

SECTION SIX: Labour Demand Forecasting Model

6.1. INTRODUCTION

The demand for labour up to 2010 according to the SIC sectors have been estimated through the development of a labour demand model. This model incorporated 2001 labour multipliers calculated by the Industrial Development Corporation, and production (GVA) estimates supplied by Quanttek and calculations made by Urban-Econ. The model furthermore anticipates the potential impact of HIV/AIDS and Government programmes/incentives on the demand for labour. The base year applied in the model was 2001 in order to calibrate the model with the labour multipliers and output values supplied by the IDC.

The labour demand forecasting model prioritised labour demand on a sectoral basis under nine possible growth scenarios up to 2010. For the purpose of this report, however, only three growth scenarios are presented.

6.2. SYSTEM LOGIC

6.2.1. Model Assumptions

The labour demand and forecasting model was based on a number of key assumptions. These assumptions are now discussed and aim to instil a comprehensive understanding of the model inputs. The main model input variables relate to labour multipliers, HIV/AIDS and the expected impact of government programmes/incentives on the demand for labour.

6.2.1.1. Labour Multipliers

A sectoral set of labour multipliers was developed by the Industrial Development Corporation (IDC). These labour multipliers correspond with economic production growth and constitute the crux of the labour forecasting exercise.

The base year applied to the model was 2001 to align with the IDC multiplier set that was calculated for the same year. The principal indicator of labour demand in the model up to 2010 thus relates to IDC labour multipliers based on production expectations. The IDC labour multipliers are illustrated in Table 6.1.



Table 6.1 – Labour Multipliers, 2001

Sector	Labour Multipliers		
	Initial	Direct	Total
AGRICULTURE	11.08620	12.11659	15.45832
MINING			
Coal mining	1.91436	2.73865	6.13471
Gold mining	6.27698	7.10386	11.90993
Other mining	2.49699	3.20802	6.31785
MANUFACTURING			
Processed food	1.84391	6.96615	11.42218
Beverages	0.75167	2.32626	5.54202
Textiles	4.76333	6.81877	11.89760
Clothing, excl. footwear	12.28855	14.34257	20.36327
Leather and leather products	3.21538	4.63391	9.63771
Footwear	4.77077	6.29539	10.38742
Wood and wood products	6.72710	9.80489	14.85820
Paper and paper products	1.59466	3.30351	7.78549
Printing and publishing	4.49027	5.45649	10.73311
Petroleum and petroleum products	0.29252	0.82828	2.07680
Industrial chemicals	0.90204	1.72530	4.64662
Other chemical products	1.84719	3.05397	7.21660
Rubber products	2.20268	3.50426	7.31587
Plastic products	4.72778	5.60360	10.37418
Glass and glass products	2.36959	3.52691	8.13223
Non-metallic mineral products nec	2.66831	3.77243	7.49835
Basic iron and steel products	1.04469	2.43647	6.27927
Non-ferrous metal products	0.49631	0.99351	2.95562
Metal products, excl. machinery	3.55397	4.33509	8.65732
Non-electrical machinery	2.67166	3.81881	8.14957
Electrical machinery	5.43889	5.94825	10.66021
Radio, television and communication apparatus	3.39691	4.13740	7.79154
Professional equipment etc.	2.91787	4.51794	8.54367
Motor vehicles, parts and accessories	1.10160	2.27707	6.32163
Other transport equipment	2.20930	2.64278	5.53282
Furniture	5.26735	7.64169	13.12077
Other manufacturing	1.60304	3.03377	5.92497



Sector	Labour Multipliers		
	Initial	Direct	Total
ELECTRICITY, GAS & WATER	0.88662	1.72496	5.14439
CONSTRUCTION	2.60416	4.24461	8.74584
TRADE, CATERING AND ACCOMODATION	4.20111	4.94855	8.70420
TRANSPORT, STORAGE AND COMMUNICATION	1.39596	1.89236	4.97164
FINANCIAL AND BUSINESS SERVICES	0.77643	1.14424	4.04192
COMMUNITY & SOCIAL SERVICES	7.22592	7.64553	13.27289
Other Services	1.79562	3.16256	7.99718

Source: Industrial Development Corporation

6.2.1.2. HIV/AIDS

While there are a variety of factors the social world that impact on the demand for labour, the role of HIV/AIDS has become increasing detrimental. The effect of HIV/AIDS on the South African labour market is disproportionate in terms of economic sector, race, skills level and gender. The expected impact of this pandemic is thus expected to occur unevenly across the economic sectors and skills levels. It can thus be broadly assumed that sectors which are increasingly reliant on higher skilled workers will be less affected by employee absenteeism and turnover.

HIV/AIDS IMPLICATIONS FOR LABOUR

Under these circumstances a reversal to capital substitution, poaching and the importation of foreign skilled labour may occur. HIV/AIDS will adversely affect the quantity and quality of education; the achievement of equity targets in skills development, education and training may also be at risk.

