHANICAL ENGINEERS	COMPANY MARKET SHARE ¹ (%)
Raschid Dollie & Associates	16.3
Basil Nair & Associates	10.5
V.K.E. Engineers Ltd	6.8
C.V. Consulting Engineers	5.2
Du Toit: C.A. & Partners Inc	3.7
¹ Due to data constraints 38.0% of the total mechanical engineers' turnover has not been allocated to any company.	

Source: Industry Insights

The electrical engineering industry is also relatively concentrated. The largest market share amounted to 21.9% in 2001 and the top 5 companies' combined market share is

40.6%. The individual market shares of the top 5 companies ranges between 3.9% and 21.9%, which does not give rise for any concentration concerns. Interestingly, there is only one company with a market share over 5.1%, and that company's market share 4 times the market share of the second placed firm.

Table 6 Construction and building contracts to electrical engineers

ELECTRICAL ENGINEERS	COMPANY MARKET SHARE (%)
Johardien: G. & Associates	21.9
Charles Pein & Partners Inc	5.1
Electrical Reticulation Company	5.1
De Villiers & Khan	4.6
Du Toit: C.A. & Partners Inc	3.9
¹ Due to data constraints 27.6% of the total electrical engineers' turnover has not been allocated to any company.	

Source: Industry Insights

A closer look at some concentration indicators, reveals that these sub-sectors are not very concentrated at all. The indicators used here are the Herfindahl-Hirschmann index (HHI)³², and the CR4 and CR5.³³

Table 7 Concentration indicators

PROFESSION	LARGEST MARKET SHARE (%)	HHI	CR4 (%)	CR5 (%)
Contractors	7.9	781.4	21.9	24.4
Architects	7.7	371.8	25.1	30.6
Consulting engineers	11.4	604.5	33.0	38.1
Mechanical engineers	16.3	1933.3	28.9	42.6
Electrical engineers	21.9	1365.5	36.7	40.6

Source: Industry Insights

In none of the sub-sectors do the concentration indicators give rise for concern.³⁴ The sum of the five largest companies does not even account for 50% of the market in any of these sub-sectors. Only in the mechanical engineering sub-sector will further concentration give rise to concentration concerns.³⁵

³² Calculated by adding the squared market shares of all market players.

³³ CR4 is the sum of the largest four market shares, CR5 is the sum of the largest 5 market shares.

³⁴ Obviously, this does not mean that entry by foreign competitors will be 'easy' as the entry of foreign competition is largely determined by entry barriers, such as sunk costs, import tariffs and access to raw materials etc, and by the return on investment of specific projects, not by the level of concentration in the domestic market. The current weakness of the Rand for instance, has provided much non-tariff protection to domestic construction and engineering companies.

³⁵ As a rule of thumb HHIs over 1800 are a cause for concern if further concentration is envisaged (via mergers or acquisitions).

6. CROSS-BORDER TRADE

6.1 South African trade architectural, construction and engineering services

Despite its modest contribution to employment and GDP, the South African architectural, construction and engineering services industries have much potential for growth as a source of export earnings. South African construction and engineering companies have notable competitive advantages, particularly in providing basic infrastructure and particularly on the African continent, where demand for these services is booming. Increased services exports in this sector could have significant multiplier effects, as the export of consulting engineering services for instance, could lead to considerable capital equipment exports.³⁶

South African trade in construction services industry can be roughly divided between consulting engineers and construction management companies. Exports of architectural services are technically feasible (e.g. the services of a technician or draughtsman who converts a sketch to a working drawing can easily be exchanged via e-mail), and exports and imports of this nature do occur, but only rarely.

Architectural services are difficult to export as building regulations are determined locally; local authority rules and building codes can differ even between cities in the same country (e.g. the building line will be different in Sandton, Johannesburg from Wynberg in Cape Town), let alone between countries. A foreign architect would have to do months of preparatory work to familiarize herself not only with the local conditions in terms of materials, customers and business practices (as any exporter would) but also with building requirements and regulations and the procedures to be followed with the relevant authorities. In addition, architectural services include site inspections and are therefore closely linked to the physical construction, making cross-border supply impractical. Successful exports of architectural services are therefore generally not of residential building plans, but tend to be specialist architectural services for airports, plants, hospitals etc. Exports via mode 3 (commercial presence) and mode 4 (presence of natural persons)³⁷ are rare. The main exports of architectural services by South African firms are to the African continent.

Consulting engineers, as represented by SAACE³⁸, are divided over 400-500 companies employing 2,500 professional engineers and generating a collective annual turnover of around ZAR 4 billion. Despite spare capacity, this sector has struggled to diversify out of South Africa, and by 2001 just 13% of total turnover (approximately ZAR 500 million) was generated offshore, predominantly in Africa. There appears to be a bifurcation in this sub-sector, dividing the sector in two distinct categories of companies: one that is generally large in terms of turnover and employment and generates closer to 40% of turnover abroad; and one that is generally smaller in terms of turnover and employment that generates only a small portion of its turnover abroad. The association believes offshore earnings can contribute to 30% to 50% of turnover within 2 to 3 years.

³⁶ According to the Capital Equipment Export Council.

³⁷ These 'modes of supply' are part of the classifications of supply as used by the WTO, and are explained further in section 7.

³⁸ The South African Association for Consulting Engineers.

Consulting engineers can export services via a variety of means; designs and feasibility assessments can be supplied cross-border (mode 1 and 2), or a team of engineers can visit the site (mode 4). The larger consulting engineering firms have also set up a commercial presence (mode 3) in their main overseas markets. A survey of SAACE members currently operating outside of South Africa's borders provides an indication of the geographic activity of this sector:

Table 8 Number of SAACE members operating abroad – by country

AFRICA	COMPANIES	OTHER	COMPANIES
Zambia	8	Middle East	2
Mozambique	7	UK	2
Botswana	5	Ireland	2
Swaziland	5	Greece	1
Nigeria	4	Lebanon	1
Angola	3	Malaysia	1
Lesotho	3		
Tanzania	3		
Uganda	3		
Malawi	2		
Equatorial Guinea, Mali, Rwanda, Namibia, Sudan, DRC, Kenya, Eritrea	1		

Source: SAACE

Many construction companies in South Africa are multi-disciplinary; providing a full solution (e.g. turnkey projects), and operating in many different industries, ranging from building and infrastructure; mechanical/electrical engineering (e.g. structural steel, piping, power plants); mining services; and process engineering to property management. The largest of these companies in South Africa operate in many countries via joint ventures and subsidiaries.

South African construction firms began to explore exporting opportunities in the 1980s for two main reasons. Initially, this was to access technology and skills from more advanced markets, and the largest of the South African construction firms established representative offices in *inter alia* Europe, North America, Australia and even Israel for this purpose. At the same time, the consolidation of the global construction industry and contraction of the domestic market put pressure on margins and forced South African companies to refocus and export their core know-how. The opening of the region to South African construction firms in the mid-1990's proved critical to their survival and the major firms have since positioned themselves as key players on the African continent. The South African expertise in mining and mineral exploitation is currently highly in demand in many African countries. Moreover, South African firms have a keen understanding of the, sometimes extreme, local conditions and labour practices. Approximately ZAR10 billion, or around 40-50% of the construction management industry's turnover, is currently generated abroad.

6.2 Construction in Africa

European, North American and some Australian contractors dominate the African construction sector, though a number of South African companies have made rapid inroads into this market since 1994. By 2000, the two largest South African construction firms³⁹ alone – Murray and Roberts and Grinaker-LTA – had captured 9% of the total African market (excluding their South African turnover). They were also ranked as the 5th and 7th largest contractors operating in the region. The combined African revenue of these two firms amounted to US\$663 million in 2000, compared to French exports of US\$1.9 billion and US exports of US\$1.4 billion.⁴⁰ (The extent of further sub-contracting to African construction companies is not known).

South African firms are particularly dominant in SADC where all of the large South African firms are active. South Africa's comparative advantage lies in three main areas: relevant expertise, cost and proximity. A large proportion of the construction industry has its roots in the mining and mineral sector and South African companies can boast a unique expertise in mining processes, technology and equipment. Some of the interviewees did not share this generalized assessment of South African construction companies as 'cutting edge' and provided an alternative explanation for the success of South African firms in Africa, namely that in the developing countries that make up the African continent cutting edge technology is not required and that best practices in logistics, materials and management flounder when confronted with the realities of construction under African conditions. In short, South African firms can offer 'appropriate technology'. Either way, it appears that South African construction and consulting engineering firms are achieving impressive export results.

