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MON/UNDP/UNIDO Project MON/02/003/A/08/37
Industrial and Trade Development Policy Review Project

Mongolia: Industrial and Trade Development Policy Review

Prepared for the Government of Mongolia,
Ministry of Industry and Trade
by the United Nations Industrial Development Organization
On behalf of the United Nations Development Programme

Ulaanbaatar, November 2002

FORWARD

In July 2001, UNDP commissioned a study on the economy, poverty and employment, and produced a report entitled *Integrating Poverty Reduction into Macroeconomic Policy*. This report suggested that around 36 per cent of the population lived below the official poverty line and that the poverty rate and inequality were increasing. While informal activities, mostly trading, were expanding, there was a continued hollowing out of the formal sector, especially in processing and manufacturing. Indeed, in the absence of industry-led growth, the informal sector remained a survival strategy for many.

The official unemployment rate was 7 per cent. But unofficial estimates suggested that the actual unemployment rate could be 20 per cent or more. The above study suggested that recovery and development of the industrial sector was key to employment, broad-based growth and poverty reduction. Indeed, ten years into the transition, Mongolia needed to develop a consistent strategy and road map for the transformation of its industries, and the development of a viable private sector to form the basis of the economy.

The research done in 2001 lacked an in-depth analysis of the development of the industrial sector. UNDP Mongolia, together with UNIDO, therefore commissioned a separate research project on industrial and trade development to clarify issues for a mid to long-term vision and a review of development policy options that would be conducive to increased production, employment and broad-based and sustained growth in Mongolia.

The outcome of this short project were policy studies which were presented for review and discussion at the *Symposium on Industrial and Trade Development* held in Ulaanbaatar on 6-7 November 2002, jointly organized by the Ministry of Industry and Trade, the Government of Korea, the WTO/UNCTAD International Trade Centre, UNIDO and UNDP Mongolia. The studies identified and analyzed key industrial and trade development issues and opportunities for the development of the manufacturing sector, including a detailed review of current industrial and trade policies, and an assessment of the prevailing macroeconomic and business environment. They also identified key issues and opportunities in the livestock-based industries, including a detailed industry-level analysis of the following five sub-sectors: cashmere products, carpets and other wool products, meat products, dairy products and leather products.

UNDP is pleased to present a comprehensive technical report that includes analyses of the Mongolian industrial and trade development policies in general, as well as the specific issues and challenges facing the livestock-based industries. This also represents the first activity of UNIDO in Mongolia since this organization signed a *Memorandum of Understanding* with the Government on 4 December 2001. We hope that this research project will lead to follow-up activities by UNIDO, other UN agencies, and international partners in the area of industrial development, which will benefit the Government and the people of Mongolia.

Saraswathi Menon
UN Resident Coordinator &
UNDP Resident Representative
Ulaanbaatar, January 2003

This document has not been edited.

This study was prepared by a team led by Shafiq Dhanani (industrial and trade policies) and consisting of the following members: Jan S. Barabas (livestock-based industries), Bakey (agricultural and livestock policies), Davaasuren Bavuudorj (industry and trade policies), Tumurun Erdenechulan (meat, dairy and leather industries) and Alimaa Davaadorj (cashmere and wool industries). Two field missions were undertaken between September and November 2002. The findings of this study were presented at the *Symposium on Industrial and Trade Development* hosted by the Ministry of Industry and Trade on 6-7 November 2002. The study received extensive support from Mr. Ts. Yondon, Secretary of State, and Mr. Badarch, Director of Industrial Development Policy, Ministry of Industry and Trade; Mr. Natsuki Hiratsuka, Deputy Resident Representative and Ms. Ts. Tsolmon, Economist, UNDP Mongolia; Mr. Michele Amedeo, UNIDO office in Beijing; and Mr. Atsushi Isoyama, UNIDO headquarters in Vienna.

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EXECUTIVE SUMMARY

Major Manufacturing and Trade Issues

Before the transition from a socialist to a market economy in 1990, the manufacturing sector was relatively large and organized, and generated substantial modern sector employment. During the course of the decade however, the privatized state-owned companies collapsed, and the overall industrial output index fell from 100 to 27. The manufacturing sector became less diverse and technologically advanced, with the food, textile and garment sub-sectors becoming more important at the expense of the chemical, metal, transport and electrical industries. The manufacturing sector's former high labour productivity, the engine of growth for the whole economy, declined to the same level as the average for the whole economy.

Manufacturing sector. In addition to physical factors such as the country's land-locked geography and rugged terrain, and economic factors such as its sparsely located nomadic population, low purchasing power, and inadequate physical infrastructure, the Mongolian manufacturing sector faces the following main issues: (i) several unresolved structural problems stemming from a rapid transition from a socialist to a market economy (bungled privatization of state-owned firms leading many viable industries to bankruptcy and from which others have still to recover, breakdown in supply chains, inability of previously state-owned firms to identify new markets outside the former socialist block, and deteriorating quality of raw materials); (ii) changing international environment and, in particular, increasing competition from neighbouring China and Russia, in its home as well as third markets; (iii) low value production consisting mainly of unprocessed mining and agricultural commodities; (iv) inadequate government services and relatively inhospitable business environment; and (v) limited export markets and products. Certain sub-sectors, such as the carpet industry, also suffered from a lack of investment in modern and more flexible equipment due to the general sickness of the manufacturing sector during the 1990s. Together, they present serious challenges to rapid industrialization.

Trade sector. Mongolia's trade sector faces the following key constraints: (i) limited product diversification, and heavy reliance on commodity exports (copper, gold and cashmere), whose prices have fluctuated in the world market and have experienced long-term declines, leading to deteriorating terms of trade; (ii) limited market diversification of most Mongolian exports, with one country often purchasing close to 95 per cent of each of the main exports such as copper and garments; (iii) poor market positioning because the world demand for traditional Mongolian exports (mostly resource-based and labour-intensive, including its newest export, garments), has declined relative to other goods traded in the world market; (v) abolition of the Multifibre Agreement by the end of 2003 and of preferential access particularly to the USA, and the likely exodus of garment manufacturers out of Mongolia and into countries with lower transport costs and higher economies of scale; (vi) difficult access to the relatively lucrative markets of neighbouring Russia and China, due to high tariff barriers in the case of Russia, and non-tariff barriers in the case of China; (vii) Mongolia's weak position in fighting non-tariff barriers, due to the prevalence of animal diseases and poor hygienic and sanitation standards; and (viii) underdeveloped trade promotion services, from government agencies as well as from private institutions.

The above manufacturing and trade sector issues notwithstanding, the Mongolian manufacturing sector offers opportunities too. Though overall industrial production plummeted after the transition to a market economy throughout the 1990s, the manufacturing

sector recovered strongly in 2001 and 2002, led by the food, textile and garment sub-sectors. The wide range of livestock-based industries, which contributed to the recent recovery, offers good prospects for sustained manufacturing growth. Mongolia possesses ample excess capacity in most sub-sectors, which can be quickly revived with minimal investment in new equipment. It has ready access to the rapidly expanding economies of China, Korea and Southeast Asia, as well as the large Russian market. It also has relatively developed industrial skills and substantial previous experience in operating and managing a modern manufacturing sector. Labour costs are lower than in China, Indonesia and India, giving Mongolia a significant cost advantage. These factors can re-establish the manufacturing sector as a growth engine and provide productive employment.

Policy Recommendations

In order to rehabilitate the once thriving manufacturing sector of Mongolia and develop it further into a competitive, export-oriented sector, the government needs to take decisive steps to resolve the long-standing transition problems just noted, correct its over-valued currency, improve its business climate and government services, and establish effective trade promotion services. It also needs an overall strategy for the development of the manufacturing sector which requires a creative and innovative approach, and close public-private partnership. The strategy should focus on enhancing the productive and transaction efficiency of manufacturing firms, diversifying export products and markets, identifying new markets for niche products with a higher processing and value-added content than the commodities mainly exported now, investing in the necessary physical infrastructure, and upgrading the technical, managerial and marketing capacity of domestic firms. In sum, public policy should be geared to strengthening the competitive capabilities of firms.

Industrial development strategy. Mongolia does have an implicit manufacturing strategy, consisting of the following five main elements: (i) budgetary allocation to foster rapid manufacturing growth; (ii) investment in supporting physical infrastructure and agriculture; (iii) improvement of macroeconomic, business and legal environments; (iv) emphasis on private sector-led growth, export-oriented manufacturing production and foreign direct investment; and (v) prioritizing five key industries (copper processing, meat processing, leather products, cashmere products, and carpets and wool products). However, few people in the private sector and international and bilateral partner agencies are aware of this strategy. The Ministry of Industry and Trade should now prepare an explicit industrial development strategy taking the following into account: recognize that it is firms that compete in domestic and international markets, and that public policy should be geared to strengthening the competitive capabilities of firms; undertake comprehensive dialogue and discussions with the private sector on the elements of the strategy, solicit their views, aspirations and feedback, and jointly produce a revised and comprehensive strategy, include a shared long-term vision of where the manufacturing sector will be in say twenty years' time; recognize government's role in providing and improving physical infrastructure that the private sector cannot finance itself, particularly in rural areas, the most powerful way to promote rural industrialization; spell out the investments in upgrading the technical, managerial and marketing capacity of domestic firms, establish shared public-private mechanisms for implementing the agreed policies and investment programmes; prepare separate industrial strategies for four or five key industries; and widely disseminate the joint public-private overall and industry-level strategy documents.

Macroeconomic policies. The government's measures to control inflation, stabilize the exchange rate, revive the banking system and deepen the overall financial system have already improved the business environment, including lower interest rates and improved credit availability, and contributed to the revival of the manufacturing sector in 2000-02. While there is no need for a special industrial development bank or corporation in Mongolia, a number of measures may be necessary to strengthen manufacturing recovery. Private banking liquidity may have expanded too rapidly, judging from the rise in non-performing loans in 2002, calling for more discipline on the part of the commercial banks, and more vigilance on the part of the monetary and banking authorities to avoid another banking crisis. The practice of extending directed, subsidized credit to particular companies should be discontinued now that credit availability has improved, to ensure a level playing field for other companies and to safeguard the banking sector from incurring additional non-performing loans. Special credit facilities extended by the World Bank and KfW may be reassessed, since they may crowd out the private banking sector. The tugrik may have become overvalued in between 1999 and 2002, due to a relatively stable exchange rate and domestic higher inflation relative to its major trading partners, which may have contributed to widening the trade deficit, and the possible loss of competitiveness of domestic producers.

Business environment. The Mongolian business environment may also have improved in recent years, judging by the increasing number of foreign investors coming to the country, the establishment of many manufacturing establishments in the meat processing, other food, textile and garment industries, particularly in the second half of the 1990s and early 2000s, the enactment or amendment of numerous laws and regulations to better match the requirements of a market economy, the reduction in licensing requirements, the simplification of the tax system, and the generally positive findings of recent surveys of the private sector, where only tax issues, high interest rates and lack of long-term loans, and customs issues rated as significant or major obstacles by the majority of businesses out of a total of fourteen different issues. Nevertheless, much remains to be done to provide an optimal business environment, including lowering the tax burden for businesses, improving tax and customs administration, and streamlining licensing requirements and factory inspections.

Reforming the tax system. Many new taxes were introduced over time to meet rising government spending. So regaining discipline in government spending may be the long-term solution for reducing the tax burden on businesses. In the meantime, in deciding who and how to tax, the government has usually given preference to administrative convenience over effectiveness and efficiency. The direct and indirect impact of existing and new tax laws on the entities being taxed were not fully considered, nor their likely impact on other entities in the short, medium and long term.

The following measures are proposed to thoroughly reform the tax system to improve its fairness, its effectiveness and the overall business climate: reduce the high and rising overall tax rate (38 per cent of GDP in 2001 up from 27 in 1996), currently the highest of all transition economies, which is distortionary and a disincentive to business; replace the dual corporate income tax rate (40 and 15 per cent for larger and smaller companies), which is leading to numerous distortions and economic inefficiencies, with a flat 25 per cent or lower tax rate for all businesses (smaller establishments, employing 10-49 workers, account for less than a quarter of manufacturing employment and probably a smaller share of manufacturing value-added); replace the fixed tax rate on independent individuals not employed by formal sector companies or self-employed with a tax rate to diversify tax sources; consolidate the existing ten tax laws, which conflict with one and another, within the general tax law; revise

current tax assessment methods of the General Department of Taxation with those of international accounting standards; abolish the 20 per cent withholding tax on all financial inflows abroad, including foreign loans, which amounts to double taxation for foreign investors and restricts foreign investment; reassess tax exemptions to attract foreign investors, which may not be that effective according to UNCTAD, or if considered necessary, extend the same privileges to domestic investors to avoid discrimination and level the playing field; phase out stability agreements with large foreign investors, which give them unfair advantage over other firms; revise the legal power granted to the tax office to seize money from bank accounts of firms it suspects of tax evasion, by requiring it to obtain a court order.

Tax implementation. To elicit the cooperation of businesses and improve the overall business climate, the tax office should work with its entire staff to make the tax collection system more user-friendly and to improve its implementation through the following measures: alignment of forms used by the tax office for tax assessment with international accounting standards; incentive scheme for tax inspectors based on promotion, and not on immediate financial gains; training of tax inspectors in tax assessments methods, including attitudinal change towards businesspeople; production of unambiguous guidelines and manuals on tax rules and regulations; closer supervision of tax inspectors; deposit all tax laws and amendments in one central location and one official website, including English translations, within a week of enactment; consider the establishment of a tax tribunal to hear tax and customs disputes.

Improving customs administration. Several steps can be taken to improve the operations of the customs office, including the following: amending the customs law to reduce the arbitrary power of customs officials; train customs officials in goods classification (using the harmonized classification system) and valuation; introduce a binding time limit for customs clearance; instilling a more cooperative attitude on the part of customs officials; undertake a comprehensive review of many certificate requirements for exports, and eliminate those that have outlived their usefulness in today's free trade environment; tackle smuggling at the highest level to raise more revenues from legitimate sources such as customs taxes, and to lessen the tax burden on industrialists and other businesses; collaborate with the Chinese customs service and border officials.

Legal and regulatory environment. Several projects have begun to tackle legal reform to make the legal system more reliable. The following measures are proposed to improve the legal and regulatory environment: to avoid the frequent need to correct and amend laws and regulations already passed, which discourages investment and increases the cost of compliance, the government and parliament should proceed more thoroughly on new laws and amendments, by inviting public participation at an early stage, and by adopting a more open, participatory and transparent approach to legislation making; to reduce the cost of doing business, streamline licensing and permits (87 licenses are required to establish and operate a legitimate business), and only keep designed to safeguard public interest, such as those for public monopolies, minerals exploitation, pollution, and banking and insurance; to compensate local administrations for the loss of licensing revenues, the government should allocate adequate resources, otherwise some licenses will reappear; to avoid burdening businesses, factory inspections – which are numerous at present, and cover hygiene and sanitation, electrical, plumbing, production and technology standards, labour, health, environmental and fire safety – should be confined to those considered essential, and should be undertaken by professional factory inspectors, closely supervized by their superiors; and a government-wide effort to increase information dissemination and transparency, to resolve

many of the issues perceived as obstacles in the areas of taxes, licensing and inspections, customs and bureaucracy.