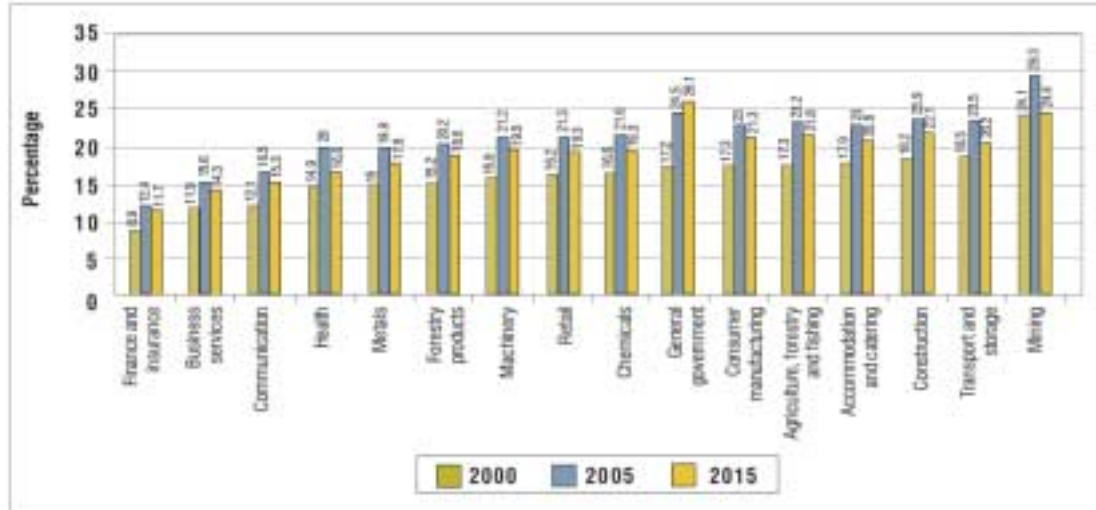
Source: HSRC, 2003

HIV/AIDS will instil upward pressure on the demand for labour (especially low skilled labour) over the foreseeable future. The effect of HIV/AIDS on the labour market does not only relate to the actual reduction in the number of experienced workers (labour mortality) but also to the secondary effect. The secondary effect implies reduced labour productivity due to workers not feeling well on the job and the need for more sick-leave. Labour dependency is a term used to describe the average number of people dependant on each individual earning an income. The expected rise in this ratio due to HIV/AIDS is also expected to negatively impact labour productivity.



Figure 6.2 provides an indication of HIV/AIDS prevalence in the labour market per economic sector (see HSRC, 2003: 194). The HIV/AIDS component of the labour demand forecasting model was based on prevalence in the year 2000.

Figure 6.2 – HIV/AIDS prevalence per economic sector, 2000 to 2015



Source: ING Barings model as cited in Qutob (2000: 49)

The first observation regarding figure 6.1, relates to absolute prevalence in the economic sectors. During the year 2000, HIV/AIDS prevalence was the most prominent (24.1%) in the Mining sector and the least prominent (8.9%) in the Finance and Insurance sector (8.9%). It must, however, be said that this prevalence rate is already high.

The second observation relates to the expected prevalence growth between 2000 and 2005. The most significant projected prevalence increase can be seen in the General Government sector. The HIV/AIDS prevalence in this sector is expected to increase from 17.2% in 2000 to 24.5% in 2005 (i.e. 7.3%). This is also the only sector that is expected to continue on a positive HIV/AIDS growth path up to 2015 in proportion to the other sectors.

A distinction is made between the economic sectors based on HIV/AIDS prevalence and expected growth. That is, some sectors in the economy will lose more workers and suffer more productivity decline than others due to the impact of HIV/AIDS.

Table 6.2 provides an indication of the HIV/AIDS risk profile experienced by the economic sectors.



Table 6.2 – HIV/AIDS risk per economic sector

Economic Sector	Lower Risk	Medium Risk	Higher Risk
Agriculture			○
Communication	○		
General government			○
Financial & Business services	○		
Metals		○	
Transport and Storage			○
Communication	○		
Mining			○
Health		○	
Construction			○
Retail & Chemicals		○	
Accommodation & catering			○

Source: HSRC, 2003

The HIV/AIDS considerations discussed above have been instrumental in the labour demand forecasting model. The model made provision for a low, high and most likely HIV/AIDS impact scenario on the demand for labour up to 2010 in the various sectors of the economy.

6.2.1.3. Government Programmes & Incentives

Government programmes and incentives have a direct and indirect influence on economic production and employment growth. A good example of this stimulus was the unveiling of the Expanded Public Works Programme by President Thabo Mbeki. The EPWP is one of government's short-to-medium term programmes aimed at alleviating and reducing unemployment. The EPWP will achieve this aim through the provision of more than 1 million employment opportunities over a period of 5 years coupled with training. It is a national programme covering all spheres of government and state-owned-enterprises.

Table 6.3 provides an outline of government incentives. The list presented here is not exhaustive and only serves to provide an indication of the type of government initiatives affecting the various sectors of the economy. The impact of government incentives and programmes on the demand for labour has been estimated on a sectoral basis and factored into the labour demand forecasting model.