South African firms do have vast experience in the construction of basic infrastructure and claim a superior ability to manage extreme African conditions ("heat, dust and dirt") using relatively 'unsophisticated' labour forces. In addition, South African companies can mobilise the skills, equipment and materials required for construction projects on the continent at greater speed and lesser cost than their foreign rivals. Finally, and largely as a result of the weakness of the Rand, South African companies are much more competitively priced than their foreign rivals.

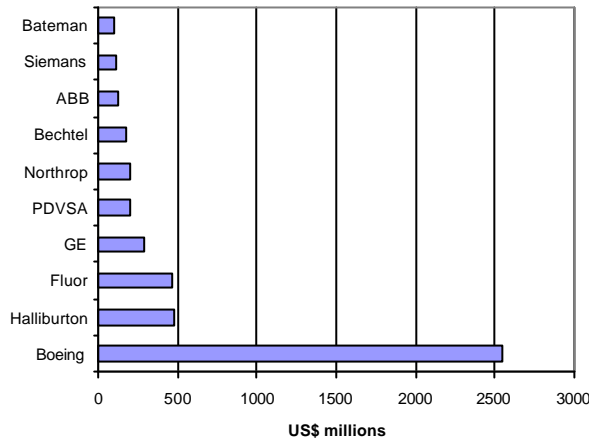
Although there is a virtually unlimited demand for infrastructure in Africa, funding is scarce and South African companies have limited capacity to take on new projects. For both of these reasons, the larger South African contractors have established offices in Europe and the US to access foreign skills, technology and finance (see box 1).

³⁹ By total turnover.

⁴⁰ ENR (2001).

Box 1: US Eximbank's Top Exporters 2001

South African construction management company E.L. Bateman was ranked as the 10th largest exporter utilising US Eximbank programmes in 2001. To qualify for Eximbank finance and insurance, Bateman's US subsidiary must use a high proportion of US equipment and materials – possibly diverting trade away from their traditional South African suppliers.



Source: International Trade Finance Report Feb 28, 20002

6.3 Construction and engineering out of Africa

Few South African companies are active outside of Africa and those that are tend to target resource or basic infrastructure projects in developing countries in Asia, Eastern Europe or the former Soviet Union. Notable exceptions include a few prominent projects in the Middle East, although these projects tend to be significantly more technically advanced and require high levels of skills and technology, both of which are in short supply in South Africa, possibly curtailing growth of South African exports to this region.

One of the largest South African consulting engineering firms, Africon, exports 40% of its turnover, to over 30 countries in Africa, the Middle East, the EU and the Pacific Rim. Bateman, one of the largest construction firms is active in Africa and the former Soviet Union (Uzbekistan, Tajikistan, Ukraine, Russian Federation etc), and has established a commercial presence in *inter alia* the USA, Australia and Israel, mainly for strategic reasons, e.g. to provide a gateway for market access.

To access the major industrialised markets requires knowledge of the local regulation as well as, according to South African exporters of construction and engineering services, a physical presence in the market concerned. A few South African companies have gone through a process of company acquisitions in these markets to access the necessary know-how and capacity to undertake large projects. Once again, exports into these markets therefore seem restricted to the top few contracting firms and market niches.

6.4 Imports of construction services

Some foreign competition was introduced in construction services in South Africa after 1994, and by 2001, as many 29 of the 225 largest contracting firms and 43 of the largest design firms in the world claimed to be working in South Africa.⁴¹ Nevertheless, the entry of foreign firms into the local market has generally been unsuccessful, due to the foreign companies' lack of familiarity with South Africa's conditions and labour practices. Some foreign entry has been successful, mainly by means of a joint venture with or acquisition of a local firm. No reliable data are currently available on the imports of construction, engineering and architectural services in South Africa. Continued Rand weakness, protracted domestic procurement practices, and the incumbent advantages of South African construction firms, suggest that future competition is likely to be limited.

On the other hand, South Africa's total construction capacity has shrunk with the industry over the last 20 years and in the near future an increase in demand is expected, which – according to many industry players – local capacity will not be able to fulfill. This could result in more successful entry by foreign competitors.

6.5 Foreign obstacles to trade

The export hurdles that are experienced by South African exporters in this sector differ between the sub-sectors; between modes of supply; and between export destinations. Some of the most important export barriers are outside the realm of the GATS negotiations or even the WTO, as for instance the most commonly cited obstacle to exports to Africa is corruption.

Architectural and related engineering services are generally supplied via mode 4 (presence of natural persons). The greatest obstacle in this case is certification by the appropriate foreign authorities. Recognition of South African qualifications is by no means automatic or straightforward, especially outside of the Commonwealth. The process is particularly protracted in the US, where registration is state-specific and subject to much scrutiny. Some Canadian provinces require citizenship and, as anecdotal evidence suggests, even fluency in French. Malaysia requires a pass in a special examination held in Kuala Lumpur. Section 9 will further explore these issues and identify commensurate requests for market access.

Exporting construction firms also experience difficulties obtaining work and operating permits for South African engineers, with the following African countries highlighted as especially problematic:

- Namibia
- Uganda
- Zimbabwe
- Botswana
- Mozambique (where an operating permit can take up to 2 years to obtain)

⁴¹ ENR (2001).

There are relatively few formal restrictions on cross border trade specific to the construction sector. In practice however, it is difficult to move machinery and materials across the continent, with border post delays in SADC especially long and costly. Moreover, in some African countries sudden changes in import tariffs or required documentation are commonplace, hindering smooth access to imported inputs.

Government procurement requirements, which are excluded from this particular GATS process, are also a source of concern. It is claimed that in Botswana and Kenya, companies are sometimes required to have domestic capacity (i.e. a plant) before they can tender for certain government projects. Claims like this are worth investigating further and addressing via diplomatic channels.

Most companies report that the greatest constraints to trade in Africa are corruption and finance. In many African countries, corruption is the 'letter of the law', with bribes required to win projects and secure payment. South African companies, which are generally less willing to participate in corruption than contractors from many other countries, lose projects and experience significant payment delays. This is certainly an area that requires government attention, albeit outside of the WTO.

There is also a shortage of funding for projects in Africa, most of which is sourced from international funding agencies (e.g. World Bank, African Development Bank or International Finance Corporation) or export credit agencies (the role of export credit agencies is dealt with in more detail in section 7). Different agencies impose different tender requirements, though most require a minimum percentage of home country exports. This limits the number of projects for which South African companies are eligible, though the larger firms have established operations in Europe and the US to access tied finance. Smaller South African companies will also struggle to develop a sufficient international track-record to win major tenders from international funding agencies.

Outside of Africa companies report some problems in cross border trade and commercial presence: -

- Exporting to the European Union requires extensive member country-specific knowledge of complex local regulations and standards;
- Investing in Malaysia (mode 3) entails significant red-tape and fulfilling local equity requirements;
- Licensing requirements in the former Soviet Union, India and China (mode 3) are 'near impossible';
- In the Middle East (e.g. Libya), foreign firms are required to use local agents known as 'sponsors', which are commonly seen as an institutionalized form of bribery;
- In the US, companies must be registered and licensed in each individual state and face severe liability implications on for instance equipment failure;
- South African companies are only eligible to participate in EU funded projects in ACP countries, not in the EU.

Many of these problems arise because there is no standardisation of global construction procedures, standards and regulations. Even within the EU, Germany, France and the UK apply different standards, while the US still applies imperial measurements. These national standards also apply to the major contracting companies operating offshore – for example BHP Billiton will require its sub-contractors in Africa to comply with Australian standards.

A general theme in the export obstacles is the problems South African exporters face in obtaining work permits or visa. Consulting engineers who need to visit several African countries in a limited time period, find that they are unable to do so because obtaining the required visa takes too long. Unfortunately, mode 4 (presence of natural persons) is a political ‘hot potato’ making a request for full liberalization of this mode of supply clearly unrealistic. However, certification procedures could be harmonized internationally and policy makers could also lobby for expedited visa procedures for certified professionals.

6.6 Considerable domestic constraints

In the discussion on export barriers it should be remembered that domestic factors can play a large role in constraining exports by architectural, consulting engineering and construction firms. Likewise in South Africa, many of the interviewees cited domestic issues as reasons for dampened growth of the industry and hence for disappointing export growth.