Opportunity-driven public-private consultation. The public-private sector dialogue should be driven by identifying specific opportunities for growth rather than focusing on general obstacles to it. In shifting the tone from obstacle to opportunity, the discussion should focus on practical micro-concerns, on implementation rather than restructuring and changing policies, to repositioning the commercial sector to produce higher value products, generate high wages and contribute to higher standards of living. The private sector should become actively involved in the process and share the responsibility for a strategy or plan for addressing particular business constraints. The *ad hoc* task force operating in the tourism sector, consisting of a mixed public-private sector body, offers a good example. The private sector must organize itself so that it can speak on different topics with one voice, through more effective industry associations. Private enterprises must take initiative and accept greater responsibility by offering realistic proposals for solving the problems they have articulated, while government agencies must be prepared to let others influence the policy agenda.

Privatization. The government is about to privatize several large manufacturing concerns including the profitable *Gobi* Cashmere Company. The government should pay particular attention to the strengths and weaknesses of such companies, and implement a tailor-made privatization scheme on a case-by-case basis. In general, the preferred privatization method for countries wishing to privatize has been the sale to strategic investors, who can bring finance, new investment, technology, external linkages and expertise on markets, raw materials and inputs, but other methods have been chosen in line with the country's objectives. In the case of *Gobi* for instance, a strategic foreign partner, with operational and extensive distribution and marketing channels for high-value cashmere garments in Europe and America, should be identified. Such a long-term partner can take advantage of Gobi's efficient production facilities and management, while transferring fashion, marketing and distribution knowledge to *Gobi* and hopefully sharing the high value-added associated with these activities.

The central lesson in voucher privatization scheme is that transfer of ownership rights alone is not sufficient to bring about efficiency. It has to be accompanied by outside ownership concentration, including by auction, a competitive environment, and clarity over what is privatized (e.g., assets *and* liabilities). The World Bank and UNIDO have both produced detailed guidelines for the privatization of industrial enterprises in Mongolia, dealing with the policy, competition, employment and other issues. The government should also tackle ownership and governance issues. Efficiency in state-owned enterprises could be improved from more outside board members, better external audits and more competition. Increased governance of privatized enterprises depends to a large extent on hardening their budget constraints, and more concentrated ownership. The latter required a better functioning stock market and a broader presence of non-banking financial institutions.

Livestock-based industries. The most promising export-oriented industries in Mongolia are those that process animal-based products, including meat, dairy, leather, wool, cashmere hair, camel hair, and animal hair of other animal including yak. Yet the livestock sector is in disarray, unable to control diseases such as foot and mouth and brucellosis, or worms, insects and other pests, which destroy the quality of hides and skins, wool and hair, and lacking in veterinary services, hygienic slaughterhouses, water wells and hay. Export markets for meat

and dairy products will remain or become even more uncompromising with respect to sanitation and hygiene standards. The government should therefore give its highest priority to rehabilitating the livestock sector. After the 1990 transition, the livestock cooperatives, which managed all livestock on behalf of the state, were disbanded, and their livestock distributed among the *soum* households, herders and non-herders alike. Because no system was put in place to manage their cooperatives' facilities, including veterinary services, slaughterhouse, milk collection centre, hay reserve and water wells, these facilities deteriorated rapidly and ceased to function in most cases. Many problems plaguing the livestock-based industries today originate from this hasty privatization, and have yet to be resolved adequately.

The main issues facing key livestock-based industries are discussed in section 4 of this study. The main recommendations are briefly noted here in turn for cashmere products, wool products, meat products, dairy products and leather products. As an overall strategy, the Mongolian cashmere industry cannot and should not compete with the Chinese on costs but on higher value, and should aim to gradually increase its share of the considerable value-added in own design, own label, and own marketing and distribution channels that high value cashmere products have to offer. The government can take a number of measures, including supporting the formation of a Fibre Promotion Board, assistance in international promotion and marketing, intensifying public research and development and encouraging private firms to do the same, improving the quality of raw cashmere, privatizing the *Gobi* Cashmere Company to create a level playing field for other companies, and formulating a public-private strategy and long-term vision.

The carpet and wool industry should work with the government to expand promotion services, to encourage investment in modern carpet-making equipment, increase design capabilities, increase research and development, encouraging herders to use appropriate marking materials, instituting a breed improvement programme, resolving the long-standing bad debt problem of carpet companies, formulating a strategic vision and agree on a long-term development programme for the industry.

The meat processing industry should work with the government to control the various diseases prevalent in Mongolian livestock, which precludes or severely curtails international trade in raw and processed meat, improve meat quality control, increase manufacturing value-added by increasing the level of processed meat, provide marketing assistance to identify and supply new markets, intensify government-to-government negotiations to open up new markets particularly Russia and China, improve livestock management to produce healthier animals, disseminate modern butchery techniques assist firms in investing in adequate and efficient storage and transport facilities, establish a long-term breeding programme, formulate a long-term strategic vision, jointly formulated by the public and private sector for the long-term development of the industry to utilize the country's large and rising livestock resources, and to secure funding for the long-term development of the industry

The dairy industry and the government should rehabilitate the once thriving Mongolian dairy industry and provide safe milk and dairy products by improve the quality of milk and of dairy products to meet existing Mongolian and international standards, rehabilitating the milk collection points and centres, appoint a professional management team to revive the Ulaanbaatar dairy plant in, encouraging private investment in combined intensive dairy farm-dairy plant operations, encouraging and supporting private sector investment in the production of milk, butter and other dairy products in rural areas, improve the cattle herds for

intensive farms near urban areas by reviving artificial insemination, formulating a joint public-private long-term strategy and vision to develop the dairy and dairy product industry.

The leather product industry and the government should rehabilitate this sector by increasing domestic manufacturing value-added, improving the quality of hides and skins, discouraging the damaging present custom of paying for hides and skins according to length, encouraging the banking sector to advance working capital on commercial basis to tanneries, replacing outdated equipment of large tanneries, expanding the current programme to improve the capacity of small and medium leather industries to produce export-quality products many, encouraging factories to treat their chemicals before discharging them, discouraging the untreated disposal of fragments of skins and offal, formulating a long-term public-private to turn the leather industry once again into a major foreign exchange earner and provider of employment.

Firm-level upgrading in technology, management and marketing. Competitiveness depends increasingly on technology development and its underlying knowledge, skills and organizational arrangements. The government has initiated two important projects to address the capacity building needs of the large-scale establishments of the socialist era, now privatized or partially privatized in one form of another, and the domestic small and medium-sized companies, which made their appearance after 1990 in the food and beverage sub-sector initially, but are now common in meat exports, leather product manufacturing, furniture making and other sub-sectors. These are especially important at the current stage of Mongolia's manufacturing development, and should be expanded, especially to serve those firms that have already recognized the need to change and develop their product technology and management. In addition, there are many other firms, the majority perhaps, that do not realize or recognize the need to change, or do not know where and what they might improve, as well as firms that do recognize the need for change, but are unclear about how to go about it. To further stimulate firm-based investment in technology among these firms, there is a need to promote the demand for technology. One way of achieving this is to require the public technology institutes to explicitly incorporate an outreach scheme, including enterprise counsellors or industrial advisors.

In addition to the pro-active role of technological institutes advocated above, collective action by industry associations, local government and chambers of commerce can often be effective in developing new markets and introducing new technologies. Industry associations in Mongolia, and are often not managed by industrialists, but by academics. In the new competitive environment, industry associations need to upgrade themselves, not just firms. The National Productivity and Development Centre can play a role in upgrading industry associations to provide useful marketing, price and technological services to their members.

Small and medium-scale enterprises. Larger establishments (200+ workers) provided 41 per cent of total manufacturing employment. Small-scale (10-49 workers) and medium-scale industries (50-199 workers) each accounted for 17-18 per cent of the total, while household industries (1-9 workers) accounted for 12 per cent of the total. The remaining 12 per cent were employed as undeclared workers in the above firms or in un-registered establishments. While the government and its international partners have emphasized SME development in recent years, the upgrading of larger establishments, which continue to account for nearly half of total manufacturing employment, should not be neglected. The more advanced larger establishments are in stronger position to assist the government in implementing its labour-intensive and export-oriented manufacturing strategy. They nevertheless will need help to

overcome the numerous technological and management obstacles in accessing international markets. When they do, they will also benefit the smaller firms through backward linkages. Ideally, the development strategy for SMEs is not to treat them in isolation, but to foster their integration with larger firms as suppliers of intermediate goods and services. In contrast, the household segment provides essentially survival employment, and will still need special policies to raise its productivity and income, including access to credit and training.

Trade policies and promotion. Apart from a handful of largest companies, most manufacturing enterprises have limited financial and human resources, especially in the area of export marketing skills. They also had very limited links to trading companies overseas. The 'best practices' in successful exporting countries indicate that a range of services are required to facilitate rapid export growth, and that these services cannot be provided by a single institution. Some services should be supported and delivered by government agencies in cooperation with the private sector. However, public sector officials are bureaucratic and rarely business-oriented, and lack understanding of what is required to enhance export competitiveness. Private trade support institutions should provide other services, however these are mostly young, inexperienced, and poorly funded and staffed.

Some capacity building technical assistance has been made available in the past, but it has been largely *ad hoc* and not part of any broader institutional or national strategy. Mongolia can benefit from a trade promotion directed programme, focused on a few carefully chosen sectors, functions and institutions. The ITC proposal to establish an effective trade promotion framework in Mongolia, based on the country's priorities in the trade sector, should be fully supported. This would involve a number of activities, including a public-private sector joint national export strategy, an autonomous export promotion council, a specialized public-private training institution for export management and related training, active foreign trade wings in Mongolian embassies abroad, a special window in central bank for export financing, export diversification programmes and activities, a database on export markets, a commodity board, and a reorientation of government institutions and commercial banks to act as facilitators rather than controllers.

Suggestions for further technical assistance. At least ten technical assistance projects are currently being implemented to improve the business environment, and to develop the industrial and trade sectors. These are valuable technical assistance initiatives, and should be continued and expanded. In addition to the above and to complement them, this study proposes twelve additional technical assistance proposals to further strengthen industrial and trade development policy in Mongolia, three to improve the business environment – tax reform task force, customs administration task force, and licensing and factory inspection task force – six to improve the long-term competitiveness of industrial firms – overall industrial long-term vision and strategy, industry-level long-term visions and strategies, strengthening selected industry associations, industrial technology outreach programme, restructuring of *Gobi* Cashmere Company, and improvement of industrial statistics –, and three to develop international trade and to promote exports (proposed by the WTO/UNCTAD International Trade Centre) – national export strategy, national export council and trade training institute. The design of all technical assistance projects should keep in mind that Mongolia's absorptive capacity remains limited in both government agencies and in private sector support institutions. Technical assistance should take this into account, and gradually build local absorptive capacity, focus on carefully selected sectors, functions and institutions and, above all, strengthen the working relationship between the government and the private sector, and among government ministries, departments and agencies themselves.

1 INTRODUCTION

Before the transition from a socialist to a market economy in 1990, the manufacturing sector generated a quarter of total GDP and modern sector employment. By 2000, it had shrunk to a third of its former size, contributing less than 7 per cent to GDP and employment. Its former high labour productivity was now equal to the average for the whole economy, due to under-utilized industrial capacity, and the emergence of a low productivity, household and small industrial segment. However, the manufacturing sector showed signs of recovery in 2001 and 2002, though it faced difficult trading conditions due to the global downturn and global competition. Nevertheless, the recent revival of the manufacturing sector provides hope that it can once again become the engine of growth, and contribute to higher standards of living for the entire population.

This study reviews past developments in manufacturing and trade for 1985-2002 period, as well as the major issues facing them, including barriers to export-oriented manufacturing. The main factors responsible for the demise of the once thriving manufacturing sector are identified, as well as the impact of the changing international environment and the current business environment. This is followed by a review of the various industrial and trade development policies adopted by the government, and an assessment of their implementation. Industrial policies are taken here in their broadest sense to include all policies which have an impact on the development of the manufacturing sector, including macroeconomic policies, policies designed to improve the business environment, trade policies, infrastructural policies, human resource development policies, as well as policies specifically designed for the manufacturing sector, including privatization, prioritizing selected industries, upgrading of the capacity of industrial firms, and the development of small and medium enterprises.

Mongolia offers a difficult business environment for manufacturing investment due to the country's land-locked geography, small population of 2.5 million, half of which is nomadic, low purchasing power, inadequate physical infrastructure, rugged terrain, and increasing competition from neighbouring China and Russia. These problems, beyond the country's immediate control, are compounded by several unresolved structural problems stemming from a rapid transition from a socialist to a market economy, mounting competition in its home as well as third markets, inefficient government services and somewhat inhospitable business environment. Together, they present formidable challenges to rapid industrialization. On the other hand, Mongolia has ready access to the rapidly expanding economies of China, Korea and Southeast Asia, as well as the large Russian market. It also has relatively developed industrial skills and, unusually for a developing country, substantial previous experience in operating and managing a modern manufacturing sector.

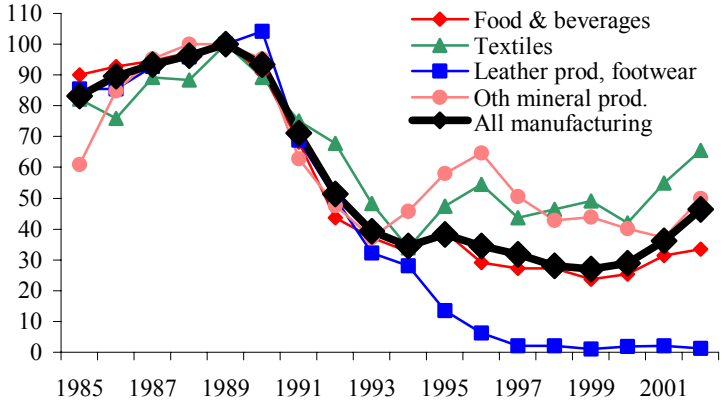
The Mongolian manufacturing sector can thrive once again provided the government takes decisive steps to resolve long-standing transition problems, improve its business climate and government services, prioritize livestock-based industries, and identify new niche markets for products which have a higher processing and value-added content than the commodities mainly exported now. The study proposes a strategy for the development of the manufacturing sector which requires a creative and innovative approach, relying on close public-private partnership to enhance the productive and transaction efficiency of manufacturing firms, to diversify export products and markets, to enter new market niches, to create a conducive business environment, to invest in the necessary physical infrastructure, and to upgrade the technical, managerial and marketing capacity of domestic firms. In sum, it proposes a public policy geared to strengthening the competitive capabilities of firms.

2 MANUFACTURING SECTOR DEVELOPMENT, 1985-2001

2.1 Overview of Manufacturing Sector

Before 1990, the manufacturing sector of Mongolia accounted for a quarter of GDP and modern sector employment. It was a more diverse sector than now, consisting mainly of one or two large-scale, state-owned modern enterprises in each sub-sector. It was also quite dynamic, growing by 4 per cent p.a. between 1985 and 1989. Following the transition from a socialist to a market economy, the situation of state-owned firms deteriorated rapidly. As a result, the overall index of industrial production dropped from 100 to 35 between in 1989 and 1994, and then further to 27 by 1999 (figure 2.1). All sub-sectors were affected, however the leather and footwear industries, the chemical, the non-metallic mineral products, and the fabricated metal industries suffered more severely. The textiles, garments and non-mineral products recovered temporarily in 1995-96, before declining again until 2000. Some sectors began to recover in 2000, including the food, garment and leather sub-sectors. These sectors were joined by all other sub-sectors in 2001, particularly textile, wood and furniture. The recovery was assisted by the new petroleum refinery industry in 2001. The overall index of industrial production rose from 27 in 1999 to 36 and 46 in 2001 and 2002.