Table 6.3 – Government Programmes and Incentives per Economic Sector

Economic Sector	Title	Incentive Type	Nature of benefit
Agriculture	Training	Tax Incentive	R25 000 deduction on signature of the learnership agreement and a further R25 000 on successful completion of the learnership.
	Agro-industries Development Finance	Finance Incentive	Competitive, risk related interest rate
	Bridging Finance	Finance Incentive	Competitive, risk related interest rate
	International Tourism Marketing Assistance Scheme	Export Facilitation	Reimbursement of portions of specific costs relating to marketing and outward selling
	Competitiveness Fund	Competitiveness Enhancement Incentive	50% reimbursable grant with R600 000 limit per legal entity. Grant to cover costs of service providers engaged in competitiveness enhancement
	Sector Partnership Fund	Competitiveness Enhancement Incentive	65% of costs of technical and marketing programmes limited to R1 million
Mining	Depreciation	Plant and machinery, buildings, and non-manufacturing fixed assets	Generally 20% per annum on plant and machinery, 5% on buildings, and between 10% and 33.33% on non-manufacturing fixed assets. Manufacturing assets can be depreciated by 40% in first year and 20% in subsequent years
	Training	Tax Incentive	R25 000 deduction on signature of the learnership agreement and a further R25 000 on successful completion of the learnership.
	Bridging Finance	Finance Incentive	Competitive, risk-related interest rate
	Entrepreneurial Mining and Beneficiation Finance	Finance Incentive	Medium term financing
	Competitiveness Fund	Competitiveness Enhancement Incentive	50% reimbursable grant with R600 000 limit per legal entity. Grant to cover costs of service providers engaged in competitiveness enhancement
	Sector Partnership Fund	Competitiveness Enhancement Incentive	65% of costs of technical and marketing programmes limited to R1 million
Manufacturing	Depreciation	Plant and machinery, buildings, and non-manufacturing fixed assets	Generally 20% per annum on plant and machinery, 5% on buildings, and between 10% and 33.33% on non-manufacturing fixed assets. Manufacturing assets can be depreciated by 40% in first year and 20% in subsequent years



Economic Sector	Title	Incentive Type	Nature of benefit
	Training	Tax Incentive	R25 000 deduction on signature of the learnership agreement and a further R25 000 on successful completion of the learnership.
	Strategic Investment Programme	Tax Incentive	Additional 50 or 100 percent allowance [depending on points scored] of value of qualifying assets. Points are scored for extent to which they upgrade the industry, build linkages with smaller businesses, and create employment
	Agro-industries Development Finance	Finance Incentive	Competitive, risk related interest rate
	Bridging Finance	Finance Incentive	Competitive, risk-related interest rate
	Entrepreneurial Mining and Beneficiation Finance	Finance Incentive	Medium term financing
	Empowerment Finance	Finance Incentive	Medium term financing
	Finance for the Expansion of the Manufacturing Sector	Finance Incentive	Medium term financing
	Finance for Textiles, Clothing, Leather and Footwear Industries	Finance Incentive	Medium term financing
	Export Finance	Finance Incentive	Credit facilities for capital goods and services exported from South Africa
	Import Finance	Finance Incentive	Medium to long-term import credit facilities
	Support Programme for Industrial Innovation	Research & Development Incentive	Grant of 50% of direct of pre-competitive development costs to maximum of R1.5 million
	Partnership in Industrial Innovation	Research & Development Incentive	Matching grants of up to 50% if pre-competitive development expenditure exceeds R3 million. Payback mechanism for successful projects
	Export Marketing and Investment Assistance	Export Facilitation	Portion of specified market research and export promotion expenses
	Steel Rebates and Concessions	Export Facilitation	Rebates based on value of exports
	Customs Rebate and Drawback Provisions	Export Facilitation	Rebate or drawback of customs duties on imported inputs
	Industrial Development Zones	Export Facilitation	Drawback of customs duties on imported inputs, raw materials and components
	Value Added Tax Export Incentive Scheme	Export Facilitation	Exports zero-rated for VAT purposes
	Duty Credit Certificate Scheme	Export Facilitation	Duty Credit Certificates



Economic Sector	Title	Incentive Type	Nature of benefit
	Motor Industry Development Programme (MIDP)	Export Facilitation	Import Rebate Credit Certificates based on export performance and duty free allowance to motor vehicle assemblers
	MIDP Productive Asset Allowance	Export Facilitation	20% of value of productive assets spread equally over 5 years applied against import duties
	Small Medium Enterprise Development Programme [SMEDP] – Manufacturing	Enterprise Development Incentive	2 year cash incentive ranging from 10% to 100% of the value of qualifying assets. 3 rd year bonus for meeting labour requirements
	Foreign Investment Grant	Enterprise Development Incentive	Grant to cover part of the transport costs related to the imported equipment
	Strategic Investment Programme	Enterprise Development Incentive	Additional capital allowances of 50% or 100% capitalised within first year
	Skills Support Programme	Enterprise Development Incentive	50% of eligible training costs not exceeding 30% of annual wage bill
	Competitiveness Fund	Competitiveness Enhancement Incentive	50% reimbursable grant with R600 000 limit per legal entity. Grant to cover costs of service providers engaged in competitiveness enhancement
	Sector Partnership Fund	Competitiveness Enhancement Incentive	65% of costs of technical and marketing programmes limited to R1 million
Electricity	Depreciation	Tax Incentive	Generally 20% per annum on plant and machinery, 5% on buildings, and between 10% and 33.33% on non-manufacturing fixed assets. Manufacturing assets can be depreciated by 40% in first year and 20% in subsequent years
	Training	Tax Incentive	R25 000 deduction on signature of the learnership agreement and a further R25 000 on successful completion of the learnership
	Strategic Investment Programme	Tax Incentive	Additional 50 or 100 percent allowance [depending on points scored] of value of qualifying assets. Points are scored for extent to which they upgrade the industry, build linkages with smaller businesses, and create employment
	Bridging Finance	Finance Incentive	Competitive, risk-related interest rate
Construction	Employee Housing	Tax Incentive	50% of actual expenditure or donation [maximum R6000]