Almost all respondents noted that the extreme skills shortages in the industry pose the greatest constraint to South African exports of construction services. The industry has experienced a long-term decline in activity that, together with increased emigration, has contributed to a dearth of experienced construction and engineering managers. In addition, immigration laws are very strict, reducing the opportunity for skills imports and effectuating skills transfer via this route. The number of engineering graduates has also fallen dramatically and as a result of all these factors, South African firms have begun to import skills.

The skills shortage has had two severe consequences. Firstly, some of the larger construction firms report that they have begun to shed jobs, thereby reducing the potential growth of exports or domestic infrastructure expansion.⁴² Secondly, work quality has suffered, particularly within South Africa, with the country’s best engineers contracted to work on more lucrative projects outside of our borders. Both of these effects impact on the long-term competitiveness of the sector and suggest that without an injection of skills, prospects for export expansion are limited.

The competitiveness of the sector has been further compromised by inadequate standards and controversial government procurement practices. The government standards specification and classification system has not been reviewed since 1993 and there is little coordination between the numerous private and public sector organisations that have emerged to try to fill this vacuum. As a result, many South

⁴² In the skill-intensive consulting engineering industry in particular, skills are not easily reintroduced when retrenchments occur.

African companies lack a sufficient understanding of the controls and standards required to compete internationally.

Similarly, South African Government procurement practices differ markedly from those used in more developed markets and by the international financial institutions.⁴³ Most international tenders are judged on a 'double envelope' basis: the technical aspects of the bid account for 80% (of which personnel competencies constitute 60%) and price for 20%. In South Africa, price is more heavily weighted, with little incentive for domestic contractors to upgrade and compete on skills. Many firms also questioned the appropriateness of government's empowerment criteria in an industry that is so skills-constrained and in which it takes a long time to generate the required skill levels. It is worth noting that of the 15 000 registered engineers in SA only 5% are black or female.

Other domestic regulation that is considered detrimental is the requirement that vehicles and equipment must be in South Africa for an annual plant and machinery audit (for the SA roads registration and licensing authorities), frustrating construction companies that have many projects on-going on the African continent.

In addition, some firms indicated that the lack of financial support from the South African Government inhibited their ability to compete outside South Africa. These firms claim that the greatest advantage of international contractors is the promise of funds they bring with them, and South Africa consequently needs to match the incentives offered by these countries (soft loans, tied aid, feasibility grants and even market intelligence). Other firms argued that the recent depreciation of the exchange rate has provided sufficient incentive to export and the industry does not need require subsidies to compete.

Finally, many companies pointed to the lack of coordinated government support in terms of a clear development policy for the industry or in more practical ways, such as involvement of the right companies in trade missions, and ministerial or even presidential backing for South African bids in international projects.

The domestic constraints cited by South African construction and engineering companies illustrate the fact that growth of the domestic industry and export potential are inextricably linked and that overall policy coherence is of paramount importance. Evidently, stimulation of exports by South African construction and engineering firms requires extensive coordination of domestic education and immigration laws, a clear policy framework and the development of tailored incentive schemes in addition to shrewd negotiation of formal market access via the WTO.

⁴³ Government procurement of services, including construction and related services, are exempt from GATS and are currently under negotiation in the Working Party on GATS rules.

7. EXPORT CREDIT REINSURANCE

7.1 WTO-compliant export support

Exports of construction services in general and those to developing countries in particular, depend heavily on state support provided by source country export credit agencies (ECAs). This support usually takes the form of official reinsurance (in effect a government guarantee) against the political and commercial risks of non-payment; the premiums charged by official ECAs usually involve an implicit subsidy from the state.

Reinsurance not only provides security to the seller but is usually a precondition for obtaining project finance. Competition between international construction firms

Box 2: The Berne Union

The Berne Union, was established in 1934 with 4 members from France, Italy, Spain and the UK. At present, the Berne Union has 51 members from 42 countries and locations.

The union works for international acceptance of sound principles of export credit insurance and foreign investment insurance. It also provides a vital forum for exchange of information, experience, and expertise between members

Members of the Berne Union maintain and adhere to maximum credit terms and minimum premium and credit rates, as set out in a series of agreements and understandings.

Between 1982 and 2001, the members of the Berne Union provided support for exports worldwide amounting to USD 7,334 billion and supported foreign direct investments of USD 139 billion. Members paid claims over this period amounting to about USD 174 billion.

Source: www.berneunion.org.uk

extends beyond the price and quality of the service provided - the contractor is also expected to raise finance for the buyer at an internationally competitive rate. This is normally achieved through the banking sector of the exporting country and on the back of ECA reinsurance (though some ECAs provide finance directly).

To prevent a race to the bottom most ECAs adhere to minimum financing rates, set by the Berne Union and known as the Commercial Interest Reference Rate (CIRR.). These rates are

calculated at 100 basis points above the equivalent US Treasury Bill. Although the CIRR is in line with the borrowing rates of the major international banks, many smaller banks cannot provide finance at these levels. Thus, in many countries, including South Africa, the ECA also provides an interest rate subsidy on the finance provided to the buyer. More recently, the Berne Union has also agreed on minimum premium rates.

Some South African construction exports are restricted by the exposure and interest rate support available from the Export Credit Insurance Corporation of South Africa (ECIC). This is particularly true of projects that contain a high percentage of domestic capital equipment and are located in other developing countries. Design and project management contracts are unlikely to qualify for ECIC assistance.

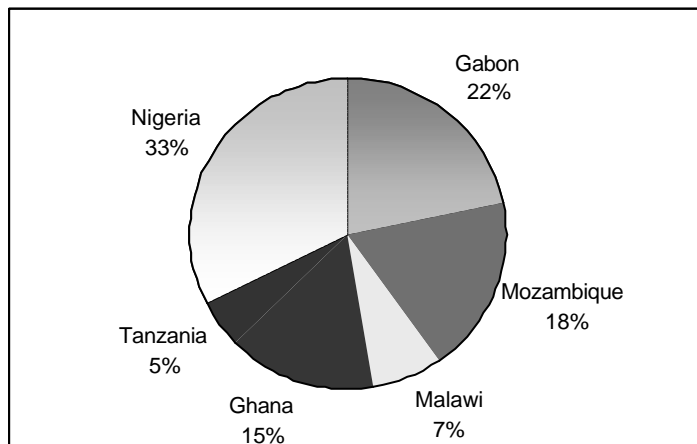
Although ECIC is well capitalised and has a much better claims record than most of its larger competitors, its exposure to some African countries is approaching maximum limits. A number of companies reported that this might become a constraint on their ability to expand into Mozambique. Moreover, the total amount of interest support budgeted by DTI is unlikely to increase significantly over the next few years.

7.2 ECIC activity

The Export Credit Insurance Corporation of South Africa Limited (ECIC) was established in July 2001 to replace the DTI's Export Credit and Investment Insurance Scheme. The ECIC is registered as a public insurance company, with Government as its sole shareholder, and falls under the supervision of the Financial Services Board. Its objective is: *to facilitate and encourage South African export trade for medium to long-term transactions by underwriting South African bank loans and investments outside the country thereby creating development abroad and jobs in South Africa and also earning foreign exchange for the country.*⁴⁴

Since its inception, all of ECIC's activity has been in Africa. Projects include the construction of hotels, shopping centres, roads and manufacturing plants. This activity reflects, to some extent, the profile of South African construction firms abroad. It is however important to note that projects in OECD countries or those that do not require South African finance, are unlikely to apply to ECIC for credit insurance.

Figure 5 Applications received by ECIC: August 2001 to May 2002



Source: ECIC

According to the ECIC, its main competitors in Africa are export credit agencies from the U.K. (ECGD), France (COFACE), Germany (HERMES) and Austria (UKB) – though their exposure to the continent is extremely small and largely restricted to regions of previous colonial influence. There is also a limited number of bankable construction projects in Africa. To expand its activities and diversify its exposure, ECIC needs to venture into the fast growing developing markets of Eastern Europe and Asia. These regions are of much greater strategic importance to European ECAs

⁴⁴ ECIC (2002).

and ECIC cannot match the scale of finance these agencies are able to provide to buyers in these markets.

7.3 Export Credit Agencies and the WTO

The ability of ECAs to provide subsidised insurance and credit was explicitly prohibited in the WTO Agreement on Subsidies and Countervailing Measures. Article (j) in Annex 1 of this agreement requires that premium rates cover the long-term operating costs and losses of ECA programmes and article (k) forbids the provision of subsidised credit. An exclusion is however provided to countries that abide by '*an international undertaking on official export credits to which at least twelve original Members to this Agreement are parties as of 1 January 1979*'. In other words: the Berne Union.