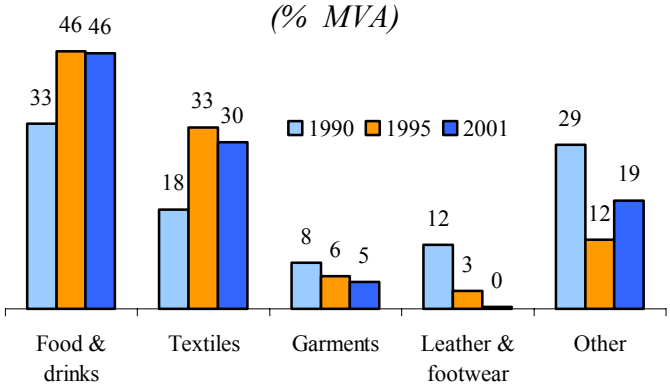
Figure 2.1. *Index of Industrial Production (1989 = 100)*



Source : International Yearbook of Industrial Statistics 1999 & 2002, UNIDO
Note : 2000-2002 based on industrial output growth at constant prices, NSO Yearbook & Bulletin of Statistics

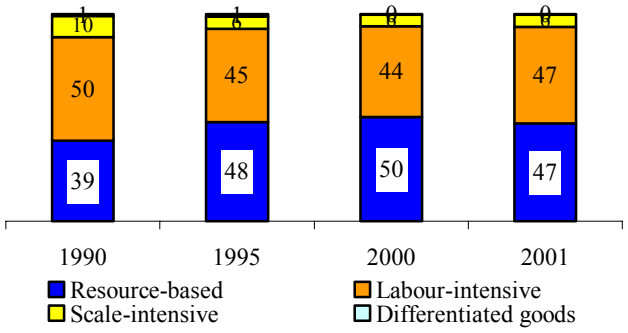
The differential growth rates of various sub-sectors led to profound structural changes within the manufacturing sector. Between 1990 and 2001, the share of the food and textile sub-sectors in total manufacturing value-added (MVA) increased (from 33 to 46 per cent and 18 to 30 per cent respectively, figure 2.2), while the share of the garment and the leather and footwear industries decreased (from 8 to 5 per cent, and 12 to almost nil respectively). This concentration in basic sub-sectors was mirrored by the decline of other sub-sectors (from 29 to 19 per cent).

Figure 2.2. *Structural Change in Manufacturing Sector 1990-2001 (% MVA)*



Source : UNIDO database for 1990 & NSO (special tabulations) for 1995 & 2001.

Figure 2.3. *Technological Composition of MVA, 1990-2001 (%)*



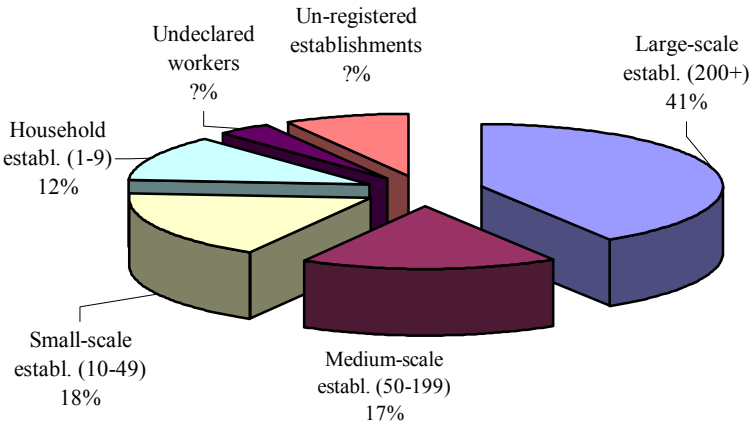
Source : Calculated from Value-added data in Unido Database for 1990, NSO for other years.

As the manufacturing sector shrank and became less diverse, it also became technologically somewhat less advanced. The share of resource-based industries (food and wood) and labour-intensive industries (textiles, garments, and furniture) increased from 89 to 94 per cent of total MVA between 1990 and 2001, while the share of scale-intensive (chemicals, non-metallic mineral products) and differentiated industries (machinery, electrical goods, precision equipment) nearly halved from 11 to 6 per cent (figure 2.3).

A key characteristic of the manufacturing sector, then and now, is the wide range of industries related to the livestock resources of the country. These included meat processing, dairy, leather tannery, leather footwear and products, fur garments, cashmere processing and garment manufacturing, camel hair processing and garment production, wool carpets and blankets, felt shoes and other felt products, though the production levels of most of these were only a fraction of their pre-transition levels, with the exception of the cashmere industry. Nevertheless, livestock-based materials formed the basis for almost all the textile industry, and a significant proportion of the food and garment industries. The potential for expanding livestock-based industries remains very high, taking into consideration the abundant livestock resources available, and the underdeveloped state of livestock-based industries.

Employment in the manufacturing sector declined from 25 to 7 per cent of total employment. This smaller share now included those employed in small-scale enterprises as well as household establishments, which emerged after the transition. Nevertheless, large-scale establishments, employing more than 200 workers each, continued to account for over 40 per cent of total manufacturing employment in 2001, followed by medium and small-scale establishments (respectively 17 and 18 per cent of the total, figure 2.4). A further 12 per cent were employed in household establishments employing less than 10 workers each. The remaining 12 per cent were employment in un-registered establishments and in registered establishments but which did not declare all their workers.

Figure 2.4. *Manufacturing Employment by Establishment Size 2001 (Total = 55,600 persons)*

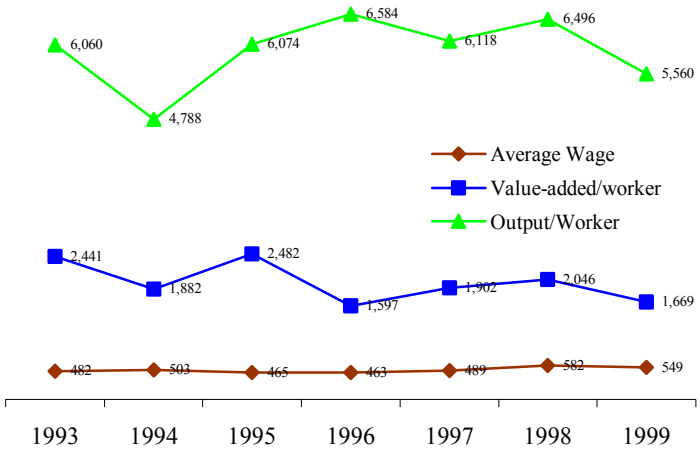


Source: Labour Force Survey and Establishment Database, NSO (see tables 2.3 and 2.5).

Labour productivity

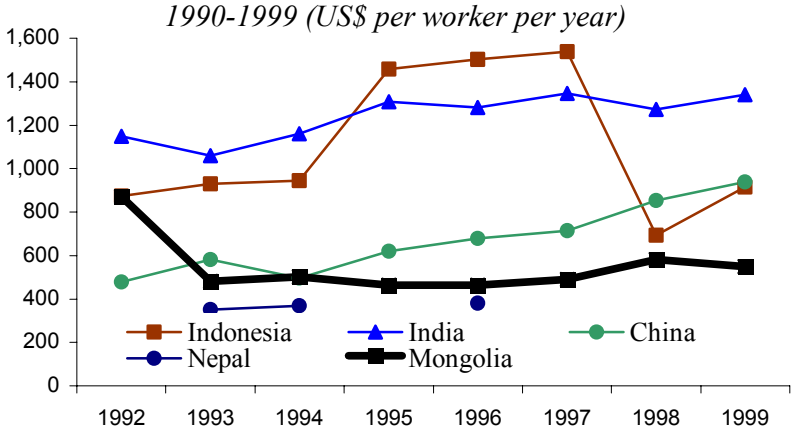
Labour productivity data can be calculated from the UNIDO *International Yearbook of Industrial Statistics*, but there are some important anomalies, such as lack of correspondence between value-added and gross output in textiles, and between wage rates in textiles and garments. Bearing this in mind, average labour productivity appears to have declined in the first half of the 1990s and stagnated in the second half (figure 2.5). Value-added per worker in US dollar terms declined by 40 per cent p.a. between 1992 and 1994 (statistical annex table A.5), before growing at less than one per cent per year between 1994 and 1998. Gross output per worker indicates a similar trend in general.

Figure 2.5. *Average Wages and Labour Productivity, 1993-1999 (US$/year)*



Source : International Yearbook of Industrial Statistics,various years, UNIDO.

Figure 2.6. *Labour Costs, Selected Countries, 1990-1999 (US$ per worker per year)*



Source : *International Yearbook of Industrial Statistics* , various years, UNIDO.
China: *ILO Yearbook of Employment Statistics*, various years (average earnings).

Labour costs (US dollars)

Average wage rates in US dollars also declined by 20 per cent per year in the first half of the 1990s, before increasing by about 2 per cent per year in the second half (figure 2.6). Labour productivity declined more rapidly than average wages, so unit labour costs, as measured by the wage bill over gross output, increased from 7 to 10 per cent between 1992 and 1994, and remained at more or less this level until 1999 (statistical annex table A.5).

The average wage rate in US dollars of Mongolian manufacturing workers was US$550 per year in 1999, and was relatively stable during most of the 1990s. This rate was comparable to that of Nepal, a similarly land-locked country, but only half that of China and Indonesia. Chinese wage rates were similar to those in Mongolia in 1994, but then rose rapidly in the second half of the 1990s. According to this data, Mongolia retained a significant labour cost advantage over China, Indonesia and India.

Summary

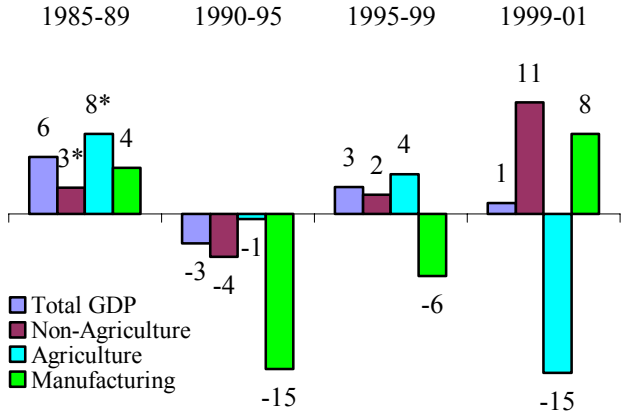
Though overall industrial production plummeted after the transition to a market economy throughout the 1990s, the manufacturing sector recovered strongly in 2001 and 2002, led by the food, textile and garment sub-sectors. The wide range of livestock-based industries, which contributed to the recent recovery, offers good prospects for sustained manufacturing growth. Mongolia possesses ample excess capacity in most sub-sectors, which can be quickly revived with minimal investment in new equipment in most cases. It also possesses previous experience in managing a modern sector manufacturing sector, and skilled industrial manpower. Labour costs are lower than in China, Indonesia and India, giving Mongolia a significant cost advantage. All these factors give hope that the manufacturing sector can once again become an engine of growth and provide productive employment. Having described overall trends and patterns in this sub-section, trends and structural changes in the manufacturing are discussed in more detail next.

2.2 Trends and Structural Change in Manufacturing Value-added

Overall manufacturing sector

In the last five years of the socialist period leading to 1990, GDP grew by nearly 6 per cent p.a. on average (figure 2.7). The manufacturing sector grew by 4 per cent p.a. during this period, while agriculture grew by 8 per cent in 1988-89. By 1990, the manufacturing sector accounted for almost a quarter of GDP (table 2.1). Following a very rapid transition to a market economy in the next five year period 1990-95, GDP declined by an average of 3 per cent p.a. Several sectors, including manufacturing, construction, transport and public administration, declined by 14-16 per cent p.a. in this period. Even agriculture declined by 1 per cent per annum.

Figure 2.7. *Average GDP Growth Rates, 1985-2001 (% p.a.)*



Source : Statistical Yearbook, various years, NSO.
Note: * 1988-89 only.

In the second half of the 1990s, overall GDP growth resumed to 3 per cent p.a. due mainly to the strong recovery of the agricultural sector of 4 per cent p.a., but also of mining, trade, transport and other services. However, the manufacturing sector continued to decline by some 6 per cent p.a. This sector only began to recover in 2001, when it grew by 20 per cent, after declining by 3 per cent per year during 1998-2000. Nevertheless its share in overall GDP and employment had declined to a mere 7 per cent by the turn of the century, one of the fastest de-industrialization on record. Overall GDP barely grew in this latest period due to an average decline of 15 per cent p.a. in agricultural GDP, due to massive loss of livestock during the 2000-01 *zud* – extreme winter of –40 degrees Celsius, snow and deep frost preceded by drought in some places, and affecting both livestock and crop production. Non-agricultural sectors in fact grew by an average of 11 per cent p.a. in this period and, in the absence of the *zud*, GDP growth would have reached 8 per cent per year.

Table 2.1. *Growth in GDP by Main Sectors, 1985 – 2001 (1985 Constant Prices)*

	Average annual growth rate (% p.a.)				Sectoral composition of GDP (%)			
	1985-89	1990-95	1995-99	1999-01	1985	1990	1995	2000
GDP value (million tugrik)					525.7	635.1	550.3	632.5
Total GDP	5.5	-2.8	2.6	1.1	100.0	100.0	100.0	100.0
Agriculture	7.7[a]	-0.5	3.8	-15.2		33.8	38.0	34.2
Non-Agriculture	2.5[a]	-4.1	1.8	10.7		66.2	62.0	65.8
Mining and Quarrying			3.9	8.3			12.0	13.4
Manufacturing	4.8	-14.9	-6.0	7.7	23.4	23.4	12.1	7.5
Electricity, gas & water			1.8	1.4			1.8	1.7
Construction	3.7[a]	-14.2	0.1	-2.0		3.1	1.7	1.3
Trade	3.4[a]	-7.2	2.9	16.5		21.4	17.0	21.4
Hotel and Restaurants			3.2	11.9			0.7	0.8
Transport, storage & comm.	-5.2[a]	-14.3	6.0	18.3		11.9	6.4	9.3
Financial intermediation			-0.5	25.4			1.2	1.1
Real estate, business services			1.0	10.1			0.6	0.6
Public admin. & defence	-1.2[a]	-16.3	1.8	3.5		6.4	3.0	3.0
Education			3.9	3.2			3.8	4.1
Health and social work			2.4	-1.1			2.6	2.5
Other services			2.5	26.6			0.1	0.2

Source: Yearbook of Statistics, National Statistical Office.
Note: [a] Growth rates for 1988-89 only. Blank: data not available.

The declining fortune of the manufacturing sector may be even more serious than indicated by GDP figures. The industrial production index shown in figure 2.1 suggests an annual decline of 16 and 8 per cent p.a. during 1990-95 and 1995-99. On the other hand, while manufacturing GDP posted a decline of 3 per cent in 2000, the industrial production index rose by 7 per cent in 2000, accelerating to 24 and 28 per cent p.a. in 2001 and 2002, respectively. The index of industrial production corresponds more closely to the manufacturing value-added data by sub-sectors, on the basis of an establishment survey compiled by National Statistical Office (NSO). This is discussed next.