Economic Sector	Title	Incentive Type	Nature of benefit
	Depreciation	Tax Incentive	Generally 20% per annum on plant and machinery, 5% on buildings, and between 10% and 33.33% on non-manufacturing fixed assets. Manufacturing assets can be depreciated by 40% in first year and 20% in subsequent years
	Training	Tax Incentive	R25 000 deduction on signature of the learnership agreement and a further R25 000 on successful completion of the learnership
	Bridging Finance	Finance Incentive	Competitive, risk-related interest rate
	Expanded Public Works Programme	Enterprise Development Incentive	Increased Government Spending in this sector
Trade	Preferential rate for small business corporations	Tax Incentive	First R100000 of taxable income is taxed at a reduced rate of 15%
	Depreciation	Tax Incentive	Generally 20% per annum on plant and machinery, 5% on buildings, and between 10% and 33.33% on non-manufacturing fixed assets. Manufacturing assets can be depreciated by 40% in first year and 20% in subsequent years
	Training	Tax Incentive	R25 000 deduction on signature of the learnership agreement and a further R25 000 on successful completion of the learnership
	Strategic Investment Programme	Tax Incentive	Additional 50 or 100 percent allowance [depending on points scored] of value of qualifying assets. Points are scored for extent to which they upgrade the industry, build linkages with smaller businesses, and create employment.
	Bridging Finance	Finance Incentive	Competitive, risk-related interest rate
	Empowerment Finance	Finance Incentive	Medium term financing
	Import Finance	Finance Incentive	Medium to long-term import credit facilities
	Tourism Development Finance	Finance Incentive	Medium term finance for creation of new facilities and upgrading of existing tourism facilities
	Wholesale Finance	Finance Incentive	Medium-term loans at competitive interest rates



Economic Sector	Title	Incentive Type	Nature of benefit
	Small Medium Enterprise Development Programme - Tourism	Enterprise Development Incentive	2 year cash incentive on qualifying assets ranging from 10% downwards depending on scale of investment
	Skills support programme	Enterprise Development Incentives	50% of eligible training costs not exceeding 30% of annual wage bill
	Competitiveness Fund	Competitiveness Enhancement Incentives	50% reimbursable grant with R600 000 limit per legal entity. Grant to cover costs of service providers engaged in competitiveness enhancement
	Sector Partnership Fund	Competitiveness Enhancement Incentives	65% of costs of technical and marketing programmes limited to R1 million
Transport and Communication	Depreciation	Tax Incentive	Generally 20% per annum on plant and machinery, 5% on buildings, and between 10% and 33.33% on non-manufacturing fixed assets. Manufacturing assets can be depreciated by 40% in first year and 20% in subsequent years
	Training	Tax Incentive	R25 000 deduction on signature of the learnership agreement and a further R25 000 on successful completion of the learnership.
	Bridging Finance	Finance Incentive	Competitive, risk-related interest rate
	Techno-industry Development Finance	Finance Incentive	Equity and loan finance for techno-businesses
	Competitiveness Fund	Competitiveness Enhancement Incentives	50% reimbursable grant with R600 000 limit per legal entity. Grant to cover costs of service providers engaged in competitiveness enhancement
	Sector Partnership Fund	Competitiveness Enhancement Incentives	65% of costs of technical and marketing programmes limited to R1 million
Finance	Research and Development	Tax Incentive	25% of cost of [approved] capital expenditure for scientific research can be deducted annually.
	Depreciation	Tax Incentive	Generally 20% per annum on plant and machinery, 5% on buildings, and between 10% and 33.33% on non-manufacturing fixed assets. Manufacturing assets can be depreciated by 40% in first year and 20% in subsequent years



Economic Sector	Title	Incentive Type	Nature of benefit
	Training	Tax Incentive	R25 000 deduction on signature of the learnership agreement and a further R25 000 on successful completion of the learnership
	Bridging Finance	Finance Incentive	Competitive, risk-related interest rate
	Techno-Industry Development Finance	Finance Incentive	Equity and loan finance for techno-businesses
	Innovation Fund	Research & Development Incentive	Grants of between R1 million and R5 million for maximum of 3 years
	Competitiveness Fund	Competitiveness Enhancement Incentives	50% reimbursable grant with R600 000 limit per legal entity. Grant to cover costs of service providers engaged in competitiveness enhancement
	Sector Partnership Fund	Competitiveness Enhancement Incentives	65% of costs of technical and marketing programmes limited to R1 million
Services	Depreciation	Tax Incentive	Generally 20% per annum on plant and machinery, 5% on buildings, and between 10% and 33.33% on non-manufacturing fixed assets. Manufacturing assets can be depreciated by 40% in first year and 20% in subsequent years
	Training	Tax Incentive	R25 000 deduction on signature of the learnership agreement and a further R25 000 on successful completion of the learnership
	Bridging Finance	Finance Incentive	Competitive, risk-related interest rate

6.3. MODEL OUTPUTS

This sub-section presents the labour demand forecasting model results. Although the model made provision for nine different growth scenarios, three are presented here. These three scenarios are:

- ✓ Low Growth Scenario
- ✓ High Growth Scenario
- ✓ Most Likely Growth Scenario

6.3.1. Demand for Labour

6.3.1.1. Low Growth Scenario



Under this scenario the HIV/AIDS and the Government programmes impact on the labour force is assumed to be relatively lower than in the other two growth scenarios. This scenario also assumes a slower rate of economic growth up to 2010.

Table 6.4 presents the estimates of the labour demand forecasting model under the low growth scenario. Under the low growth scenario the demand for labour is estimated to grow by less than 1% on average per annum until to 2010.