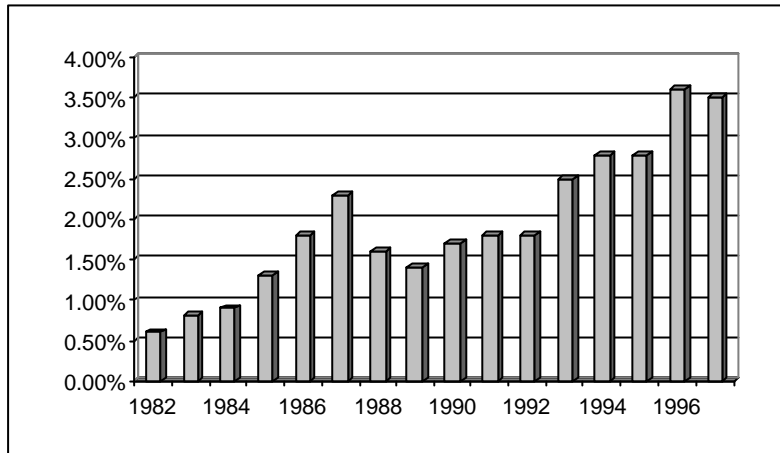
It is questionable whether premium rates should cover operating costs and expected net losses alone – ECIC, as a registered insurance company, must also contribute premiums into a reserve fund to account for unexpected losses. Stephens (1999) lists an additional three reasons why ECAs can retain premiums below market rates without explicit subsidies: -

- Official ECAs are expected to break even over a much longer period than would be acceptable in the private market;
- Official ECAs do not pay taxes;
- The shareholders do not expect dividends.

Nevertheless, the premium charged by Berne Union members as a share of total medium and long-term business covered has risen sharply over the last few decades. It would therefore seem that the subsidy to this premium has fallen equally fast. However, almost all of this business is in developing countries and a premium of 3.5% still seems remarkably low. Moreover, the cumulative cash flow reported by Berne Union Members over this period reached US\$ 47 billion in 1997⁴⁵, indicating that most ECAs are still a long way from breaking even.

⁴⁵ Stephens (1999).

Figure 6 Premium received as a share of medium and long terms business covered



Source: The Berne Union Yearbook, 1999

It is also important to recognise that many ECAs, including the ECIC, distinguish between their commercial business and projects undertaken for political reasons. The premiums on politically motivated projects are highly subsidised but exposure and losses on these projects are reflected in separate ‘Government accounts’ and not on the books of the ECA.

The exclusion provided to members of the Berne Union (and all other ECA’s that adopt the CIRR) enables some ECAs to continue to offer subsidised credit. Although most European ECA’s and the US EXIM Bank can borrow at below CIRR, smaller credit agencies, including ECIC, need to provide some form of interest rate subsidy to remain competitive. The ECIC is of the view that the removal of this exclusion would be to its benefit – but this would prevent the department of trade and industry from offering interest rate support to South African banks. Unless alternative sources of competitive finance could be secured by ECIC, South African construction firms would struggle to compete against OECD contractors, particularly in other developing countries.

One possible solution is for ECIC to raise capital offshore from the major international banks (this was done, at extremely competitive rates, for Mozal). Accessing foreign capital would not only reduce ECIC’s financing rates, but would eliminate the administrative and financial costs of forward cover. However, this would require changes to domestic exchange controls, as foreign banks are unlikely to accept Rand security, even with forward cover (ECIC is not permitted to hold exposure or premiums in foreign currency).

8. SOUTH AFRICA'S GATS COMMITMENTS

8.1 The GATS Agreement

The GATS agreement consists of: (i) a framework agreement; (ii) country-specific schedules of commitments; and (iii) country-specific lists of exemptions.⁴⁶ The framework agreement consists of 29 articles that cover all internationally-traded services and that contain general obligations that apply to all members.⁴⁷ The framework agreement also contains annexes dealing with specific sectors, including air transport services, financial services, maritime transport services and telecommunications. The country-specific obligations consist of a schedule of service sectors to which the country in question has committed itself to apply the market access, national treatment and most-favoured-nation (MFN) obligations of the GATS as well as a list of any exceptions to MFN obligations.⁴⁸

The country-specific schedules bind the relevant government to the specified level of market access and national treatment and prevent this government from imposing any new measures that restrict entry. Members are free to identify which sectors to list in their schedules. Although commitments may be enhanced at any time, they can only be downwardly modified three years after entry into force and on the condition that an agreement of compensatory adjustments with affected countries is reached. The MFN exemptions that had been submitted by the end of the Uruguay Round were limited to ten years and subject to review after not more than 5 years.

The country specific schedules are organised according to the four 'modes of supply'.⁴⁹

- | | |
|--|---|
| Mode 1 Cross border supply: | The possibility for non-resident service suppliers to supply services cross-border into the Member's territory (e.g. international telephone calls); |
| Mode 2 Consumption abroad: | The freedom for the Member's residents to purchase services in the territory of another member (e.g. hotel accommodation); |
| Mode 3 Commercial presence: | The opportunities for foreign service suppliers to establish, operate or expand a commercial presence in the Member's territory, such as a branch, agency, or wholly-owned subsidiary (e.g. a foreign bank opening a branch). |
| Mode 4 Presence of natural persons: | The possibilities offered for the entry and |

⁴⁶ WTO (2002b).

⁴⁷ Including general MFN, transparency and business practices obligations, providing general exclusions for government procurement and allowing for economic integration and labour market integration agreements etc. WTO (1994a).

⁴⁸ MFN treatment requires that each member of the WTO accords immediately and unconditionally to services and service suppliers of any other Member treatment no less favourable than that it accords to like services and service suppliers of any other country. WTO (1994a).

⁴⁹ WTO (2002b).

temporary stay in the Member's territory of foreign individuals in order to supply a service (e.g. consultants).

Construction services are usually supplied by foreign companies through a temporary establishment of services suppliers at the building site, which may or may not be supported by a permanent commercial presence of the company in question. In order to overcome local regulation issues and to facilitate financing of projects and technology transfer, joint ventures between foreign and domestic firms are a popular vehicle for trade in construction services. This appears to be the case in South Africa as well. The WTO secretariat notes that cross-border supply in this sector, apart from the engineering design phase, appears to be negligible, due to physical limitations of supplying construction services from another country.⁵⁰

By contrast, cross-border supply of architectural and related engineering services is quite feasible. This type of trade is more common, the higher the level of complexity and specialization of the service involved, for instance hi-tech plants.⁵¹ Despite the technical feasibility, most of the trade in architectural and engineering services is achieved via commercial presence or the presence of natural persons. This appears to be true for South Africa as well, where it is possible for local architects and technicians to render a service for construction projects to be carried out elsewhere, but in practice this rarely happens due to the differences in local building codes etc.

The GATS schedules generally include a 'horizontal' commitment section, which indicates limitations that apply to all of the sectors included. This section mostly refers to limitations on commercial presence or on the presence of natural persons (mode 3 and 4).

In the GATS schedules 'NONE' indicates that no limitations are placed on market access or national treatment in a given sector and mode of supply. 'UNBOUND' indicates that no liberalization of market access or national treatment is undertaken (the Member remains free to introduce or maintain measures inconsistent with market access or national treatment).

8.2 South Africa's schedule

South Africa's schedule contains a horizontal section and several subheadings of the sector schedules that are relevant to the construction, engineering and architectural services.

The horizontal section contains two general limitations, pertaining to mode 3 and 4. South Africa's limitations on market access relate to mode 4 (presence of natural persons), and states that these are:

“unbound, except for the temporary presence for a period of up to three years, unless otherwise specified, without requiring compliance with an economic needs test, of the following categories of natural persons providing services:

⁵⁰ WTO (1998a).

⁵¹ WTO (1998b).

- A. Services Sales persons⁵², limited to 90 days;
- B. Intra-Corporate Transferees⁵³, including:
 - Executives,⁵⁴
 - Managers,⁵⁵
 - Specialists,⁵⁶
 - Professionals;⁵⁷
- C. Personnel engaged in Establishment.⁵⁸

In other words, South Africa remains free to limit the presence of natural persons and define its immigration policy and laws; and has only committed itself to allowing the temporary presence of certain professionals. This approach is fairly standard in the GATS schedules and allows for essential skills to be brought into South Africa whilst barring low-skilled workers from entering the country. The presence of natural persons mode often faces limitations on market access, due to the existence of immigration laws and/or skills development policies.