Manufacturing value-added by sub-sectors

Long-term trends in value-added in manufacturing sub-sectors are difficult to assess because NSO has traditionally computed gross industrial output figures, and has only recently embarked on producing manufacturing value-added figures by sub-sectors. These are only available from 1995 onwards, however there are several discrepancies between gross industrial output and value-added figures, as well as in the sub-sectoral composition of value-added between current and constant prices (see statistical annex tables A.1 and A.2). Nevertheless the available data, from the UNIDO database for 1990-95 and from NSO thereafter, indicate that the overall decline in MVA of 23 per cent p.a. during 1990-95 was shared by most sub-sectors (table 2.2). The garment, leather and footwear, publishing and printing, fabricated metals and electrical goods industries were hit harder, and declined by 35 to 52 per cent p.a. Only the textile industry suffered less than average.

In the subsequent 1995-1999 period, MVA declined by an average of 7 per cent p.a., however the garment, leather and footwear, wood products industries fared much worse, while the electrical and radio and television industries, already quite small, were virtually wiped out. Only the furniture industry continued to grow in this period. Finally, starting in 2000, though the textile, wood and fabricated metal industries continued to decline, and therefore

producing in drop in overall MVA of some 3 per cent in 2000, the food, garment and leather industries began to recover. In the following year, most sub-sectors resumed growth, led by the food, textile and garment industries, but also by the wood and furniture industries, resulting in an overall growth of 32 per cent in MVA in 2001.

Table 2.2. *Manufacturing Value-added & Sub-sectoral Composition, 1995-2001 (1985 constant prices)*

		Annual average growth rate				Composition (%)				
		1990-95	1995-99	1999-00	2000-01	1990	1995	1999	2000	2001
	All manufacturing	-23.3	-7.4	-3.3	31.8	100.0	100.0	100.0	100.0	100.0
15	Food & beverages	-23.3	-8.5	8.6	22.3	33.1	46.1	43.9	49.3	45.7
17	Textiles	-3.6	-6.4	-14.7	31.1	17.8	32.5	33.9	29.9	29.8
18	Garments	-37.8	-19.8	15.5	60.9	8.2	5.8	3.3	3.9	4.8
19	Leather, footwear	-33.7	-55.2	77.7	11.8	11.5	3.2	0.2	0.3	0.3
20	Wood & products	-36.7	-22.7	-3.0	31.7	5.8	1.7	0.8	0.8	0.8
22	Publishing, printing	-39.8	-1.7	63.4		2.2	0.6	0.8	1.3	1.0
24	Chemicals	-24.2	-5.7	0.2	9.9	1.4	0.9	1.0	1.0	0.8
25	Rubber, plastic products						0.0	0.0	0.0	0.6
26	Other mineral products	-26.5	-10.5	-8.5	-7.4	6.5	5.6	4.9	4.6	3.2
27	Basic metals					0.2	-	1.2	-	1.0
28	Fabricated metals	-38.7		-30.3	-73.3	4.4	-	0.5	0.4	0.1
29	Machinery, equipment		-14.3	5.2			-	-	-	-
31	Electrical goods	-52.5	-75.5			0.9	0.1	-	-	-
32	Radio, television		-75.3				0.4	-	-	-
33	Precision equipment			8.9	6.6		0.2	0.1	0.1	0.1
34	Vehicles, trailers		-14.3			0.2	0.3	0.2	-	-
35	Other transport equipment		-14.3	-0.9	50.3		0.1	0.1	0.1	0.1
36	Furniture, other manuf.	-37.8	16.2	-0.6	64.6	7.9	3.6	9.0	9.3	11.6
	MVA (Million tugrik)						66.4	48.8	47.2	62.2

Source: UNIDO database for 1990-1995 growth rate (US dollars) and 1990 composition. National Statistical Office (special tabulations) for other years.
Note: Blank: data not unavailable. "-": less than 0.05 per cent.

The sub-sectoral composition of the manufacturing sector change rapidly in the earlier 1990-1995 period, when the share of the food and textile industries grew at the expense of all remaining sub-sectors, including garment, leather, wood, mineral products, fabricated metals and furniture. Since then, the composition has remained relatively stable, with the food sector remaining the largest sub-sector and accounting for 46 per cent of MVA in both 1995 and 2001. The textile sub-sector was the second largest, accounting for 30 per cent of the total, down slightly from 32 per cent in 1995. Garments and non-metallic mineral products were the next largest sub-sectors, with respectively 5 and 3 per cent of total MVA. The chemical, wood, publishing and printing, and basic metal industries each accounted for about 1 per cent of MVA, while all remaining sub-sectors (leather and footwear, rubber and plastics, fabricated metal, precision equipment, electrical goods, transport equipment) accounted for less than 0.05 per cent of total MVA each.

An interesting new development was the government policy to reduce imports of petroleum products. Its investments in oil-related geological and extraction activities resulted in increased oil extraction and exports of around 10 per cent between 2000 and 2001. A small

oil processing facility was commissioned with an annual capacity of 50,000 tons of oil condensate (MOFE 2002:23).

In sum, the sub-sectoral composition of the manufacturing sector became less diversified and simpler, and became dominated by resource-based and labour-intensive industries (food, textile, garment and furniture). With the demise of the machinery, electrical, electronic goods and transport equipment industries, it became technologically less advanced in the process.

2.3 Trends in Manufacturing Establishments and Employment

Overall trends

Before 1998, the National Statistical Office (NSO) compiled data on the manufacturing sector from administrative sources, including registration of establishments and employment in district and provincial centres. In 1998, NSO undertook a full economic census that revealed a large number of previously un-registered household industries and small-scale industries. The total number of registered manufacturing establishments was 392 in 1998, a figure that had remained relatively stable since 1996 (table 2.3). This was revised upwards to 2,139 following the census that enumerated a large number of household and small-scale establishments for the first time. Though value-added figures on the newly registered household and small-scale firms are not available, NSO believes that the original 400 establishments still account for 90 per cent of total value-added.

Table 2.3. *Manufacturing Establishments and Employment, 1995-2001*

	1995	1996	1997	1998	1999	2000	2001	Avg. annual growth	
								1995-99	2000-01
Manufacturing establishments									
Before economic census 1998 [a]		387	376	392				0.0	
After economic census 1998 [b]				2,139	2,267	2,466	2,751	6.0[c]	11.6
Employment (000)									
All sectors	767.6	791.8	788.3	792.6	813.6	809.0	832.3	1.5	1.2
Manufacturing				57.1	58.5	54.6	55.6	-4.6	1.8
Registered employment	67.3	44.8	35.8	42.6	43.3	46.9	48.9	-10.4	4.3
Un-registered employment				14.5	15.2	7.7	6.6		-1.3
Per cent distribution									
Total employment	100.0				100.0	100.0	100.0		
Manufacturing employment	8.8	5.6	4.5	7.2	7.2	6.7	6.7		
All manufacturing	100.0				100.0	100.0	100.0		
Registered as % manuf.	66.5				74.1	86.0	88.0		
Un-registered as % manuf.	33.5				25.9	14.0	12.0		

Source: *Statistical Yearbook*, various years (labour force chapter), NSO. National Statistical Office (special tabulations of manufacturing establishments database).

Note:

[a] Establishments submitting monthly reports to NSO (excluding household and many small-scale establishments).

[b] Including household and small-scale industries in NSO manufacturing data base. [c] Growth rate for 1989-99.

Blank: data not available.

As for employment, NSO labour force data indicate a drop in manufacturing employment from 67,300 to 54,600 between 1995and 2000, before rising by 1,000 in 2001. The share of manufacturing employment in total employment thus fell from 9 to 7 per cent in this period. In registered establishments, manufacturing employment, after declining between 1995and 1998, grew again by 5,300 between 1998 and 2001.

Employment in reporting establishments does not provide the full story. The labour force data collected by regional administration, and consolidated by NSO, put the manufacturing workforce at 55,600 persons in 2001. The 2000 Population Census also reported a very similar number. Reported employment in manufacturing establishments thus accounted for 88 per cent of the total manufacturing workforce in 2001, while the remaining 12 per cent remained unreported. The latter were probably employed in two types of employment. The first consisted of people employed in the registered establishments who did not declare all their workers, in order to avoid paying social security and other employment benefits. These can be classified as undeclared formal sector workers. The remaining workers were employed in informal or household enterprises not included in the NSO statistics. However, the respective proportion of these two types of employment is not known.

Establishments and employment by sub-sector (excluding household segment)

The number of manufacturing establishments, excluding the household segment, increased by 86 between 1998 and 2001 (table 2.4). The number of establishments increased by 36 in the food and beverage sub-sector, even though its employment declined, and by 22 each in the textile and garment sub-sectors. The number of establishments also increased in publishing and printing, chemicals and basic metal sub-sectors (9, 12 and 5 respectively), but declined in the wood product, other mineral product and machinery sub-sectors, as well as in the furniture and other manufacturing sub-category (14, 4, 2 and 7 respectively).

In terms of employment, the garment industry was the largest employer with 35 per cent of total employment in 2001. This was followed by the food and beverage and the textile industries, accounting for respectively 23 and 20 per cent of the total. Together, these three relatively labour-intensive sub-sectors accounted for 78 per cent of total employment. The wood product, other mineral product and publishing industries were next, with respectively 6, 3 and 2 per cent share of the total. The remaining sub-sectors together accounted for just 10 per cent of the total workforce.

While total employment increased between 1998 and 2001, many sub-sectors employed fewer people. Employment in the garment and textile industries grew by respectively 6,000 and 1,500, but fell in food and beverages and in wood products by about 1,000 each, and in other mineral products and machinery by about 500 each. Employment also fell in leather products and in furniture and other manufacturing by 200 and 100 respectively.

Table 2.4. *Registered Establishments and Employment, 1998 & 2001*
(Excluding household establishments)

		Establishments			Employment			% Distribution 2001	
	ISIC Version 3 Sub-sectors	1998	2001	Change	1998	2001	Change	Establish-ments	Employ-ment
15	Food & beverages	185	221	36	10,771	9,911	-860	35.0	23.4
16	Tobacco		1	1		52	52	0.2	0.1
17	Textiles	39	61	22	6,715	8,279	1,564	9.7	19.5
18	Garments	78	100	22	8,777	14,849	6,072	15.8	35.0
19	Leather, footwear	20	21	1	851	597	-254	3.3	1.4
20	Wood & products	81	67	-14	2,249	1,337	-912	10.6	3.2
21	Paper & products	2	4	2	42	64	22	0.6	0.2
22	Publishing, printing	29	38	9	895	1,055	160	6.0	2.5
23	Coal, petroleum refinery		1	1		25	25	0.2	0.1
24	Chemicals	12	24	12	660	888	228	3.8	2.1
25	Rubber, plastic prod								
26	Other mineral products	32	28	-4	3,222	2,723	-499	4.4	6.4
27	Basic metals	7	12	5	669	972	303	1.9	2.3
28	Fabricated metals	9	10	1	375	319	-56	1.6	0.8
29	Machinery, equipment	17	15	-2	815	380	-435	2.4	0.9
30	Office equipment								
31	Electrical goods	4	5	1	175	125	-50	0.8	0.3
32	Radio, television	1	2	1	20	36	16	0.3	0.1
33	Precision equipment	4	3	-1	146	195	49	0.5	0.5
34	Vehicles, trailers	1	1		40	40		0.2	0.1
35	Other transport equipment								
36	Furniture, other manuf.	23	16	-7	627	510	-117	2.5	1.2
37	Recycling	1	1		16	25	9	0.2	0.1
	Total	545	631	86	37,065	42,382	5,317	100.0	100.0

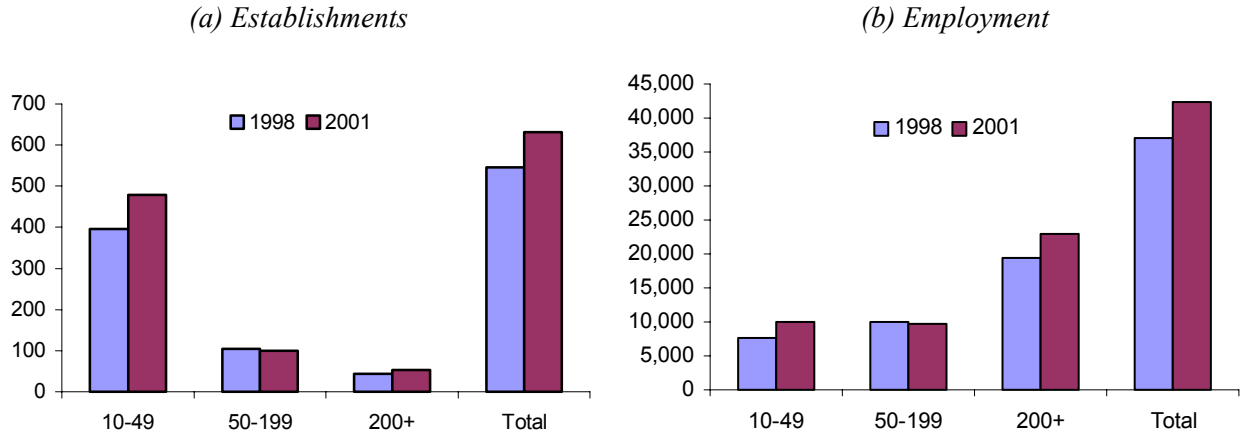
Source: same as table 2.3.

2.4 Household, Small and Medium-scale Industries

Overall size distribution

According to the database of registered establishments maintained by NSO since the 1998 census, the number of establishments, excluding the household segment, increased from 545 to 631 between 1998 and 2001 (figure 2.8 and table 2.5, left-hand side). Small-scale establishments (10-49 workers), employing 20 persons on average, accounted for most of this increase (95 per cent or by 82). The number of medium-scale establishments (50-199 workers), employing about 100 persons on average, declined by 5, while the number of large-scale establishments (200+ workers), employing 430 persons on average, increased by 9. Total employment in these establishments increased from 37,000 to 42,000. Small-scale and large-scale establishments increased their employment by respectively 2,200 and 3,500, while employment in medium-scale firms fell by 400 persons.

Figure 2.8. *Manufacturing Establishments and Employment by Size, 1998 & 2001 (Excluding Household Establishments)*



Source: same as table 2.3 (see table 2.5).