Table 6.4 – Demand for labour under the low growth scenario, 2001 - 2010

SIC Sector	2001	2006	2008	2010	Average growth p.a. (2001-2010)
11 Agriculture and hunting	586304	604253	612502	620863	0.6%
12 Forestry and logging	77658	71725	69584	67508	-1.5%
13 Fishing, operation of fish farms	12645	12192	12033	11876	-0.7%
21 Mining of coal and lignite	72871	73186	73423	73660	0.1%
22 Extraction of crude petroleum and natural gas	9815	9697	9665	9633	-0.2%
23 Mining of gold and uranium ore	188735	147046	133273	120791	-4.8%
24 Mining of metal ores	87134	93197	95881	98643	1.4%
25 Other mining and quarrying	51825	45049	42657	40392	-2.7%
30 Food, beverages and tobacco products	911717	858545	839411	820703	-1.2%
31 Textiles, clothing and leather goods	237819	216177	208394	200891	-1.9%
32 Wood and wood products	429870	437244	440888	444562	0.4%
33 Fuel, petroleum, chemical and rubber products	170989	192233	201754	211746	2.4%
34 Other non-metallic mineral products	81660	79084	78194	77314	-0.6%
35 Metal products, machinery and household appliances	411758	456779	476850	497803	2.1%
36 Electrical machinery and apparatus	53089	55512	56597	57703	0.9%
37 Electronic, sound/vision, medical & other appliances	20239	19076	18657	18248	-1.1%
38 Transport	290534	347848	374384	402944	3.7%



SIC Sector	2001	2006	2008	2010	Average growth p.a. (2001-2010)
equipment					
39 Furniture and other items NEC and recycling	503984	529264	540536	552049	1.0%
41 Electricity, gas, steam and hot water supply	163205	168021	170241	172491	0.6%
42 Collection, purification and distribution of water	22338	24492	25448	26442	1.9%
50 Construction	419891	445886	457414	469239	1.2%
61 Wholesale and commission trade	334350	328395	326531	324677	-0.3%
62 Retail trade and repairs of goods	537728	583606	603939	624979	1.7%
63 Sale and repairs of motor vehicles, sale of fuel	114233	112175	111528	110886	-0.3%
64 Hotels and restaurants	71573	67726	66345	64992	-1.1%
71 Land transport	171335	177162	179817	182512	0.7%
72 Water transport	311	67	36	20	-26.4%
73 Air transport	23353	29306	32140	35248	4.7%
74 Supporting transport activities (inc. storage)	52682	55562	56842	58152	1.1%
75 Post and telecommunication	210295	280370	315024	353961	6.0%
81 Financial intermediation	165199	244725	286811	336136	8.2%
82 Insurance and pension funding	88294	93006	95103	97247	1.1%
83 Activities auxiliary to financial intermediation	53945	95249	119749	150552	12.1%
84 Real estate activities	20657	22541	23377	24243	1.8%
85 Renting of machinery and equipment	3377	3685	3822	3964	1.8%
86 Computer and related activities	38773	42309	43877	45504	1.8%
87 Research and development	7629	8325	8633	8953	1.8%
88 Other business activities	188281	205450	213067	220966	1.8%
91 Public administration and defence activities	422042	408421	403700	399034	-0.6%
92 Education	592972	573834	567201	560645	-0.6%
93 Health and social work	398041	385195	380742	376341	-0.6%
94 Other community, social and personal service activities	9295	8995	8891	8788	-0.6%
95 Activities of membership organisations	33946	32851	32471	32096	-0.6%
96 Recreational,	67477	65299	64545	63798	-0.6%



SIC Sector	2001	2006	2008	2010	Average growth p.a. (2001-2010)
cultural and sporting activities					
99 Other service activities	122801	118838	117464	116107	-0.6%
Total (Low growth)	8,532,672	8829595	8999442	9195302	0.834%

Source: Urban-Econ calculations based on IDC and Global Insight, 2004

The economic sectors that displayed the strongest labour growth potential under the low growth scenario were:

- ✓ 83 Activities auxiliary to financial intermediation
- ✓ 81 Financial intermediation
- ✓ 75 Post and telecommunication
- ✓ 73 Air transport
- ✓ 38 Transport equipment

These sectors experienced a growth rate of more than 3% on average per annum in the demand for labour up to 2010. The finance sub-sectors financial intermediation and activities auxiliary to financial intermediation, experienced the highest average annual growth rate up to 2010 under the low growth scenario of the labour forecasting model. The estimated average annual labour growth rates for these sectors were 8.2% and 12.1% respectively up to 2010.

6.3.1.2. High Growth Scenario

Under this scenario the HIV/AIDS and the Government programmes impact on the labour force is assumed to be relatively higher than in the other two growth scenarios. This scenario also assumes a higher rate of economic growth up to 2010.

Table 6.5 presents the estimates of the labour demand forecasting model under the high growth scenario. Under the high growth scenario the demand for labour is estimated to grow by more than 3% on average per annum up to 2010.

Table 6.5 – Demand for labour under the high growth scenario, 2001 - 2010

SIC Sector	2001	2006	2008	2010	Average growth p.a. (2001-2010)
11 Agriculture and hunting	586304	673706	710303	748889	2.8%
12 Forestry and logging	77658	80141	80939	81745	0.6%
13 Fishing, operation of fish farms	12645	13611	13980	14359	1.4%
21 Mining of coal and lignite	72871	81801	85375	89106	2.3%
22 Extraction of crude petroleum and natural gas	9815	10842	11244	11660	1.9%