The second general limitation concerns national treatment. Mode 3 (Commercial presence) does not receive national treatment as “local borrowing by South African registered companies with a non-resident shareholding of 25% or more is limited”. This is a general financial sector safeguard that protects financial institutions from high-risk exposure.

The sector specific schedule covers the following sub-sectors that are relevant to this paper:-

⁵² Defined as: natural persons not based in South Africa and acquiring no remuneration from a source located within South Africa, who are engaged in activities related to representing a services provider for the purpose of negotiating for the sale of the services of that provider, without engaging in making direct sales to the general public or supplying services. WTO (1994b).

⁵³ Defined as: natural persons of the following categories who have been employed by a juridical person that provides services within South Africa through a branch, subsidiary, or affiliate established in South Africa and who have been in the prior employ of the juridical person outside South Africa for a period of not less than one year immediately preceding the date of application. WTO (1994b)

⁵⁴ Defined as: natural persons within the organisation who primarily direct the management or establish goals and policies for the organisation or a major component or function of the organisation, exercise wide latitude in decision-making, and receive only general supervision or direction from higher-level executives, the board of directors, or stockholders of the business. WTO (1994b).

⁵⁵ Defined as: Natural persons within an organisation who primarily direct the organisation (or a department or subdivision thereof), supervise and control the work of other supervisory professional or managerial employees, have the authority of (recommending) hiring and firing or other personnel action and exercise discretionary authority over day to day operations at a senior level. WTO (1994b).

⁵⁶ Defined as: natural persons within an organisation who possess knowledge at an advanced level of continued expertise and who possess proprietary knowledge of the organisation’s product, service, research equipment, techniques or management. WTO (1994b)

⁵⁷ Defined as: natural persons who are engaged, as part of a services contract negotiated by a juridical person of another Member in the activity at a professional level in a profession set out in Part II, provided they possess the necessary academic credentials & professional qualifications, which have been duly recognised, where appropriate, by the professional association in South Africa. WTO (1994b).

⁵⁸ Defined as: natural persons who have been employed by a juridical person for a period of longer than one year immediately preceding the date of application for admission and who occupy a managerial or executive position and are entering SA for the purpose of establishing a commercial presence on behalf of the juridical person. WTO (1994b).

- Section 1. Business Services, covering professional Services, including architectural and engineering services;
- Section 3. Construction and related Engineering Services

Table 5 South Africa’s GATS Schedule for architectural and related engineering services – limitations only⁵⁹

SUBSECTOR	LIMITATIONS ON MARKET ACCESS	MFN EXEMPTIONS	COMMENTS
Professional services	Mode 1 – 4	Mode 1-4	
Architectural services (CPC 8671)	Mode 1 & 2: For building plans of 500m ² and over the services of a locally registered architect have to be utilized Mode 4: Unbound except as indicated in the horizontal section	Mode 4: Unbound except as indicated in the horizontal section	
Engineering services (CPC 8672)	Mode 4: Unbound except as indicated in the horizontal section	Mode 4: Unbound except as indicated in the horizontal section	
Integrated engineering services (CPC 8673)	Mode 4: Unbound except as indicated in the horizontal section	Mode 4: Unbound except as indicated in the horizontal section	
Urban planning services (CPC 8674)	Mode 4: Unbound except as indicated in the horizontal section	Mode 4: Unbound except as indicated in the horizontal section	
Landscape architectural services (CPC 8674)	Mode 4: Unbound except as indicated in the horizontal section	Mode 4: Unbound except as indicated in the horizontal section	

Source: WTO (1994b).

South Africa has close to fully liberalized architectural and related engineering services via this schedule. In all of the sub-sectors under review here, except for architectural services, mode 1, 2 and 3 are fully liberalized, i.e. there are no limitations on market access regarding cross-border supply, consumption abroad and commercial presence. This means that it is possible for a South African company to freely purchase architectural services abroad for use domestically or overseas and for foreign companies to establish branches or subsidiaries in South Africa. South Africa has not committed to liberalizing the presence of natural persons (mode 4) except as indicated in the horizontal section discussed above.

⁵⁹ Where a particular mode is not mentioned, this indicates that the schedule reads; ‘NONE’ and that this mode of supply is fully liberalised.

The limitation on market access for architectural services regarding cross border supply or consumption abroad deserves some explanation. Firstly confusion may arise regarding the use of the term 'locally registered' architect. What is meant here is in fact a 'locally certified' architect, i.e. a professional architect who has had her qualifications certified by the relevant authority, in this case SACAP.⁶⁰ This does not indicate that use of a local firm is required. Secondly, the restriction itself. The requirement to use a locally registered architect applies equally for South African suppliers and is embedded in South African building regulation.⁶¹ This type of domestic regulation is in force for safety reasons, to ensure consistent standards are used, and because local building codes differ dramatically between countries, and even differ between different cities in the same country.

The limitation itself is quite unusual for mode 1 and 2 supply (as opposed to mode 4). No other SADC country has this limitation, although many SADC countries have not undertaken any commitments in either architectural, engineering or construction services (e.g. Angola, Namibia, DRC, Malawi, Mauritius, Mozambique, Tanzania, Zimbabwe, Zambia, Seychelles) or kept mode 1 of architectural services unbound (e.g. Swaziland and Botswana). Having no commitments in these services is not uncommon among middle income countries in general, as India, Kenya and Brazil have all either not mentioned architectural and related engineering services in their schedule or have kept mode 1 and 2 unbound.

The industrialized nations do not have a common position on the issue. The EU does not have a similar requirement on use of a locally registered architect for mode 1 or 2, and the US has fully liberalised mode 1 and 2. Japan on the other hand, requires commercial presence for mode 1 and 2 and Canada is the most extreme, requiring citizenship or residency for accreditation in several provinces.

In this schedule there appears to be no more room for granting further access as the limitation is the result of domestic regulation and applies equally to South Africans. The effective barrier to entry for architects then becomes the efficiency of the certification authority (other WTO Members could ask for more transparent requirements or swift processing of certification applications). On the other hand, this requirement becomes superfluous if changed to a general requirement that local building codes must be adhered to. Certification is usually required for mode 4 (presence of natural persons) only. The requirement on a locally registered architect presumes that this is the only way to ensure that plans are of a sufficient standard, but effectively protects certified architects from (both domestic and foreign) competition from individuals who do not have the same (academic) qualification.⁶² This is a thorny issue, as lifting the requirement would require changes to domestic legislation. Clearly this is a domestic policy issue, which must be evaluated as such, and not only from a trade perspective.

⁶⁰ The South African Council of Architectural Professionals.

⁶¹ The relevant legislation is the Architects Act, Act 35 of 1970.

⁶² SACAP is currently in the process of reviewing the certification requirements, which could lead to the introduction of a special qualifying exam for those who have practical experience, but lack the academic qualification. This issue is quite a contentious one, as it could create confusion amongst consumers of architectural services regarding the qualifications of the architect involved.

Table 6 South Africa’s GATS Schedule for construction and related engineering services – limitations only⁶³

SUB-SECTOR	LIMITATIONS ON MARKET ACCESS	MFN EXEMPTIONS	COMMENTS
Construction services	Mode 1 - 4	Mode 1-4	
General Construction Work for Buildings (CPC 512)	Mode 1: Unbound* Mode 4: Unbound except as indicated in the horizontal section	Mode 1: Unbound* Mode 4: Unbound except as indicated in the horizontal section	* Unbound due to a lack of technical feasibility
General Construction Work for Civil Engineering (CPC 513)	Mode 1: Unbound* Mode 4: Unbound except as indicated in the horizontal section	Mode 1: Unbound* Mode 4: Unbound except as indicated in the horizontal section	* Unbound due to a lack of technical feasibility
Installation and Assembly Work (CPC 514 + CPC 516)	Mode 1: Unbound* Mode 4: Unbound except as indicated in the horizontal section	Mode 1: Unbound* Mode 4: Unbound except as indicated in the horizontal section	* Unbound due to a lack of technical feasibility
Building Completion and Finishing Work (CPC 517)	Mode 1: Unbound* Mode 4: Unbound except as indicated in the horizontal section	Mode 1: Unbound* Mode 4: Unbound except as indicated in the horizontal section	* Unbound due to a lack of technical feasibility

Source: WTO (1994b).