Table 2.5. *Manufacturing Establishments and Employment, 1998 & 2001 (Registered Establishments)*

	Excluding household segment				Including household segment				
Category	Small	Medium	Large	Total	Hhold	Small	Medium	Large	Total
Range (workers/estab.)	10-49	50-199	200+	10+	1-9	10-49	50-199	200+	
Establishments									
1998	396	105	44	545	1,594	396	105	44	2,139
2001	478	100	53	631	2,120	478	100	53	2,751
Employment									
1998	7,677	9,960	19,428	37,065	5,511	7,677	9,960	19,428	42,576
2001	9,896	9,580	22,906	42,382	6,570	9,896	9,580	22,906	48,952
Change 1998-2002									
Establishments	82	-5	9	86	526	82	-5	9	612
Employment	2,219	-380	3,478	5,317	1,059	2,219	-380	3,478	6,376
Per cent distribution									
Establishments									
1998	72.7	19.3	8.1	100.0	74.5	18.5	4.9	2.1	100.0
2001	75.8	15.8	8.4	100.0	77.1	17.4	3.6	1.9	100.0
Employment									
1998	23.3	22.6	54.0	100.0	13.4	20.2	19.6	46.8	100.0
2001	20.7	26.9	52.4	100.0	12.9	18.0	23.4	45.6	100.0
Change 1998-2002									
Establishments	95.3	-5.8	10.5	100.0	85.9	13.4	0.3	0.3	100.0
Employment	41.7	-7.1	65.4	100.0	16.6	34.8	3.4	45.2	100.0
Average size									
1998	19.4	94.9	441.5	68.0	3.5	19.4	94.9	441.5	19.9
2001	20.7	95.8	432.2	67.2	3.1	20.7	95.8	432.2	17.8

Source: National Statistical Office (special tabulations from registered establishments database)

Figure 2.9. *Size Distribution of Manufacturing Establishments, 2001 (%) Excluding Household Establishments*

Source : Same as table 2.3.

While large-scale establishments, employing more than 200 persons each, accounted for 8 per cent of total establishments, they employed 54 per cent of total manufacturing employment, excluding the household segment (figure 2.9). In contrast, small-scale firms (10-49 workers) accounted for 76 per cent of total establishments, but they employed just 23 per cent of total employment. Medium-scale firms (50-199 workers) accounted for 16 of the total, and employed 23 per cent of total employment in 2001.

In addition to small, medium and large-scale establishments, the number of household establishments (1-9 workers), employing three persons on average, increased from about 1,600 to 2,100 in the same period (table 2.5, right-hand side). However, the latter employed just 6,500 persons, or one sixth of the total manufacturing workforce of nearly 50,000 in 2001, including the household segment.

Size distribution by sub-sectors

The overall size distribution discussed above generally held for most sub-sectors, with larger firms employing 100-500 workers each accounting for the most workers (table 2.6). The largest establishments, employing 500-1000 and 1000 and above workers, were all textile and garment plants, with the exception of one non-mineral product plant.

Summary

In sum, excluding household industries, larger establishments (200+ workers) accounted for more than half of total manufacturing employment and a much higher share of total manufacturing value-added in 2001. Small-scale (10-49 workers) and medium-scale industries (50-199) each accounted for 23 per cent of total manufacturing employment. While the government and its international partners have emphasized SME development in recent years, the upgrading of larger establishments should not be neglected. The more advanced larger establishments are in stronger position to assist the government in implementing its labour-intensive and export-oriented manufacturing strategy. They nevertheless will need help to overcome the numerous technological and management obstacles in accessing international markets. When they do, they will also benefit the smaller firms through backward linkages. Ideally, the development strategy for SMEs is not to treat them in isolation, but to foster their integration with larger firms as suppliers of intermediate goods and services. In contrast, the household segment provides essentially survival employment, and will still need special policies to raise its productivity and income, including access to credit and training.

Table 2.6. *Size Distribution of Manufacturing Establishments and Employment, 2001*

	ISIC Version 3 Sub-sectors	Establishments							Employment						
		10-49	50-99	100-199	200-499	500-999	1000+	Total	10-49	50-99	100-199	200-499	500-999	1000+	Total
	Value	478	66	34	40	10	3	631	9,896	4,468	5,112	12,231	6,163	4,512	42,382
	Per cent distribution	23	43	12	18	2	1	100	1	12	10	52	12	12	100
15	Food & beverages	85	7	4	4	1		100	38	10	11	24	16		100
16	Tobacco		100					100		100					100
17	Textiles	52	25	7	11	2	3	100	10	12	8	24	6	40	100
18	Garments	47	11	16	20	5	1	100	7	5	16	42	22	8	100
19	Leather, footwear	90	5	5				100	65	16	18				100
20	Wood & products	97	3					100	88	12					100
21	Paper and products	100						100	100						100
22	Publishing, printing	84	16					100	65	35					100
23	Coal, petrol refinery	100						100	100						100
24	Chemicals	88	8		4			100	48	15		37			100
25	Rubber, plastic products														
26	Mineral products	61	18	11	7	4		100	14	14	20	23	29		100
27	Basic metals	67	17		17			100	18	13		69			100
28	Fabricated metals	80	20					100	65	35					100
29	Machinery, equipment	93		7				100	72		28				100
31	Electrical goods	100						100	100						100
32	Radio, television	100						100	100						100
33	Precision equipment	33	33	33				100	13	30	57				100
34	Vehicles, trailers	100						100	100						100
35	Other transport equip.														
36	Furniture, other manuf.	81	19					100	57	43					100
37		100						100	100						100
	Total	76	10	5	6	2	0	100	23	11	12	29	15	11	100

Source: Same as table 2.3.

2.5 Major Issues in Manufacturing Sector Development

In addition to the already noted physical factors such as the country's land-locked geography and rugged terrain, and economic factors such as its sparse population, limited purchasing power and inadequate physical infrastructure, the Mongolian manufacturing sector faces the following main issues: (i) several unresolved structural problems stemming from a rapid transition from a socialist to a market economy, (ii) changing international environment and, in particular, increasing competition from neighbouring China and Russia, in its home as well as third markets, (iii) low value manufacturing operations consisting mainly of primary processing of mining, agricultural and livestock commodities, and (iv) inadequate government services and relatively inhospitable business environment. Certain sub-sectors, such as the carpet industry, also now suffer from a prolonged lack of investment in modern and more flexible equipment due to the general sickness of the manufacturing sector during the 1990s. Together, they present formidable challenges to rapid industrialization, as discussed in turn below.

Unresolved transition problems

Before the transition in 1990, the manufacturing sector was relatively large and organized, and generated substantial modern sector employment. The main factors in the demise of this once relatively advanced manufacturing sector include the following; (i) bungled privatization of state-owned firms, leading many viable industries to bankruptcy: (ii) breakdown in supply chains, particularly in the procurement of raw materials from the

livestock and agricultural sectors; (iii) inability of previously state-owned firms to identify new markets following the collapse of the once thriving markets of the socialist block for Mongolian products such as leather boots and jackets or, in the case of meat, virtually closure of the Russian market through high tariff barriers; (iv) deteriorating quality of raw materials, particularly hides and skins, cashmere and wool, following the collapse of quality control systems; and (v) resurgence of animal diseases, previously under control from a relatively extensive and effective network of veterinary services.

In order to rehabilitate the once thriving manufacturing sector of Mongolia, it is worth noting its major features during the socialist period pre-1990, which included the following:

1. It was based on comparative advantage, processing natural resources in ample and cheap supply, such as meat, milk, leather, wool, cashmere and wood.
2. It was integrated in the rest of the economy with deep backward and forward linkages, and with an agricultural sector which not only provided raw materials but also the main wage goods, wheat, meat, dairy and potatoes, in which the country was self-sufficient. Except for meat, Mongolia is now a substantial importer of all these essential food items.
3. It had developed an effective system for the timely procurement of mainly seasonal raw materials through a supply chain management system involving the livestock cooperatives, the district and provincial administrations, the manufacturing plants and central planning agency.
4. It was supported by a network of veterinary services to keep diseases under control and to maintain the quality of raw materials.
5. It fully exploited economies of scale by building one or two large plants only in each sub-sector, taking into account the small population of Mongolia of 2.5 million.
6. The manufacturing plants were vertically and horizontally integrated, products from one large plant such as the meat processing factory feeding into other plants such as sausage and salami making within the premises, or to tanneries and thence to boot and leather product factories located in other premises.
7. It was export-oriented and well connected to its export markets through railway lines connecting Mongolia to Russia.
8. It was supported by research and technical institutes in almost all products of importance, e.g., textiles, meat, dairy and leather, which moreover cooperated closely with manufacturing plants.
9. It was supported by a government that invested substantially and continuously in high quality human resources at general secondary, vocational and tertiary levels.
10. It had sizeable basic metal, fabricated metal, machinery and transport equipment sub-sectors, which have all but disappeared now; in other words, the manufacturing sector was technologically more advanced than now.
11. The manufacturing sector was large and dynamic, and was the engine of growth to the rest of the economy due to its higher productivity than the average for the economy.

It would be difficult for the manufacturing sector to fully recover without first rehabilitating the agricultural and livestock sector, particularly veterinary and animal breeding services, raw materials quality control, grading and sorting services, and raw materials procurement systems. Action will also be needed to revamp and upgrade the management of privatized state-owned companies, as well as more careful privatization of the remaining manufacturing companies scheduled to be privatized. The specific challenges and opportunities facing key livestock-based industries are taken up again in section 4 below.

Trade liberalization

In addition to the above, as yet not resolved, serious problems generated by the collapse of the socialist system and the hasty transition to a market economy, the Mongolian manufacturing sector faces emerging problems related to trade liberalization and globalization. The most pressing of these include: (i) the relatively open trade regime and competition in the domestic market from cheaper Russian, Korean and particularly Chinese manufactured imports ranging from food and drinks, to garments and furniture; and (ii) competition in third markets for Mongolian manufactured products such as cashmere and other textile garments with the impending abolition of the Multifibre Agreement. Trade issues are discussed in more detail in the section 3 below.

Low-value manufacturing production

Mongolia exports mainly unprocessed commodities that generate little value-added in the country. Copper ore and concentrate alone accounted for 60 per cent of total exports, followed by gold, cashmere and garments. Exports generated around $500 million of gross revenues per year in 2000. For comparison, per capita exports were ten times higher than in Nepal, another land-lacked country, with similar export revenues of $600 million per year, but for a population of 24 million people compared to Mongolia's 2.5 million inhabitants. However, Nepal's per capita GDP was similar to Mongolia's at around $300-400 per year. Apparently the population benefited little from the substantial per capita value of exports.

Mongolian exports, including mining and livestock-based products, were basically enclave commodities, producing relatively little domestic value-added due to limited backward and forward linkages with the rest of the economy, limited processing, and perhaps also due to high levels of imported equipment and repatriated profits. Overall, they had limited impact on domestic living standards. The challenge for Mongolia is therefore to promote further processing of mineral and livestock raw materials and commodities into higher value manufactured products, to identify new market niches for its products, and to develop marketing and distribution channels for them to reap the relatively higher value-added content of these activities.

Business and macroeconomic environment

Foreign and domestic investors cannot operate optimally because they are hampered by poor and obstructive government services, including a high tax regime which constitute a significant disincentive to business, coupled by inflexible and uncooperative tax administration, an inflexible and inefficient customs administration, delays in obtaining the required licenses, which are still too numerous, and generally poor implementation and enforcement of existing policies, rules and regulations. In addition to the above, lending rates are remain high at 30 per cent per annum and loans are mainly granted on short-term, though they have declined due to more competition in the banking system, and selected reputable businesses can now raise funds at lower rates of around 20 per cent and over the medium-term. The capital market, an alternative source or raising funds, is still under-developed.

There are also indications that the tugrik may have become over-valued in the past three years, making imports relatively cheaper, and potentially able to displace local manufacturers from the growing domestic market for food and consumer goods. The existing public-private

consultation mechanisms are not yet effective, and need to be directed at problem solving as well as exploiting new business opportunities. The government has relatively more control over issues related to business and macroeconomic environment, and can resolve them if there is political will. The business environment and the government's macroeconomic policies and their implementation are discussed in greater detail in section 5 below. The next section addresses foreign trade, trade balance and trade development issues.

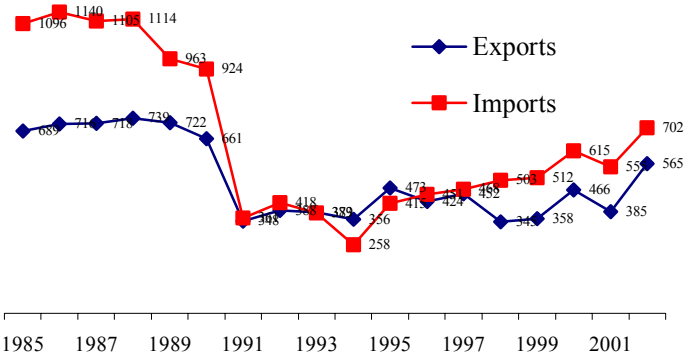
3 FOREIGN TRADE DEVELOPMENT, 1985-2002

3.1 Trade Balance and Terms of Trade

Trade balance

Essentially a commodity exporter, Mongolia experienced sharp fluctuations in its trade balance in the 1990s, due to fluctuating world prices of copper and cashmere. In the five years of relatively fixed prices before the transition, exports increased from around US$ 700 to 722 million, while imports declined from $1,100 to about 900 million, resulting in a narrowing of the trade deficit from $400 to $280 million by 1989 (figure 3.1). By 1991, exports halved to $350 million, and imports were forced at the same level, resulting in balanced trade in that year. In the next six years, exports and imports both grew at about 4 per cent p.a., maintaining balanced trade. In 1998, a sharp decline in the price of copper reduced export revenues from $492 to 350 million in the next two years, while imports continued to grow at their previous rate. Though copper prices recovered, the trade deficit had grown to $150 million by 2000.

Fig. 3.1. *Merchandize Exports and Imports, 1985-2002 (US$ million)*



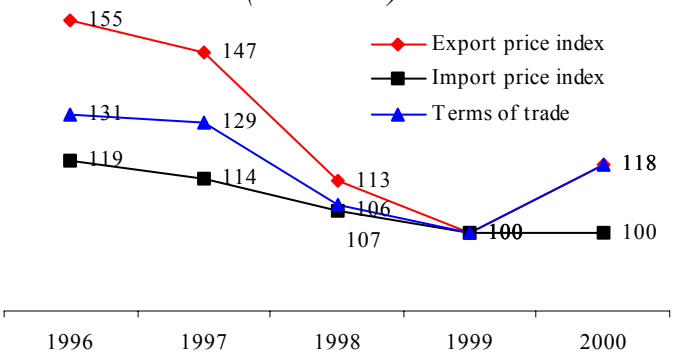
Source: Statistical Yearbook, NSO (customs data). *Note*: * Nov. 2002

In 2001, the international price of copper declined again, despite a 6 per cent increase in the volume of copper exports, while cashmere export volumes rather than price declined. Textile exports declined due to weakening demand in the USA, and meat exports were hurt by an outbreak of foot and mouth disease. These factors contributed to reduce export earnings from $466 to $385 million, resulting in a trade deficit of $170 million, an increase of 14 per cent against 2000, in part exacerbated by increased imports of petroleum products and construction materials. However, imports of food, industrial equipment for the mining sector, and some consumer goods declined. In 2002, both exports and imports rebounded again.

Terms of trade

The terms of trade for Mongolia deteriorated consistently from an index of 131 to 100 between 1996 and 1999 (figure 3.2). While the import price index declined from 119 to 100, the export price index lost more than 50 per cent of its value, from 155 to 100, due mainly to the lower price of copper ($2,500 to 1,500) and gold ($350 to 255) between 1997 and 1999 (BoM, 2002:17). The export price index

Figure 3.2. *Terms of Trade, 1996-2000 (1999=100)*



Source: Annual Report 2001, Bank of Mongolia (box 3, p.35)

recovered momentarily in 2000, following the temporary recovery of copper prices to $2,000, only to fall again in 2001 as noted above. The overwhelming dependence on commodity trade of Mongolia suggests the need to pursue a vigorous export diversification strategy, and expanded processing of agricultural and mining commodities to lessen the impact of commodity price fluctuations.