SIC Sector	2001	2006	2008	2010	Average growth p.a. (2001-2010)
23 Mining of gold and uranium ore	188735	165195	156079	147466	-2.7%
24 Mining of metal ores	87134	104039	111299	119066	3.5%
25 Other mining and quarrying	51825	50496	49800	49115	-0.6%
30 Food, beverages and tobacco products	911717	958925	975864	993103	1.0%
31 Textiles, clothing and leather goods	237819	241622	242508	243398	0.3%
32 Wood and wood products	429870	487626	511471	536482	2.5%
33 Fuel, petroleum, chemical and rubber products	170989	213969	233419	254639	4.5%
34 Other non-metallic mineral products	81660	88282	90835	93461	1.5%
35 Metal products, machinery and household appliances	411758	508557	551891	598917	4.3%
36 Electrical machinery and apparatus	53089	61875	65608	69566	3.0%
37 Electronic, sound/vision, medical & other appliances	20239	21306	21690	22081	1.0%
38 Transport equipment	290534	386716	432419	483523	5.8%
39 Furniture and other items NEC and recycling	503984	589882	626527	665447	3.1%
41 Electricity, gas, steam and hot water supply	163205	187337	197430	208068	2.7%
42 Collection, purification and distribution of water	22338	27274	29462	31826	4.0%
50 Construction	419891	496848	530020	565408	3.4%
61 Wholesale and commission trade	334350	366485	379169	392292	1.8%
62 Retail trade and repairs of goods	537728	650034	699391	752496	3.8%
63 Sale and repairs of motor vehicles, sale of fuel	114233	125186	129508	133980	1.8%
64 Hotels and restaurants	71573	75637	77119	78631	1.1%
71 Land transport	171335	197122	208098	219686	2.8%
72 Water transport	311	77	44	25	-24.3%
73 Air transport	23353	32487	37003	42146	6.8%
74 Supporting transport activities (inc. storage)	52682	61798	65747	69948	3.2%
75 Post and telecommunication	210295	435733	582508	778722	15.7%



SIC Sector	2001	2006	2008	2010	Average growth p.a. (2001-2010)
81 Financial intermediation	165199	270462	328795	399709	10.3%
82 Insurance and pension funding	88294	103447	110005	116979	3.2%
83 Activities auxiliary to financial intermediation	53945	104937	136678	178020	14.2%
84 Real estate activities	20657	25054	27014	29126	3.9%
85 Renting of machinery and equipment	3377	4096	4417	4762	3.9%
86 Computer and related activities	38773	47026	50704	54670	3.9%
87 Research and development	7629	9253	9976	10757	3.9%
88 Other business activities	188281	228358	246218	265474	3.9%
91 Public administration and defence activities	422042	454343	467341	480712	1.5%
92 Education	592972	644738	663184	682157	1.6%
93 Health and social work	398041	432790	445172	457908	1.6%
94 Other community, social and personal service activities	9295	10106	10395	10693	1.6%
95 Activities of membership organisations	33946	36910	37966	39052	1.6%
96 Recreational, cultural and sporting activities	67477	73368	75467	77626	1.6%
99 Other service activities	122801	133522	137342	141271	1.6%
Total (High growth)	8532672	9973017	10657425	11444165	3.316%

Source: Urban-Econ calculations based on IDC and Global Insight, 2004

The economic sectors that displayed the strongest labour growth potential under the high growth scenario were:

- ✓ 75 Post and telecommunication
- ✓ 83 Activities auxiliary to financial intermediation
- ✓ 81 Financial intermediation
- ✓ 73 Air transport
- ✓ 38 Transport equipment

The sub-sectors that displayed the highest growth rate in the demand for labour under the high growth scenario were post and telecommunication, and activities auxiliary to financial intermediation. The model estimated the demand for labour in these sub-sectors to grow by 15.7% and 14.1% respectively up to 2010.



6.3.1.3. Most Likely Growth Scenario

This scenario assumes the most realistic set of variables in the labour demand forecasting model. Under this scenario the HIV/AIDS and the Government programmes impact on the labour force is assumed to be moderate and most realistic. This scenario is based on economic growth estimates by Global Insight and Urban-Econ.

Table 6.6 presents the estimates of the labour demand forecasting model under the most likely growth scenario. Under this growth scenario the demand for labour is estimated to grow by about 2.4% on average per annum up to 2010.

Table 6.6 – Demand for labour under the most likely growth scenario, 2001-2010

SIC Sector	2001	2006	2008	2010	Average growth p.a. (2001-2010)
11 Agriculture and hunting	586304	669925	694561	718098	2.3%
12 Forestry and logging	77658	86316	87569	86689	1.2%
13 Fishing, operation of fish farms	12645	14337	14669	14771	1.7%
21 Mining of coal and lignite	72871	75585	76900	78696	0.9%
22 Extraction of crude petroleum and natural gas	9815	10101	10226	10397	0.6%
23 Mining of gold and uranium ore	188735	172931	162178	150092	-2.5%
24 Mining of metal ores	87134	107626	114669	120310	3.6%
25 Other mining and quarrying	51825	45807	45212	43696	-1.9%
30 Food, beverages and tobacco products	911717	966517	988968	986583	0.9%
31 Textiles, clothing and leather goods	237819	279458	282983	278379	1.8%
32 Wood and wood products	429870	510345	535814	551094	2.8%
33 Fuel, petroleum, chemical and rubber products	170989	203265	215954	231095	3.4%
34 Other non-metallic mineral products	81660	100015	104566	105478	2.9%
35 Metal products, machinery and household appliances	411758	476162	501753	534103	2.9%
36 Electrical machinery and apparatus	53089	66868	72069	74940	3.9%