Equally, South Africa has close to fully liberalized construction and related engineering services by committing itself to the abovementioned schedule. In all of the sub-sectors under review here, mode 2 and 3 are fully liberalized, i.e. there are no limitations on market access regarding consumption abroad and commercial presence. This means that it is possible for a South African company to freely purchase construction services abroad and for foreign companies to establish branches or subsidiaries in South Africa. Once again, South Africa has not committed to liberalizing the presence of natural persons (Mode 4) except as indicated in the horizontal section discussed above.

The main exception in this schedule is the absence of commitments on mode 1 (cross-border supply). The reason is lack of technical feasibility, as a construction service cannot be purchased abroad whilst at the same time being rendered domestically. This exception is quite common in the GATS schedules of developed countries, but not in SADC.

⁶³ Where a particular mode is not mentioned, this indicates that the schedule reads; ‘NONE’ and this mode of supply is fully liberalised.

The lack of technical feasibility argument is not used in any SADC country other than Lesotho (whose schedule is identical to South Africa regarding the services under review here), Malawi, Zambia and DRC have fully liberalized mode 1, and the remaining SADC countries have not undertaken any commitments in construction and related engineering services (Angola, Botswana, Mozambique, Namibia, Swaziland, Tanzania, Mauritius, Zimbabwe, and Seychelles).

Although there are countries (e.g. Brazil, Canada) that do not state lack of technical feasibility in mode 1 of construction services, on the whole many countries do (e.g. Australia, Japan, USA, Bulgaria and Cuba). Some countries (notably India and Egypt) even use the lack of technical feasibility argument in both mode 1 and 2.

It should be kept in mind that the notion of technical unfeasibility appears to be in a process of becoming outdated as technological advances allow electronic communication of at least some engineering and design services and increasing use of prefabricated structures creates tangible possibilities for cross-border trade. Moreover, limiting market access based on technical limitations is a rather superfluous restriction as the technical constraints, if present, would prevent cross-border trade anyway.

The schedule does not include 'Other construction services' (CPC 511, 515, 518), which includes pre-erection work at construction sites, as well as special trade construction work such as foundation work, water well drilling, roofing, concrete work, steel bending and erection, and masonry work. It also covers renting services related to equipment for construction or demolition of buildings or civil engineering works.⁶⁴

8.3 Further liberalization of South Africa's schedule

South Africa has nearly fully liberalized architectural and related engineering services, except for the general mode 4 restrictions and a restriction on architectural services (for building plans over a certain size the services of a locally registered architect must be used).

At present the authors are aware of only one request for market access, tabled by European Community (which was leaked via the NGO circuit). The EC requests that the requirement on the use of a locally registered architect be removed.⁶⁵ As was discussed above, this is a matter of domestic policy that should be carefully evaluated against its objectives before removal is considered.

South Africa has also nearly fully liberalized construction services, except for the 'other construction services' category. The only qualifications are general mode 4 restrictions and no commitments in mode 1 due to lack of technical feasibility. The EC has requested liberalization of the 'other construction services' category. After discussions with the industry, it appears that liberalization of 'other construction services' would not have a detrimental impact on the South African construction industry, as site preparation generally requires large amounts of equipment, which is facilitated by proximity, and foreign entry is expected to be minimal. As was

⁶⁴ WTO (1998a).

⁶⁵ EC (2000).

discussed before liberalization of mode 1 should also not pose a problem. Moreover, requests for liberalization of mode 1 of construction services are unlikely, as many industrialized nations employ the same technical feasibility claim as South Africa and many developing countries have no commitments in construction.

As the interviews on which this paper is based do not include a fully representative sample of the industry, these suggestions for further liberalization should be discussed with the industry in an appropriate forum.

9. REQUESTS FOR MARKET ACCESS

9.1 Target markets

Of greater relevance to South African policy makers than domestic market access concessions is the identification of modes of supply in foreign markets where market access is limited and removal of these limitations could enhance South African exports.

The countries whose schedules will be under scrutiny in this section were selected as follows:

- Current exports, particularly in Africa;
- Anecdotal evidence of export problems; and
- Economic importance (the main industrialized nations, Nigeria, Egypt etc).

In the analysis of market access to actual and potential export markets, it is important to have an indication of which sub-sectors are important to South African companies in terms of output and employment. As the table below shows, 'Building construction & Civil engineering' (CPC 512) and 'Building installation' (CPC 514, 516) are the largest contributors to output and employment. This could serve as a crude indicator of where requests for market access in these sub-sectors should be focused, if full liberalization is not politically feasible.

Table 7 Indicators by type of construction activity

	NUMBER OF ESTABLISHMENTS (%)	EMPLOYMENT (%)	GROSS OUTPUT (%)
Building complete construction & Civil engineering (CPC 512)	60%	73.7%	72.0%
Site preparation (CPC 511, 515)	0.9%	4.7%	3.6%
Building installation (CPC 514, 516)	29%	14.3%	18.2%
Building completion (CPC 517)	9%	6.1%	4.6%
Renting of equipment with operators (CPC 518)	1%	1.2%	1.5%

Source: CSS (1994)

Assigning value to the different categories used for architectural and engineering sub-sectors is more complicated, as the data is very scattered and outdated. The table below does not include integrated engineering services (CPC 8673) or urban planning (CPC 8674) and shows architectural services to be an important contributor to output.

Table 8 Indicators architectural and engineering service providers

	CONSULTING ENGINEERS (CPC 8672)		ARCHITECTS (CPC 8671)		QUANTITY SURVEYORS		TOTAL
No of practices	758	(37.3%)	980	(48.2%)	297	(14.6%)	2035
Employment	12,107	(64.2%)	4,812	(25.5%)	1,931	(10.2%)	18,850
Gross output (R mln)	1,720	(72.3%)	450	(18.9%)	210	(8.8%)	2,380

Source: CSS (1993).

Interviews with firms in this sub-sector however, suggest that ‘Consulting engineering services’ (CPC 8672) and ‘Integrated engineering services’ (CPC 8673) are the most important contributors to exported output. Market access should therefore be requested in principle in all sub-sectors but, as compromises are bound to be made, should focus on CPC 8672 and CPC 8673.

9.2 SADC schedules

Taking a closer look at the schedules of SADC member countries, South Africa’s schedule stands out as an exceptional one. South Africa has undertaken commitments in all sub-sectors and has nearly fully liberalized, save for general mode 4 (presence of natural persons) restrictions, limitations due to lack of technical feasibility and a specific restriction on mode 1 and 2 (cross-border supply and consumption abroad) of architectural services due to domestic regulation that applies equally to South African companies.

The table below provides an overview of the commitments by SADC countries in architectural and related engineering services.

Table 9 Architectural and rel. engineering services, market access in SADC

SADC MEMBER	MODE 1	MODE 2	MODE 3	MODE 4	MFN LIMITATIONS
Angola	X ¹	X	X	X	X
Botswana	Unbound	None	The foreign company should be a registered institution and allowed to practise in its country of origin	Unbound except as indicated in the horizontal commitment	Same, except mode 3: The qualification of foreign prof. should be recognized by the appropriate legislation Council or the Architects Association of Botswana.
DRC	X	X	X	X	X
Lesotho ²	For building plans 500 m ² a locally registered architect has to be utilised	For building plans 500 m ² a locally registered architect has to be utilised	None	Unbound except as indicated in the horizontal section	Mode 1-3: none, Mode 4: same as market access
Namibia	X	X	X	X	X
Malawi	X	X	X	X	X
Mauritius	X	X	X	X	X
Mozambique	X	X	X	X	X
Seychelles ⁴	X	X	X	X	X
Swaziland ³	Unbound	None	None	Unbound except: (i) senior qualified chartered engineers (8672); (ii) prof. personnel with a higher univ. degree / prof. training & who are n.a. in Swaziland (8673)	Mode 1-4 None
Tanzania	X	X	X	X	X
Zambia	X	X	X	X	X
Zimbabwe	X	X	X	X	X
South Africa ²	For building plans 500 m ² a locally registered architect has to be utilised	For building plans 500 m ² a locally registered architect has to be utilised	None	Unbound except as indicated in the horizontal section	Mode 1-3: none, Mode 4: same as market access
¹ X indicates: no commitments undertaken					
² South Africa and Lesotho have undertaken commitments in CPC 8671, 8672, 8673 and 8674					
³ Swaziland has undertaken commitments in CPC 8672 and 8673.					
⁴ Seychelles is not a WTO member, and has observer status only.					