3.2 Growth, Technological Composition & Market Positioning of Exports

Export growth and composition, 1995-2001

Due mainly to the fluctuating world prices of copper and gold, which accounted for 65 per cent of total exports, the value of Mongolian exports declined by 7 per cent per year between 1995 and 1999, picked up by 30 per cent during in 2000, only to fall again by 17 per cent during 2001 (table 3.1). The world price of raw cashmere, the next most important export product, also fluctuated, and declined significantly after 2000. Export revenues of $555 million in 2001 were still 25 per cent lower than the $740 million generated before the transition in 1989. As a result, the composition of exports in terms of value changed substantially, with the share of mining products declining from 50 to 44 per cent of total exports between 1992 and 2001, while the share of manufactured products increased from 40 to 50 per cent of the total. Agricultural products accounted for the remaining 6 per cent of the total in 2001, down from 10 per cent in 1992.

Table 3.1. *Growth and Composition of Exports, 1995 – 2001 (million US$)*

		Annual growth rate (% p.a.)			Composition (%)				
		1995-99	1999-00	2000-01	1992	1995	1999	2000	2001
	Total exports	-6.7	30.1	-17.4	100.0	100.0	100.0	100.0	100.0
	Agricultural products	9.6	6.6	-5.8	9.9	3.2	6.1	5.0	5.7
	Live animals & products	20.4	6.6	-9.1	5.7	2.2	6.1	5.0	5.5
	Vegetable origin products				4.2	1.0			0.2
	Mineral products	-17.0	28.5	-9.8	50.2	65.5	41.0	40.5	44.2
	Manufactured products	6.4	34.0	-24.0	39.9	31.3	52.9	54.5	50.1
15	Food & beverages	1.5	-62.8	-58.7	1.3	0.5	0.7	0.2	0.1
17/8	Textiles, garments	12.0	51.3	-28.2	21.4	17.1	35.5	41.3	35.9
19	Leather, footwear	6.2	40.9	-1.0	8.9	5.0	8.4	9.1	10.9
20	Wood & products	3.2	-82.7		3.4	1.0	1.5	0.2	
24	Chemicals	-29.1			0.7	0.3	0.1		0.8
25	Rubber, plastic products				0.1			0.3	
26	Other mineral products				0.4	0.1		0.3	
27	Basic metals	-16.6	-26.5	-23.7	3.1	3.6	2.3	1.3	1.2
28	Fabricated metals								
29	Machinery, elect. goods	48.0	-79.5	10.2	0.1	0.3	1.9	0.3	0.4
33	Precision equipment	-6.7	30.1			0.1	0.1	0.1	
35	Transport equipment, parts	-27.9	-87.0	230.6	0.2	2.8	1.0	0.1	0.4
36	Furniture, other manuf.	-6.7				0.5	0.5		0.2
	Jewellery, precious metal		87.9	-87.3	0.2		0.9	1.3	0.2
	Export value (million US$)				388.4	473.3	358.3	466.1	385.2

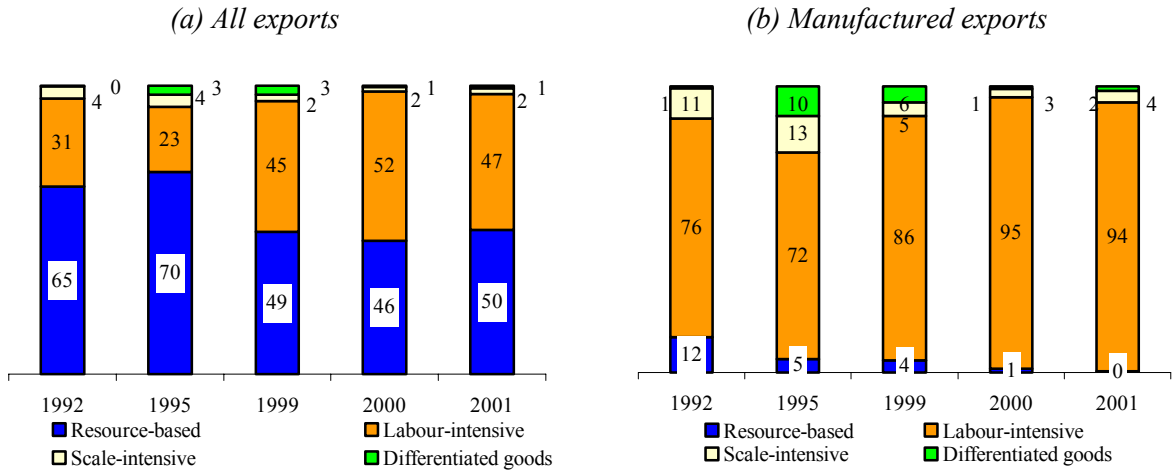
Source: Statistical Yearbook 2002, NSO (based on customs data). See statistical annex table A.6.

Within manufactured exports, textile and garments was the only category to significantly raise its share from 21 to 36 per cent between 1992 and 2001. The share of leather products, chemicals, machinery and other mineral products, while fluctuating, remained essentially unchanged, while the share of wood products and basic metals declined from around 3 to 1 per cent of the total during the same period.

Technological composition of exports

Resource-based and labour-intensive exports dominated Mongolian exports, with respectively 50 and 47 per cent share of total exports in 2001 (figure 3.3a and table 3.2). Medium and high technology exports accounted for the remaining 3 per cent of the total, consisting respectively of 2 and 1 per cent of scale-intensive and differentiated exports. Within manufactured exports, labour-intensive products accounted for 94 of the total, while scale-intensive exports accounted for the remaining 4 per cent (figure 3.3b). The share of resource-based products and differentiated goods in manufactured exports was negligible in 2001, though they were significant in the first half of the 1990s. Thus, in terms of value, Mongolian manufactured exports have become less resource-based and more labour-intensive, while less technology-intensive, in the 1990s.

Figure 3.3. *Technological Level of Exports 1992 – 2001 (% of total)*



Source: *Statistical Yearbook,* various years, NSO (see table 3.2).

Table 3.2. *Technological Level of Exports, 1992 – 2001 (% of total)*

	All exports					Manufactured exports				
	1992	1995	1999	2000	2001	1992	1995	1999	2000	2001
All exports	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Resource-based	65.0	70.2	49.3	46.2	50.0	12.3	4.8	4.2	1.3	0.2
Labour-intensive	30.5	22.6	45.3	51.7	47.2	76.4	72.2	85.6	94.9	94.2
Scale-intensive	4.2	4.0	2.4	1.6	2.0	10.5	12.8	4.5	2.9	4.0
Differentiated goods	0.3	3.2	3.0	0.5	0.8	0.8	10.2	5.7	0.9	1.6

Source: *Statistical Yearbook 2002* (table 4.7), NSO (based on customs data).

As noted above, the composition of total exports shifted towards more labour-intensive products like textile and garments in the 1990s, and away from more technologically advanced products such as basic metals, machinery and transport equipment. There was also a move away from resource-based products such as copper and gold, at least in terms of value. In manufactured exports, the share of resource-based exports declined from 12 to zero per cent in the 1990s, while the share of labour-intensive products increased from 76 to 94 per cent. The share of scale intensive products, such as basic metals, declined from 11to 4 per cent. Finally the share of differentiated goods, including transport equipment, spare parts and electrical goods, increased in the first half of the 1990s, and then declined from 10 to 2 per cent in the second half.

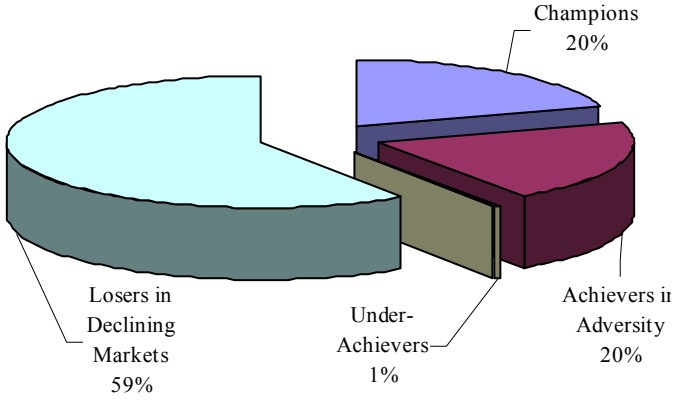
Export market positioning

According to data collected by the WTO/UNCTAD International Trade Centre, compiled on the basis of imports of other countries (mirror exports), Mongolian exports amounted to $445 million in 2000. They grew by 3 per cent per year according to NSO data, compared with 4 per cent for total world trade in the period 1996-2000. Despite its unfavourable market positioning as discussed below, Mongolia's exports accounted for less than 0.1 per cent of world trade. Even its largest export product, copper ore and concentrate, accounted for less than 3 per cent of world trade, while its second largest product, knitted pullovers and jerseys, accounted for just 0.2 per cent of the world market. Its third largest export product, un-carded cashmere hair, accounted for 6.2 per cent of the world market. So Mongolia has the potential significantly expand its exports and share in world trade.

Mongolian exports were not well positioned in the world market because they consisted mostly of products that were relatively less in demand in the world market between 1996 and 2000. Around 60 percent of Mongolia's export earnings belonged to the 'losers in declining markets' category, losing world market share in products for which world demand stagnated or declined relative to average, including copper ores and concentrates, fine animal hair (carded and non-carded), feldspar and fluorspar, and men's overcoats and jackets (figure 3.4 and table 3.3). Only 20 per cent of export revenues came from products considered 'champions', i.e., products which gained world market share and for which world trade itself grew by more than average, including knitted pullovers and cardigans, and women's suits, dresses and trousers.

Around 20 per cent of export revenues came from product categories which gained world market share, but for which the world demand stagnated or increased less than on average, the so-called 'achievers in adversity' which included men's suits, jackets and trousers, men's shirts and frozen meat. Finally, less than one per cent of exports were 'under-achievers', losing world market shares in expanding products.

Fig. 3.4. *Market Posistioning of Exports, 1996-2000 (% of total)*



Source: Trade Map, UNCTAD/WTO International Trade Centre (www.intracen.org). See table 2.6.

Table 3.3. *Market Positioning of Mongolian Exports, 1996 – 2000*

	H. System Rev. 0.		US$ million 2000	Export Share (%)	Trend 96-00 (% p.a.) Mongolia	World	World Market Share (%)	Leading Markets 1st (%)	2nd (%)
		All goods (mirror statistics)	433	100.0	14	4	0.0		
		Champions	87	20.1					
20	2709	Petroleum oils	2			7	0	Chn (100)	
11	6002	Knitted or crocheted fabric n.e.s.	7			5	0.1	Chn (100)	
5	6204	Women's suits, trousers, dresses, skirts	17		221	4	0.1	USA (98)	Chn (1)
22	6109	T-shirts, singlets of cotton	2		108	10	0.0	USA (79)	Fra (18)
2	6110	Pullovers, cardigans, jerseys, knitted	51		55	8	0.2	USA (76)	Chn (7)
34	6114	Garments knitted/crocheted, n.e.s.	1			8	0.1	USA (98)	Chn (2)
30	6117	Clothing accessories, knitted	1		74	14	0.1	Chn (91)	Jpn (4)
13	6210	Garments made of fabric of hdg 56	5		21	9	0.2	Nld (65)	Deu (21)
36	7112	Waste, scrap of precious metal	1			10	0.0	Hkg (100)	
		Achievers in adversity	88	20.3					
7	0202	Meat of bovine animals, frozen	14		33	1	0.3	Rus (98)	Kaz (2)
35	0204	Meat of sheep or goats, fresh, frozen.	1		101	-3	0.0	Rus (55)	Jor (34)
18	0504	Guts, bladder, stomachs of animals	2		7	-2	0.1	Tur (50)	Deu (24)
38	1005	Maize	1			-9	0.0	Sgp (100)	
8	4101	Raw hides and skins, bovine	11		36	-4	0.3	Chn (100)	
15	4102	Raw hides and skins, sheep & lamb	3		-3	-21	0.3	Chn (100)	
17	6103	Men's suits, jackets, trousers, knitted	3		107	4	0.1	USA (91)	Chn (6)
24	6104	Women's suits, dresses, skirts, shorts	1		122	1	0.0	USA (60)	Jpn (20)
14	6105	Men's shirts, knitted or crocheted	3		50	-2	0.1	USA (100)	
37	6106	Women's blouses, shirts, knitted	1		55	4	0.0	USA (95)	Ita (2)
23	6211	Track suits, ski suits and swimwear	1		23	-2	0.0	USA (98)	Jpn (2)
4	6203	Men's suits, jackets, trousers, shorts	36		121	3	0.2	USA (90)	Chn (6)
9	6205	Men's shirts	10		33	0	0.1	USA (99)	Fra (1)
25	6206	Women's blouses, cotton, not knitted	1			-1	0.0	USA (100)	
		Under-achievers	2	0.5					
26	7602	Aluminium waste, scrap	1		-14	7	0.0	Chn (100)	
39	9999	Special transaction trade	1		-7	8	0.0	USA (50)	Jpn (33)
		Losers in declining markets	256	59.1					
32	0507	Ivory, whalebone, un-worked, simple	1		-28	-10	1.3	Koru (100)	
6	2529	Feldspar, fluorspar	16		-10	0	3.3	Rus (100)	
1	2603	Copper ores & concentrates	169		-1	1	2.8	Chn (95)	Rus (5)
12	2613	Molybdenum ores and concentrates	6		-17	-11	1.2	Chn (100)	
28	4105	Raw hides and skins n.e.s.	1		-15	-6		Chn (100)	
21	5101	Wool not carded or combed	2		-19	-12	0.1	GBR (41)	Chn (31)
3	5102	Fine or coarse animal hair, not carded	43		-8	0	6.2	Ita (44)	GBR (28)
16	5105	Fine, coarse animal hair, carded/ combed	3		-19	-8	0.2	Chn (46)	GBR (17)
10	6201	Men's overcoats, capes, wind jackets	9		-11	-3	0.2	USA (93)	Nld (4)
19	6202	Women's overcoats, capes, wind jackets	2		-22	-2	0.0	USA (93)	Nld (4)
29	7204	Ferrous waste, scrap	1		-43	-1	0.0	Chn (100)	
27	7207	Semi-finished products of iron,	1		-20	-1	0.0	Chn (100)	
33	7403	Refined copper, copper alloys	1			-1	0.0	Jpn (88)	Kor (22)
31	8477	Machinery	1			-2		USA (100)	

Source: Trade Map, International Trade Centre, UNCTAD/WTO (www.intracen.org).
Note: Exports and indicators based on partner countries' statistics (mirror statistics).