SIC Sector	2001	2006	2008	2010	Average growth p.a. (2001-2010)
37 Electronic, sound/vision, medical & other appliances	20239	24366	25120	25068	2.4%
38 Transport equipment	290534	343578	368286	404059	3.7%
39 Furniture and other items NEC and recycling	503984	567844	591984	616617	2.3%
41 Electricity, gas, steam and hot water supply	163205	197750	208861	215847	3.2%
42 Collection, purification and distribution of water	22338	27082	28963	30687	3.6%
50 Construction	419891	471673	494250	517089	2.3%
61 Wholesale and commission trade	334350	366583	378839	384282	1.6%
62 Retail trade and repairs of goods	537728	607175	640005	675388	2.6%
63 Sale and repairs of motor vehicles, sale of fuel	114233	122345	126430	128236	1.3%
64 Hotels and restaurants	71573	85042	87102	87059	2.2%
71 Land transport	171335	192292	201174	208263	2.2%
72 Water transport	311	343	263	147	-8.0%
73 Air transport	23353	25784	28029	31330	3.3%
74 Supporting transport activities (inc. storage)	52682	60231	63261	66005	2.5%
75 Post and telecommunication	210295	278873	332959	437449	8.5%
81 Financial intermediation	165199	190611	215845	257660	5.1%
82 Insurance and pension funding	88294	102433	108417	113065	2.8%
83 Activities auxiliary to financial intermediation	53945	62244	72979	93395	6.3%
84 Real estate activities	20657	24279	25850	27337	3.2%
85 Renting of machinery and equipment	3377	4043	4314	4562	3.4%
86 Computer and related activities	38773	46413	49526	52376	3.4%
87 Research and development	7629	9132	9745	10305	3.4%
88 Other business activities	188281	225382	240499	254337	3.4%
91 Public administration and defence activities	422042	478248	492877	497030	1.8%
92 Education	592972	669324	692166	697998	1.8%
93 Health and social work	398041	461270	479607	483647	2.2%
94 Other community, social	9295	10690	11085	11179	2.1%



SIC Sector	2001	2006	2008	2010	Average growth p.a. (2001-2010)
and personal service activities					
95 Activities of membership organisations	33946	38815	40134	40472	2.0%
96 Recreational, cultural and sporting activities	67477	75969	78323	78983	1.8%
99 Other service activities	122801	141232	146460	147694	2.1%
Total (Most Likely)	8532672	9696303	10151443	10581989	2.421%

Source: Urban-Econ calculations based on IDC and Global Insight, 2004

The economic sectors that displayed the strongest labour growth potential under the most likely growth scenario were:

- ✓ 75 Post and telecommunication
- ✓ 83 Activities auxiliary to financial intermediation
- ✓ 81 Financial intermediation
- ✓ 36 Electrical machinery and apparatus
- ✓ 38 Transport equipment

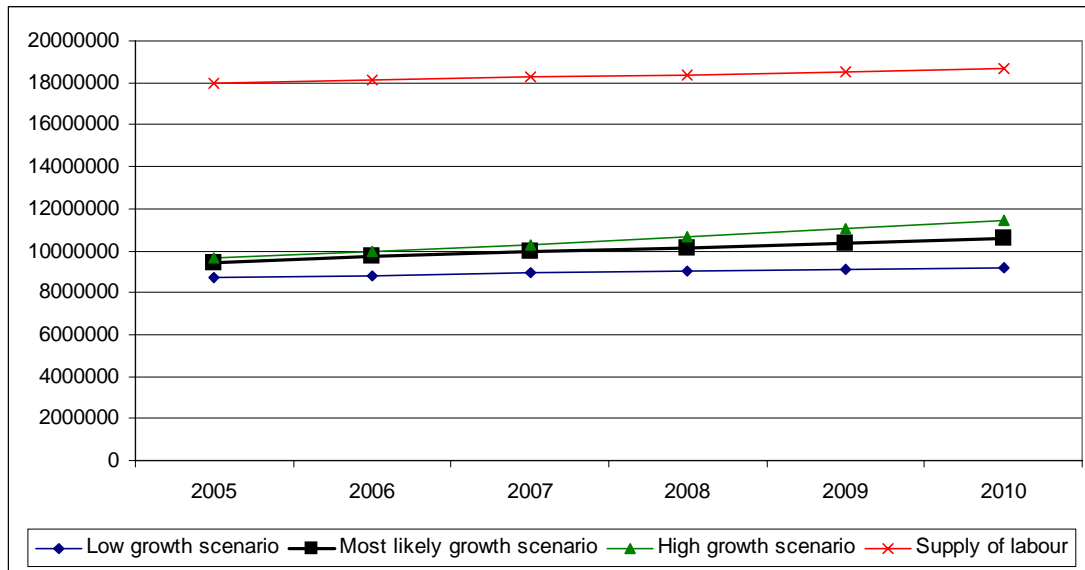
The sub-sectors that displayed the highest growth rate in the demand for labour under the most likely growth scenario were post and telecommunication, and activities auxiliary to financial intermediation. The model estimated the demand for labour in these sub-sectors to grow by 8.5% and 6.3% respectively up to 2010.

6.4. IMPLICATIONS FOR SETAs

Figure 6.2 illustrates the demand and supply of labour up to 2010. The three growth scenarios in the demand for labour are illustrated together with the expected demographic growth in the economic active population of South Africa.

Figure 6.2 – Demand and Supply of labour, 2005 – 2010





Source: Urban-Econ calculations based on IDC and Global Insight, 2004

Similar to the growth in the demand for labour, the growth in the supply of labour has also been subject to the potential impact of HIV/AIDS. In the growth scenario depicted in figure 6.2, a mortality rate on 0.5% p.a. has been incorporated to account for the potential effect of HIV/AIDS on the supply of labour. The gap between the supply and demand of labour (most likely scenario) is projected to be approximately 8 000 000 (i.e. unemployment) in 2010. In 1995 this gap (unemployment) was estimated between 5 and 6 million. An increasing number of economically active people will thus have to resort to alternative methods (e.g. the informal market) to make a living over the next five years.