Source: WTO (2002c).

Only South Africa and Lesotho have undertaken commitments on cross-border supply of architectural services. Although this does not mean that it is necessarily prohibited or impossible to supply architectural services cross-border into the rest of SADC, it shows that there is much room for improving commitments regarding the removal of formal barriers. Supply via consumption abroad (mode 2) and commercial presence (mode 3) suffers largely the same fate, albeit with additional commitments by Swaziland and Botswana. As expected, the greatest limitations are placed on supply via mode 4 (presence of natural persons).

Table 10 Construction and related engineering services, market access in SADC

SADC MEMBER	MODE 1	MODE 2	MODE 3	MODE 4	MFN LIMITATIONS
Angola	X ¹	X	X	X	X
Botswana	X	X	X	X	X
Dem. Rep. Of Congo ²	None	None	None	Unbound except as indicated in Part I	Same as market access
Lesotho ³	Unbound, due to lack of technical feasibility	None	None	Unbound except as indicated in the horizontal section	Same as market access
Namibia	X	X	X	X	X
Malawi ⁴	None	None	None	Unbound except as indicated in the horizontal section	Same as market access
Mauritius	X	X	X	X	X
Mozambique	X	X	X	X	X
Seychelles	X	X	X	X	X
Swaziland	X	X	X	X	X
Tanzania	X	X	X	X	X
Zambia ⁴	None	None	None	Unbound except as indicated in the horizontal section	Same as market access
Zimbabwe	X	X	X	X	X
South Africa ³	Unbound, due to lack of technical feasibility	None	None	Unbound except as indicated in the horizontal section	Same as market access

¹ X indicates: no commitments undertaken

² DRC has undertaken commitments in CPC 512 and 513

³ South Africa and Lesotho have undertaken commitments in CPC 512, 513, 514, 516 and 517

⁴ Malawi and Zambia have undertaken commitments in construction and related engineering services, without specifying sub-sectors

Source: WTO (2002c).

Consumption abroad and commercial presence (mode 2 and 3) are the only modes of supply in which some progress towards liberalization has been made in construction

services in SADC. In addition to South Africa, the DRC, Lesotho, Malawi and Zambia have fully liberalized these two modes of construction services supply. Only three countries (DRC, Malawi, and Zambia) have liberalized cross-border supply (mode 1), Lesotho and South Africa claim lack of technical feasibility and the remainder of SADC states have not undertaken any commitments in this mode of supply. Most restricted is, once again, the presence of natural persons (mode 4).

9.3 Requests for market access in SADC

Anecdotal evidence suggests that exporting construction and engineering services to SADC countries is quite difficult. This involves mainly mode 3 and 4, as most consulting engineers and contractors experience difficulties obtaining work and operating permits for South African engineers, particularly in Namibia, Zimbabwe, Botswana and Mozambique. This experience largely follows the current GATS commitments of the countries involved, as none of these countries has commitments to liberalise any modes of supply of construction and related engineering services. Not many of the schedules specify specific CPC categories, using a ‘blanket’ category instead. The following table shows where market access can be requested:

Table 11 Construction and related engineering services, request for market access in SADC

COUNTRY	CURRENT COMMITMENTS	REQUEST FURTHER ACCESS IN ¹
Angola, Botswana, Namibia, Mauritius, Mozambique, Seychelles, Swaziland, Tanzania and Zimbabwe	No commitments	Mode 1 – 4
Lesotho	Mode 2, 3 fully liberalised	Mode 1, 4
DRC, Malawi, Zambia	Mode 1-3 fully liberalised	Mode 4

¹ N.B. South Africa has kept Mode 1 Unbound due to lack of technical feasibility

Source: WTO (2002c).

Table 12 Architectural and related engineering services, request for market access in SADC

COUNTRY	CURRENT COMMITMENTS	REQUEST FURTHER ACCESS IN ¹
Angola, DRC, Namibia, Malawi, Mauritius, Mozambique, Seychelles, Tanzania, Zambia and Zimbabwe	No commitments	Mode 1 – 4
Lesotho	Mode 1 - 3 fully liberalized, except for local registration in 1,2	Mode 1, 2: automatic recognition of SA registered professionals Mode 4
Botswana	Mode 2 fully	Mode 1, 4

	liberalised Mode 3 subject to registration	Mode 3: automatic recognition of SA registered professionals
Swaziland	Mode 2,3 fully liberalised	Mode 1 Mode 4: automatic recognition of SA registered professionals
¹ N.B. South Africa requires use of local registration in Mode 1,2.		

Source: WTO (2002c).

Obviously these request schedules do not take strategic alliances with SADC countries in the negotiations into consideration. In practice, South African policy makers may find it politically unfeasible to request full market access of SADC countries, not in the least because concessions are in principle granted to all Members. In the case of construction services, this effect may be dampened somewhat due to the favourable South African exchange rate and competitiveness compared to competitors from other continents.

The issue of mode 4 supply could be dealt with via a different platform than the WTO, for instance SADC members could consider a SADC-wide business visa of limited duration (e.g. 6-12) months for certain categories of professionals (i.e. apply in one country and qualify in all).

9.4 Rest of Africa

Anecdotal evidence suggests that South African engineers experience mode 4 access problems in at least Uganda. The other countries included here are chosen based on economic importance (Nigeria, Egypt) and based on current exports (by consulting engineers at least). None of these countries has undertaken any commitment in either the architectural or construction services.

Table 13 Construction and related engineering services, requests for market access, rest of Africa

COUNTRY	CURRENT COMMITMENTS	REQUEST FURTHER ACCESS IN ¹
Uganda, Nigeria, Equatorial Guinea ² , Mali, Rwanda, Sudan ² , Kenya, Eritrea ³	No commitments	Mode 1 – 4
Egypt	Mode 3 subject to conditions Mode 4 liberalised	Mode 1 - 3
¹ N.B. South Africa has kept Mode 1 Unbound due to lack of technical feasibility		
² Equatorial Guinea and Sudan are not WTO members, and currently have observer status only.		
³ Eritrea is not a WTO member or observer.		

Source: WTO (2002c).

Table 14 Architectural and related engineering services, requests for market access, rest of Africa

COUNTRY	CURRENT COMMITMENTS	REQUEST FURTHER ACCESS IN ¹
Uganda, Nigeria, Equatorial Guinea ² , Mali, Rwanda, Sudan ² , Kenya, Eritrea ³ , Egypt	No commitments	Mode 1 – 4
¹ N.B. South Africa requires use of local registration in Mode 1,2.		
² Equatorial Guinea is not a WTO member, and currently has observer status only.		
³ Eritrea is not a WTO member or observer.		

Source: WTO (2002c).

9.5 Other LDC export markets

Once again, anecdotal evidence suggests that supply via mode 3 and 4 is particularly difficult in the former Soviet Union, India, China and Malaysia (due to licensing requirements). Mode 1 and 2 are also difficult in the Middle East.

Table 15 Construction and related engineering services, requests for market access, other LDCs

COUNTRY	CURRENT COMMITMENTS	REQUEST FURTHER ACCESS IN ¹
Georgia ² , China, Lebanon ²	No commitments	Mode 1 – 4
Kyrgyz Republic	Fully liberalized Mode 1-3	Mode 4
India	Mode 3, 4 subject to conditions ³ for CPC 513 only	Mode 1 – 4 of CPC 512-517
Malaysia	Mode 2 liberalised, mode 3,4 subject to conditions ⁴	Mode 1, lifting restrictions on mode 3, 4.
¹ N.B. South Africa has kept Mode 1 Unbound due to lack of technical feasibility		
² The former soviet republics other than Georgia and the Kyrgyz Republic (i.e. Armenia, Azerbaijan, Belarus, Kazakstan, Russian Federation, Tajikistan, Ukraine and Uzbekistan) have observer status only. Lebanon has observer status only.		
³ Mode 3 subject to a foreign equity ceiling of 51%.		
⁴ Mode 3 subject to a foreign equity ceiling of 30%.		

Source: WTO (2002c).