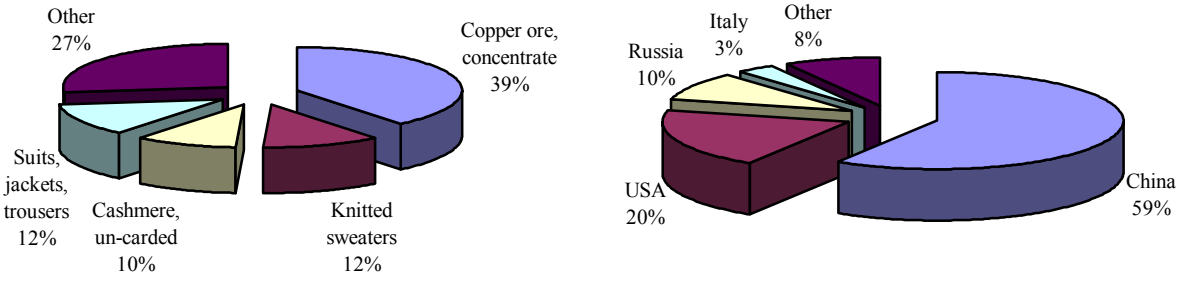
By comparison, the exports of ASEAN countries and China were for the most part 'champions', including electronic products and other more advanced products. The strategic challenge for Mongolia is therefore to increase the manufacturing and export of 'champions', that is, products that are dynamic in world trade, and reduce its dependence on other categories.

Product and market diversification

Mongolian exports were limited to a few product categories, consisting mainly of copper ore and concentrates, knitted garments, other garments and cashmere hair. These four categories together accounted for 73 per cent of total exports, and were moreover sold in a limited number of countries (figure 3.5). They were thus quite vulnerable to changes in demand in these countries, as the recent trends in the world demand for copper, garments and cashmere illustrates. Copper ore and concentrates alone accounted for nearly 40 per cent of total exports, while knitted sweaters, cashmere hair, and men and women's suits and jackets each accounted for 10-12 per cent of the total in 2000.

Figure 3.5. *Major Export Products and Markets, 2000 (% of total)*

(a) Major products *(b) Major markets*



*Source: (a) ITC Trade Map (*see table 2.6). *(b) Statistical Yearbook,* NSO.

In terms of markets, China alone absorbed 60 per cent of all Mongolian exports, followed by the USA, Russia and Italy (20, 10 and 3 per cent respectively). All other countries together accounted for less than 10 per cent of Mongolian exports. The markets for major exports were even more concentrated than the above aggregate figures suggest. Thus, China accounted for 95 per cent of all copper exports, while the USA accounted for 90 per cent of exports of men's suits and jackets, and 76 per cent of the export of knitted pullovers. The challenge and opportunity for the Mongolian manufacturing sector is to diversify its export products and markets. One important way to work towards this in the medium and long term is to raise the innovative capacity of domestic firms and diversify markets by identifying future market niches. This will be discussed again later (section 5.6).

3.3 Growth, Composition and Technological Composition of Imports

Growth and composition of imports

In contrast to the fluctuating export receipts, imports rose steadily by over 5 per cent per year between 1995 and 1999, before jumping by nearly 20 per cent in 2000 (table 3.4). The year 2001 saw the first significant decline in imports since 1991, from $615 to 555 million, due to lower imports of textile raw materials and imported inputs, and of machinery and equipment, both related to the worsening export position of textiles and garments, and of the mining industry.

Table 3.4. *Growth and Composition of Imports, 1995 – 2001 (US$ million)*

		Annual growth rate (% p.a.)			Composition (%)				
		1995-99	1999-00	2000-01	1992	1995	1999	2000	2001
	Total imports	5.4	19.8	-9.7	100.0	100.0	100.0	100.0	100.0
	Agricultural products	6.5	122.2	-30.0	3.4	4.6	4.8	8.9	6.9
	Live animals & products	-4.7	79.7	110.7	0.3	0.3	0.2	0.3	0.7
	Vegetable origin products				2.9	3.7	3.5	7.6	5.3
	Animal, vegetable fat & oil				0.2	0.6	1.1	1.0	0.9
	Mineral products	0.6	41.5	9.2	23.5	20.0	16.6	19.6	23.7
	Manufactured products	6.5	9.0	-12.4	73.1	75.4	78.6	71.5	69.4
15	Food & beverages	17.7	31.8	-8.5	3.1	4.5	7.0	7.7	7.8
17/8	Textiles, garments	13.1	73.1	-28.5	11.4	6.8	9.0	13.0	10.3
19	Leather, footwear	-36.7			0.6	2.3	0.3	0.3	0.4
20	Wood & products	-4.7	79.7	-9.7	0.1	0.3	0.2	0.3	0.3
21	Paper & products	-15.5	39.8	3.2	0.8	2.9	1.2	1.4	1.6
24	Chemicals	-13.7			11.1	8.7	3.9	4.6	5.5
25	Rubber, plastic products				2.2	1.6	2.5	2.2	2.3
26	Other mineral products				1.0	1.3	0.9	0.9	1.6
27	Basic metals	-13.5	16.7	19.6	2.5	8.4	3.8	3.7	4.9
29	Machinery, elect. goods	20.1	-24.6	-23.4	26.9	20.5	34.5	21.7	18.4
33	Precision equipment	31.6	19.8		0.6	1.4	3.4	3.4	2.9
35	Transport equipment, parts	-3.7	23.2	-2.3	10.8	15.2	10.6	10.9	11.8
36	Furniture, other manuf.	1.7			2.0	1.5	1.3	1.4	1.6
	Import value (million US$)				418.3	415.3	512.8	614.5	554.8

Source: *Statistical Yearbook 200,* table 4.8, NSO (based on customs data). See statistical table A.7.

With the exception of rising imports of agricultural products (from 3 to 7 per cent of total imports), particularly vegetables from China, the overall composition of imports remained quite stable. Mineral products including petroleum, accounted for an unchanged 23-24 per cent share of the total, while manufactured products accounted for about 70 per cent of total imports. Within the manufacturing sector however, the share of food and beverages more than doubled from 3 to 8 per cent between 1992 and 2001, while the share of basic metals rose from 2 to 5 per cent. The challenge and opportunity here is for Mongolia to produce more vegetables and processed food and beverages to compete against cheaper imports.

Technological composition of Imports

Medium and higher technology level products accounted for 45 per cent of total exports, and 65 per cent of manufactured imports in 2001 (table 3.5). These shares were more or less stable over the 1990s. Resource-based imports, particularly petroleum, vegetables, and food and beverages, accounted for 43 per cent of total imports, and for 17 per cent of manufactured imports. Labour-intensive imports, particularly textile raw materials and inputs, and garments accounted for the remaining 12 per cent of total imports, and 17 per cent of manufactured imports.

Table 3.5. *Technological Level of Imports, 1992 – 2001 (% of total)*

	All products					Manufactured products				
	1992	1995	1999	2000	2001	1992	1995	1999	2000	2001
All imports	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Resource-based	33.1	33.9	32.3	40.1	42.6	8.5	12.3	13.9	16.2	17.3
Labour-intensive	14.0	10.6	10.6	14.7	12.3	19.1	14.1	13.5	20.6	17.7
Scale-intensive	14.6	18.4	8.6	9.2	12.0	19.9	24.4	10.9	12.9	17.3
Differentiated goods	38.3	37.1	48.5	36.0	33.1	52.4	49.2	61.7	50.4	47.7

Source: *Statistical Yearbook 2001,* table 14.8, National Statistical Office.

3.4 Major Trade Issues

Product and market diversification

Mongolia's key trade development issue is its heavy reliance on commodity exports such as copper, gold and cashmere, whose prices have fluctuated in the world market, with consequent unstable and unpredictable export revenues. In addition, most commodities have experienced long-term declines. A second important issue is that of poor market positioning, since the world demand for traditional Mongolian exports, which are mostly resource-based and labour-intensive, has declined relative to other goods traded in the world market. Mongolia's newest export, garments, is also facing a declining demand in its major market, the USA. A third issue is the limited market for most Mongolian exports, with one country often purchasing close to 95 per cent of each of the main exports (e.g., 95 per cent of copper to China, and 95-100 per cent of garments to USA). Moreover, diversification of the meat export market, for instance to EU, the Middle East and East Southeast Asia, is contingent upon resolving animal health and quality control issues which are of a long-term concern.

The consequence of limited product and market diversification, weak market positioning and declining terms of trade is a deteriorating trade balance, which has worsened steadily since 1997. Mongolia must diversify its range of export products as well as identify new markets through upgrading of domestic firms, market research to identify new market niches, export promotion to non-traditional markets, improved sanitation and hygiene of meat and other animal-based products, and standards and certification among others. These measures will be discussed in more detail later (section 5.6).

Abolition of Multifibre Agreement

Since 1998, Mongolia's manufacturing sector has diversified into the production of garments, assisted by the entry of several export-oriented Chinese-Mongolian and Korean-Mongolian joint ventures interested in gaining access to the USA market, which offers quota-free access to Mongolian exports. Having expanded rapidly in the 1998-2000 period, the Mongolian garment industry is now under threat from two sides, a declining demand for garments following the slow-down of the US and Japan economies since 2001 and, more importantly, the impending abolition of the Multifibre Agreement (MFA) by the end of 2003. The latter will eliminate textile and garment quotas for all countries and thus all preferential access to industrialized markets, probably resulting in falling prices in traditional markets, and forcing Mongolian garments to compete against all countries in third markets (Twesten, 2001:10-12).

Though offering competitive labour costs, the Mongolian garment industry may not be able to compete against China, Southeast Asia and South Asia due to lower economies of scale and higher transport costs. While it may not be possible for the Mongolian garment industry to compete on price in traditional goods, will it be possible for it to become more competitive by developing market niches, by moving into selected higher-value garment manufacturing to offset the above two major cost disadvantages? What are the implications for this industry for learning the more difficult market research, product design, branding and marketing skills required to sell higher-value garments? If the Mongolian garment industry cannot adapt or move up the value-chain, this will result in the closure of many domestic plants, and cause major structural changes in the Mongolian manufacturing sector.

China and Russia's accession to WTO

Because of its liberal and open import regime, Mongolia already offers unhindered access to Chinese and Russian imports. Domestic producers of vegetables, wheat, manufactured food and drink products, garments, furniture and many other products already have to compete against such imported products, brought either legally or illegally through the 'suitcase' trade. Domestic manufacturers who cannot compete will be forced to close or change to other market niches, with major implications for the industrialization of the country.

The main challenge for Mongolia due to China's accession to WTO is the non-discriminatory treatment of Chinese products in third markets, as noted in the MFA discussion above, and the need to compete against Chinese products in these markets. Against this challenge, there are also opportunities for Mongolian manufacturers. All enterprises will have the right to trade in China after three years. China will have to improve access to its own market and provide equal treatment to foreign firms. Thus, it will no longer be able to provide export and domestic subsidies, impose import quotas, dual pricing or tax exemptions, and it will have to provide non-discriminatory treatment to all WTO members, including Mongolia (Twesten, 2001:6-9).

The forthcoming entry of Russia in the WTO also represents an opportunity for Mongolia. This country remains a major market for Mongolian meat and carpets. However, meat and carpet exports have declined drastically since Russia imposed stiff import tariffs, e.g., 40 per cent import on processed meat and 20 per cent import duty on frozen meat. Exports have also declined due to the current outbreak of foot and mouth disease. Under WTO rules, Russia will come under pressure to revoke these high import duties, unless it wins a temporary reprieve from other WTO members, which can however last several years. Mongolia, with

the assistance by other meat exporters such as the European Union and Australia, must negotiate lower import duties to revive its main meat export market. On the other hand, without sufficient commitment and financial resources to control diseases such as food and mouth, very little can be done to promote meat exports.

Underdeveloped trade promotion services

A recent assessment by the WTO/UNCTAD International Trade Centre (ITC) observed that Mongolia is not yet equipped to take full advantage of new commercial opportunities in the international market, nor is it equipped to deal fully with new competitive pressures at home, because the private sector is inexperienced in export marketing and lacks the support of the public sector. Trade support services were neither readily available nor of the standard required. The institutions concerned with trade were weak in trade promotion, and suffered from the absence of an effective mechanism for public-private sector cooperation on trade and industry matters (Williams *et al.*, 2002:5). The study's survey of some 40 exporters identified market information as their single most important need, while over 90 per cent identified export financing as a major issue. Another important need was for adequate facilities for the Mongolian standards and testing organization.

Trade support institutions can be divided into two broad categories: (i) ministries and government agencies, and (ii) non-governmental Trade Support Institutions (TSIs). At the present time, local exporters are more dependent on their own limited individual resources and initiative than on the services of the trade support institutions. According to the above study, most trade support agencies in Mongolia were weak and in need of strengthening, including the Ministry of Trade and Industry, its implementing agencies, the Mongolian National Chamber of Commerce and Industry, and sector associations. Many necessary services such as trade information, marketing and promotional services and quality insurance, were simply not available (Williams *et al.*, 2002:22).

Government agencies. The Ministry of Industry and Trade (MIT), by definition, was the lead responsibility for all issues related to trade, including trade promotion and export development. MIT, with a staff of about 60, lacked knowledge and experience in how to identify and maximize trade potential (Williams *et al*., 2002:12). It also had responsibility for five implementing agencies providing trade support services, including the Foreign Investment and Foreign Trade Agency (FIFTA) and the National Centre of Standardization and Metrology (NCSM).

FIFTA, with a staff of 22, focused mainly on investment issues. Some 80 per cent of the ITC survey respondents expressed strong dissatisfaction about this agency not providing export support, and its exclusive attention on foreign investors. NCSM, with a staff of 400 in Ulaanbaatar and 20 *aimags*, received 80 per cent of its income from the provision of certification, calibration and other services. It needed more trained staff to undertake improved certification, e.g., for Hazards Analysis Critical Control Point (HACCAP), and to increase the awareness of the importance of standards and for accreditation and certification of laboratories.

The State Food Safety and Agricultural Inspection Agency, under the Ministry of Food and Agriculture and with a staff of 114 operating at 23 border points, was responsible for food safety (import and export) and agricultural inspection of livestock, plants and seeds. This agency needed more staff, staff development, a reference laboratory, and technical assistance.

The Central Bank controlled the financial support programmes for exporters, including export credit, credit guarantee schemes, long-term project loans for exporters, cash and other financial incentives. Some 55 per cent of ITC survey respondents expressed dissatisfaction, while another 35 per cent expressed moderate satisfaction with the Central Bank services.

Non-government trade support institutions (TSIs). In addition to banks, insurance companies, clearance and forwarding agents, shipping companies, buying houses and other service providers, TSIs consisted of the Mongolian National Chamber of Commerce and Industry (MNCCI) and sector associations. MNCCI, with a staff of 140 (100 in Ulaanbaatar and 40 in seven *aimags*), and representatives in 8 Mongolian embassies, had a membership of 600. It provided a number of trade support services, including business contacts, certificates of origin for the EU, registration of patents and trademarks, arbitration, project development and translation. It has received technical assistance from various sources including the Netherlands CBI, Japan, and the Berlin, Turkish and Italian Chambers.

Several sector associations were set up in the 1990s to collect and share information, identify and deal with industry problems, and represent their sectors in relation to government. These included the Mongolian Wool and Cashmere Federation, the Mongolian Meat Exporters Association, the Mongolian Textile Producers Federation, and the Mongolian Association of Hides and Skins. Most associations were relatively young, poorly funded (depending almost entirely on membership dues and fees for services provided), and poorly staffed (usually just two persons, the chair and a secretary). Their personnel were inadequately qualified for international trade (limited language skills, limited marketing knowledge and experience). Due to their institutional weaknesses, most associations lacked the resources to meet their members' needs (Williams *et al*., 2002:13-15).