The demand for skills in South Africa is expected to grow at all three levels (i.e. low skilled, intermediate skilled and high skilled labour) of the labour market. It is, however, expected that the growth in the demand for semi-skilled and high skilled labour will be more significant than the demand for low skilled labour. Democracy in South Africa has spelled a new direction for economy growth, which moves away from a high resource dependant economy to a production and knowledge based economy focussed on beneficiation and export. South Africa is thus moving up the value chain where it has to compete on the global market. This implies the utilisation of higher skilled production processes in an era of increasing technological advancement.

South Africa has clear defined growing demand for high skilled labour. This relates to the economic growth in the information technology, telecommunications and finance sectors. There is furthermore an ascending demand for tertiary education, industrial research and development. Since democracy, South Africa has become increasingly successful in the development and application of new technology and production processes. This situation has boosted the industrial competitiveness in several areas, and saw the stable growth in value added exports. A good example of this is the growing export market for locally assembled vehicles. Other developments such as the

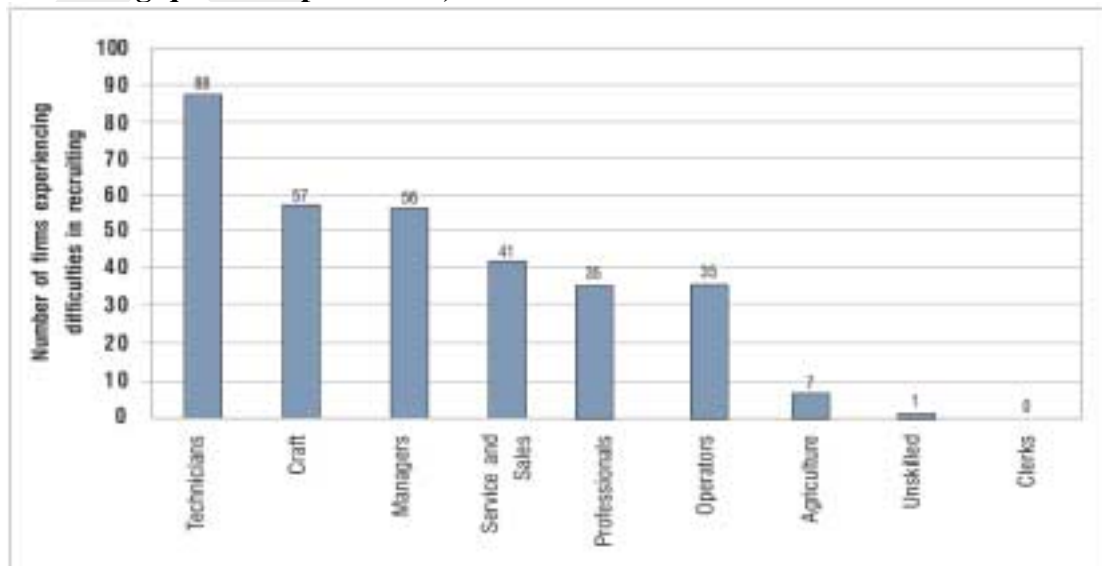


Innovation Hub and the Gautrain furthermore bare testimony to the growing demand for high-skilled professionals.

The demand for low and intermediary skills is also expected to increase over the near future together with economic growth. The demand for this skills group relates to a large extent to the SMMEs. These businesses are usually not highly dependent on high-skilled labour and provide excellent opportunities for low skilled labour to advance to the intermediate level. The importance of SMMEs as an employer of low-skilled labour is central to Government's poverty alleviation strategies. As this is a growing sector, it is expected that a growing number of low-skilled workers will be absorbed into the formal economy.

Table 6.7 indicates the occupation areas where difficulties are experienced in recruiting intermediate-skilled personnel (HSRC, 2003).

Table 6.7 – Occupational areas in which difficulties are experienced in recruiting qualified personnel, 2000.



Source: Krasner et al (2000)



At the intermediate-skills level, there is thus a demand for technically competent operatives, artisans and technicians. A recent study by SASOL across a range of industrial sectors highlighted the rapid depletion of artisans such as electricians, welders, plumbers, and fitters and turners. SASOL estimates the skills shortage to be up to 20 000 artisans (Business Day, 2003 as quoted by HSRC, 2003). A demand for intermediate skills furthermore exists in the Information Technology and the Public Health sectors (HSRC, 2003).

Government has dedicated itself to the creation of employment and skills advancement opportunities for low-skilled workers. The types of development activity initiated by Government to provide employment opportunities for the low-skilled enclave of the labour force include the building of infrastructure such as houses, implementation of infrastructure such as water, the upgrading of schools and roads, community-based public works, SMME initiatives linked to local opportunities and youth community services (DoL, 2000 as quoted by HSRC, 2003).

This section presented the labour demand forecasting model. The model accounted for three possible growth scenarios which incorporated the impact of HIV/AIDS and government initiatives on the demand for labour up to the 2010. The second part of this section outlined the demand for skilled labour over the near future. It was highlighted that the South African economy was moving up in the production value chain and becoming increasingly dependant on new production processes and technology application. This situation signalled the growing demand for skills at the high and intermediate level of the market. It is of central importance that the demand for these skills, especially at the intermediate level, are met in order to facilitate increased economic growth and competitiveness on the export front. This study furthermore indicates the need for further investigation into the demand for skills in the South African economy. Such a study will provide concise direction to public skills training efforts.