Table 16 Architectural and related engineering services, requests for market access, other LDCs

COUNTRY	CURRENT COMMITMENTS	REQUEST FURTHER ACCESS IN ¹
Georgia ² , China	No commitments	Mode 1 – 4
Kyrgyz Republic	Fully liberalized Mode 1-3 (CPC 8671, 8672, 8674)	Mode 4 Mode 1-4 of CPC 8673
India	Mode 3, 4 commitments on CPC	Mode 1-4 of CPC 8671,

	8672 subject to conditions ³	8672, 8673, 8674
Malaysia	Mode 1,2,4 liberalised subject to conditions	Mode 1-4: lifting restrictions ⁴ Mode 1-4 of CPC 8674
¹ N.B. South Africa requires use of local registration in Mode 1,2.		
² The former soviet republics other than Georgia and the Kyrgyz Republic (i.e. Armenia, Azerbaijan, Belarus, Kazakstan, Russian Federation, Tajikistan, Ukraine and Uzbekistan) have observer status only. Lebanon has observer status only.		
³ Mode 3 subject to a foreign equity ceiling of 51%.		
⁴ Mode 1 and 2 are subject to authentication by a Malaysian architect/engineer/professional, Mode 3 requires that the services may only be provided by a natural person, and Mode 4 requires a qualifying examination.		

Source: WTO (2002c).

9.6 Middle East

Unfortunately, none of the Middle Eastern countries that were mentioned by South African exporters as problematic to access (e.g. Libya, Lebanon etc) are WTO members.

9.7 Industrialised nations

The industrialized nations, except for the EC, have comprehensive schedules of specific commitments, and it is likely that much of the effective limitations on market access are 'hidden' in the horizontal section restrictions on the presence of natural persons. Close scrutiny of the horizontal section, which falls outside the scope of the current paper, is therefore warranted.

The EC has remarkably few commitments in both construction and architectural services in mode 1 to 3. The other industrialized nations have generally liberalized construction services with only minimal exceptions, most notable mode 1 due to lack of technical feasibility. In architectural and related engineering services, there appears to be more scope for market access requests, as Japan has placed restrictions on mode 1 and 2 (cross-border supply and consumption abroad) and the US have placed restrictions on mode 3 (commercial presence). More important in this case is the restrictions on mode 4 (presence of natural persons) and negotiators should pay particular attention to the horizontal commitments in this regard.

Table 17 Construction and related engineering services, requests for market access, industrialized nations

COUNTRY / ECONOMIC BLOC	CURRENT COMMITMENTS	REQUEST FURTHER ACCESS IN ¹
European Union (15)	No commitments in Mode 1-3. Mode 4 of CPC 5111, unbound in some member countries, subject to country-specific conditions in others, including academic and professional qualification as well as relevant experience. The UK requires	Mode 1-4 of CPC 512-518

	compliance with an economic needs test.	
United States of America	Mode 1 Unbound due to lack of technical feasibility. Mode 2,3 fully liberalized. Mode 4, Unbound except as indicated in the horizontal section. In addition, an in-state office must be maintained by all contractors in Michigan.	Mode 1, 4 of CPC 512 - 518
Japan	Mode 1 Unbound due to lack of technical feasibility. Mode 2-3 fully liberalized, except for restrictions on MFN treatment in mode 3, as outlined in the horizontal section. Mode 4 Unbound except as indicated in the horizontal section.	Mode 1, 4. Lifting MFN exemption Mode 3.
Australia	No commitments in CPC 515.	Mode 1-4 of CPC 515
¹ N.B. South Africa has kept Mode 1 Unbound due to lack of technical feasibility		

Source: WTO (2002c).

Table 18 Architectural and related engineering services, requests for market access, industrialized nations

COUNTRY / ECONOMIC BLOC	CURRENT COMMITMENTS	REQUEST FURTHER ACCESS IN ¹
European Union	No commitments in Mode 1-3. Mode 4, unbound in some member countries, subject to country-specific conditions in others, including academic and professional qualification as well as relevant experience.	Mode 1-4 of CPC 8671 – 8674
United States of America	Mode 1-3 fully liberalized, except for state-specific requirements on commercial presence. ² Mode 4, unbound except when subject to conditions. ³	Mode 3, 4 of CPC 8671 – 8674
Japan	Mode 1 & 2 of CPC 8671 & 8672 require commercial presence. Mode 3 fully liberalised. Mode 4 of CPC 8671-8674 Unbound, except as indicated in the horizontal section.	Lifting of commercial presence requirement in mode 1,2 of CPC 8671-8672. Mode 4 CPC 8671-8674
Australia	Mode 1-3 fully liberalized. Mode 4, unbound except as indicated in the horizontal section.	Mode 4 of CPC 8671-8674.
¹ N.B. South Africa requires use of local registration in Mode 1,2.		

² In Michigan 2/3s of the staff in an architectural / urban planning office must be licensed in Michigan.

³ In District of Colombia US citizenship is required for licensure to provide integrated engineering services.

Source: WTO (2002c).

10. AREAS FOR FURTHER RESEARCH

The greatest obstacle in researching this sector is posed by the dearth of reliable data. A full census of companies that provide construction, architectural and engineering services would provide essential information to policy makers and trade analysts alike.

For a coherent domestic trade and development policy for this sector the identification of sub-sectors with particular growth potential, followed by an analysis of the export barriers that are specific to these sub-sectors would be a useful first step.

The findings of this paper further suggest that more research is required on the GATS schedules, including a full review of horizontal sections submitted by target markets and exploring ways in which issues around international certification of qualifications may be addressed.

11. CONCLUSION

Despite its modest contribution to employment and GDP, the South African architectural, construction and engineering services industries have much potential for growth as a source of export earnings. South African construction and engineering companies have notable competitive advantages, particularly in providing basic infrastructure and particularly on the African continent, where demand for these services is booming. Increased services exports in this sector could have significant multiplier effects, as the export of consulting engineering services for instance, could lead to considerable capital equipment exports.

However, the sector has been in decline for over two decades, threatening the survival of those advantages. Domestic constraints play a large role in determining the growth of exports by South African architectural, construction and engineering firms. Skills shortages, strict immigration laws, outdated standards and government procurement practices are not conducive to growth of the sector domestically or internationally. Evidently, stimulation of exports by these firms requires extensive coordination of domestic education and immigration laws and a clear policy framework in addition to formal market access via the WTO.

Exporters face many hurdles, ranging from corruption in Africa and the Middle East to protracted licensing and visa procedures in the industrialized nations. Not all export hurdles are relevant to the GATS negotiations, or even the WTO, as some export barriers are created by a lack of transparent regulation in the target markets, lack of access to development finance, corruption or other 'informal' barriers. Of the formal barriers to market access, limitations on commercial presence and the presence of natural persons are the most widespread.

South Africa's trade liberalization of the architectural, construction and engineering service industries is highly advanced and therefore only modest scope exists for further offers of market access. Despite this openness, there has been little foreign entry into the domestic market, mainly due to the weakness of the Rand and the lack of familiarity of foreign competitors with local conditions and labour practices. This situation is likely to change when the imminent revival of demand in these industries is confronted with the contraction of local capacity that has resulted from two decades of falling output.

To assist the South African policy makers and GATS negotiators, the GATS commitments made by actual and potential target markets for South African construction and engineering exports are scrutinized, leading to suggestions for requests for further market access. The most comprehensive requests involve SADC countries and the EU.

Obstacles to the presence of natural persons prove to be most commonly employed limitation on market access. The lack of international standards for accreditation of academic achievements and professional qualifications appears to be the greatest formal stumbling block in the export of engineering services. Construction services also suffer from a lack of transparency in building regulations in target markets and the proliferation of country-specific standards. As it is unclear to what extent the current obstacles are dampening or even preventing exports, it is not possible to quantify the impact that lifting formal barriers will have on South Africa's exports.

As the interviews conducted for the purpose of this paper do not constitute a fully representative sample of the industry, the suggestions for requests for market access and potential offers by South Africa should be discussed with the industry in an appropriate forum.

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Interviews

INDUSTRY ORGANIZATIONS	
Construction Industry Development Board	CIDB
South African Association of Consulting Engineers	SAACE
South African Federation of Civil Engineering Contractors	SAFCEC
South African Institute of Architects	SAIA
(QUASI-) GOVERNMENTAL ORGANIZATIONS	
Council for Scientific and Industrial Research- Boutek	CSIR
Trade and Investment South Africa	TISA
Export Credit Insurance Corporation of South Africa	ECIC
Capital Equipment Export Council	
COMPANIES	
EXPERTS	
Africon	Prof. A. Merrifield
Batemans	G. Coetzee (CSIR Boutek)
Concor	H. Langenhoven
Grinaker LTA	
Group 5	
WBHO	