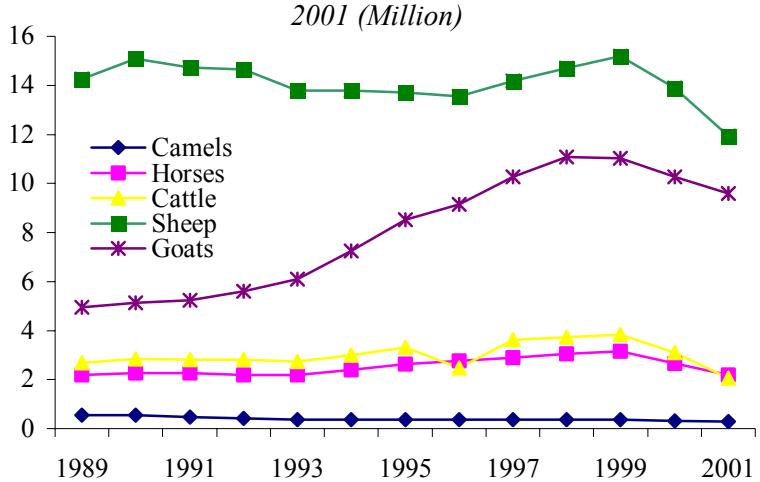
Having covered foreign trade, trade balance and trade development issues in this section, trade development policies formulated by the government to deal with these issues, and their implementation, will be discussed in section 5. But first, the specific problems and opportunities faced by selected livestock-based industries will be next.

4 LIVESTOCK-BASED INDUSTRIES: CHALLENGES & OPPORTUNITIES

4.1 Overview of Livestock-based Industries

Mongolia possesses rich and varied livestock resources (12.0 million sheep, 9.6 million goats, 2.2 million horses, 2.1 million cattle, and 0.3 million camels, not to count yaks in 2001, figure 4.1). Yet domestic livestock-based industries underwent a very steep decline in the 1990s, and their industrial capacity was considerably underutilized. They faced serious competition from Chinese manufacturers, who purchased most raw materials, and supplied consumer products such as leather products. They also faced a worsening situation with respect to raw material quality, processing and international marketing of end products.

Figure 4.1. *Trends in Livestock Numbers, 1989-2001 (Million)*



Source : *Statistical Yearbook* , various years, NSO.

The number of most livestock increased substantially in the 1990s. The stock of goats, particularly in response to the high demand for cashmere, doubled in the 1990s, while the number of cattle and horses increased by a third. The number of sheep first declined in the first half of the 1990s, but then increased in the second half of the 1990s. Only camels declined in numbers by about a third. The devastating 2000-01 *zud* reduced the number cattle by nearly a half, horses by a third, camels and sheep by a fifth and goats by a sixth. Nevertheless, by the end of 2001, the number of goats was still twice as high as in 1989, while the number of horses was about the same. The number of cattle and sheep were down by respectively 25 and 10 per cent.

Before 1990, the state owned all livestock, which were managed by livestock cooperatives or *negdels*, each roughly covering the geographical area a *soum*. Almost all were equipped with their own veterinary services, slaughterhouse, milk collection centre, hay reserve and water wells. After the transition, the livestock cooperatives were disbanded, and their livestock stock distributed among the *soum* households, herders and non-herders alike. Because no system was put in place to manage the existing common facilities, these facilities deteriorated rapidly and ceased to function in most cases. Many problems plaguing the livestock-based industries today originate from this hasty privatization, and have yet to be resolved adequately.

The main challenges and opportunities facing key livestock-based industries are discussed in turn below for cashmere products, wool products, meat products, dairy products and leather products[1].

[1] This section is based in part on inputs prepared under this UNDP/UNIDO research project for the assessment of the Mongolian livestock-based industry sector.

4.2 Cashmere Products

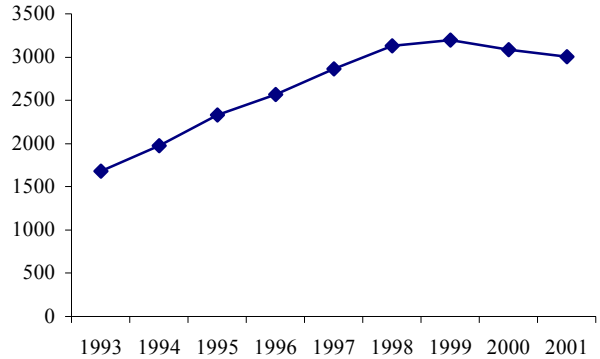
Trends and opportunities

The demand for classic cashmere garments remains high in the luxury segments of European, American and Japanese markets, even though the temporarily higher demand for them created by fashion designers in 1999-2001 may have peaked. Mongolia is the second largest producer of raw cashmere, accounting for a quarter of world production after China's 70 per cent share. The cashmere industry underwent significant development in the 1990s. Besides the natural advantage of harsh winters favouring the production of fine cashmere hair (production doubled in the 1990s), the cashmere processing industry developed into a geographical cluster in one industrial area of Ulaanbaatar, located nearby the Mongolian Textile Institute (MTI). The latter established close working relationship with some of the major cashmere processors and garment manufacturers. Many cashmere processing and garment manufacturing plants invested in sophisticated dehairing, spinning, dyeing, weaving and knitting equipment, some of which were upgraded in the past three years.

Despite the above advantages and the favourable international outlook for classic cashmere garments, the domestic cashmere industry was thrown in disarray after 1998, following a promising start in the first half of the 1990s. Soon after the ban on raw cashmere exports was lifted in 1996, the domestic plants could no longer secure any raw materials, which were all being bought up by Chinese traders in Mongolia on behalf of the large and relatively developed cluster of Chinese manufacturers located just across the border in Inner Mongolia.

Domestic cashmere processors have blamed smuggling of raw cashmere across the border into China as the prime reason for the above situation. However, smuggling is more likely to be a symptom for deeper causes affecting the domestic cashmere industry. Some of the underlying factors include the past emphasis of domestic companies on cashmere fibre export, and the resulting neglect to gradually enhance domestic value-added by manufacturing garments and other end products, developing own brand name and designs, and investing in own distribution and marketing channels for export. The government may have contributed to the underdevelopment of the cashmere industry by offering limited promotion and marketing assistance, undertaking limited research and development, not preventing the long-term deterioration of raw cashmere, and undertaking ill-designed interventions on behalf of selected companies, which have ended up hurting the cashmere industry as a whole. These issues are examined in turn below.

Figure 4.2. *Trends in Cashmere Production 1993-2001 (Tonnes)*



Source: *Statistical Yearbooks* (industry), various years, NSO.

Cashmere production doubled from 1,600 to 3,200 tonnes between 1993 and 1999, in line with the doubling of number of goats noted earlier (figure 4.2). The 2000-01 *zud* reduced this production to 3,000 tonnes. This expanded production and the demand for cashmere on the world market attracted many foreign players. Foreign joint ventures increased from 0 in 1989 to 80 in 2000, though a majority of these stopped production in 2001 and 2002 for lack of raw material (table 4.1).

Table 4.1. *Number of Enterprises in Cashmere Processing Industry, 1989-2000*

Year	Domestic Companies	Foreign Companies	Total	Regional distribution	
				Ulaanbaatar	Other areas
1989	1	-	1	1	-
2000	5	43	48	44	4
2001	5	80	85	77	8

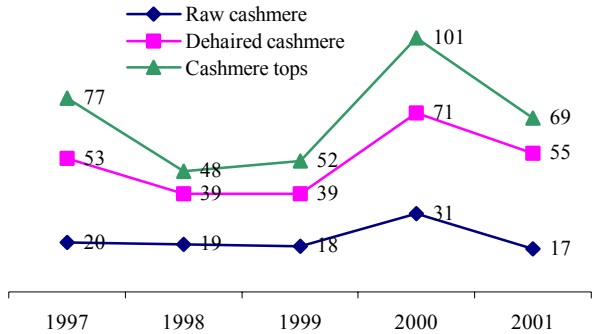
Source: Ministry of Industry and Trade (2001).

The cashmere industry comprised in fact of three types of companies, each with its own characteristics, markets and opportunities. The first type consisted of primary processing plants, which procured raw greasy cashmere from herders or traders, scoured it, and produced fine 'dehaired' cashmere after separating coarse fibres from it. Dehaired cashmere was exported mainly to China, Europe and Japan. Several joint ventures, including several Chinese but also some American, Japanese, South Korean and European, were established when a ban on raw cashmere exports was imposed in 1993.

The second type of cashmere plants consisted of garment manufacturers. These mainly Chinese joint ventures were established in the second half of the 1990s to take advantage of Mongolia's quota-free access to the US market. Though most of them produced sewn garments, some produced knitted cashmere garments using hand-knitting machines and yarn imported from China or Italy. The third type of cashmere plants consisted of vertically integrated companies, combining several operations from processing of raw materials, to spinning, dyeing, garment manufacturing, and production of other knitted and woven products. These included state-owned *Gobi* and privately owned *Buyan*.

The interests of these three types of companies do not necessarily coincide. In particular, the first two types of companies were established in response to short-term changes in domestic and international trade regimes, and not with a view to invest in the long-term expansion of their Mongolian operations.

Figure 4.3. *Price of Cashmere Products (US$/kg)*



Source : Mongolian Customs Reports

The price of raw cashmere, dehaired cashmere and cashmere tops has fluctuated widely in the international market, due mainly to changing fashions, and fashion designers' preference for white for pastel shades or grey cashmere for dark coloured garments from one year to the next (figure 4.3). Export prices, were high in 1997, then dropped by a third in 1998-99, before almost doubling in 2000. They fell again in 2001. Most dehaired cashmere was exported to China, Italy, Japan and England in 2001, (35, 22, 15 and 14 per cent respectively, table 4.2). Cashmere tops were exported mainly to England and Mexico (93 and 7 per cent respectively), while raw cashmere was exported to China and Japan (91 and 9 per cent respectively).

Table 4.2. *Cashmere Exports, 1995 – 2001 (Tonnes)*

Country of export	1995		2000		2001	
	Tonnes	%	Tonnes	%	Tonnes	%
Dehaired cashmere	496.6	100.0	770.1	100.0	1006.6	100.0
Belgium	0.9	0.2				
Switzerland	3.0	0.6	5.7	0.7	8.8	0.9
China	60.7	12.2	386.8	50.2	354.5	35.2
England	60.9	12.3	104.0	14.8	137.0	13.6
Hong-Kong	18.1	3.6	29.5	3.8	79.5	7.9
Ireland	32.7	6.6				
Italy	99.7	20.1	163.1	21.2	217.7	21.6
Japan	144.9	29.2	49.8	6.5	145.8	14.5
Korea	0.02	-				
Netherlands	45.4	9.1	4.8	0.6		
Mexico			9.0	1.2	12.8	1.3
Germany			-	-	2.0	0.2
Nepal			0.7	0.1	0.4	-
USA	30.2	6.1	6.6	0.9	47.7	4.7
Cashmere tops	34.0	100.0	7.1	100.0	14.1	100.0
Italy	13.0	38.3	2.1	29.5		
Japan	19.1	56.1	2.6	36.6	4.78	16.4
China	0.7	2.1	1.1	15.6		
Columbia			0.2	2.8		
Netherlands	1.2	3.4				
Nepal			0.1	2.1		
Mexico					1.0	7.3
England			1.0	13.6	13.1	92.7
Raw cashmere	78.8	100.0	717.2	100.0	50.2	100.0
China	43.1	54.7	707.9	98.7	45.6	90.8
Italy			9.3	1.3		
Japan					4.6	9.2
Other EU countries	35.7	45.3				

Source: Mongolian Customs Reports.

On the international market, fine dehaired Chinese cashmere sells at a 25 per cent premium over Mongolian cashmere (US$ 70-80 vs. $50-60) due to two technical advantages. It is slightly finer (14-16 vs. 16-18 microns), though consumers are not likely to tell the difference, and it is white, and therefore suitable for producing pastel shades, which dominate the women knitwear market. Mongolian cashmere is thus relegated to the lower value woven market dominated by darker shades. On the other hand, the Mongolian cashmere fibre is 15 per cent longer on average, which gives garments a soft hand feel that consumers can recognize, and durability. Spinners value the fact that it is easier to spin and pills less in the yarn. For the same reason, it is commonly blended with Chinese origin fibre. When blended in a proportion of 15:85 with shorter Chinese fibre, it gives the whole mixture better spinning properties. This feature further boosts the desirability and price of raw Mongolian cashmere.

Instability in the world cashmere market increased noticeably in 1998-2001. Several cashmere processing plants in Mongolia stopped production altogether in 2001-02, unable to secure raw materials at a sufficiently competitive price, due to the higher price offered by Chinese traders and their agents (to the benefit of herders one might add). The 2,600 cashmere plants in Inner Mongolia and elsewhere in China, with their stand-alone spinning, dyeing and garment factories, with consequent large economies of scale and excess capacity,

were able to absorb all the Mongolian raw cashmere they could obtain. In contrast, since it takes two kg of raw cashmere to produce one kg of dehaired cashmere, plus a processing margin of US$8 per kg, domestic producers in Mongolia could not afford to pay the high market price of $40 and $28 per kg in 2000 and 2001. Processors would not make profit even with the lower market price of $22-24 per kg in 2002. Integrated cashmere processors and garment manufacturers like Gobi and Buyan, who were also involved in dehaired cashmere export, similarly incurred heavy losses in continuing to procure raw cashmere in the past three years. They nevertheless survived thanks to their garment production, unlike many processors who were forced to close down.

Faced with the above serious situation, many cashmere processors, domestic as well as joint ventures, clamoured for government action to stop smuggling. Realistically, smuggling cannot be avoided due to the long and porous border with China. In any case, the ten-year export tax on raw cashmere, negotiated at the time of Mongolia's entry into WTO in 1997, will come to an end in 2007. Apart from a loss of customs revenues, a stop to smuggling is unlikely to resolve the underlying reasons for the inability of Mongolian cashmere plants to compete against the Chinese cashmere industry.

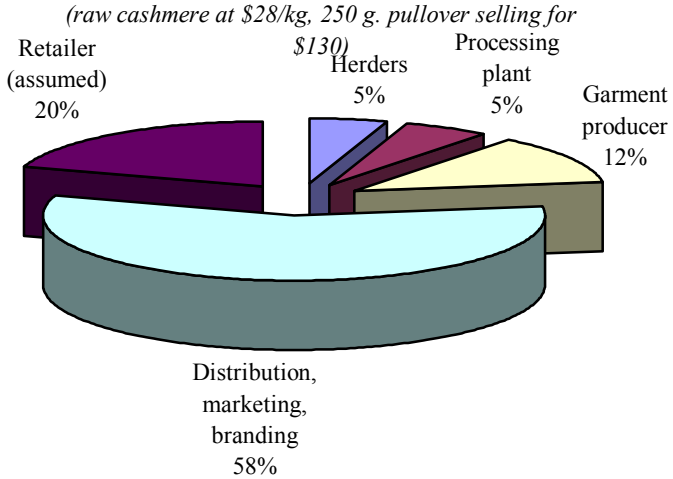
Main issues and constraints

The Mongolian cashmere industry faces several challenges, including the following:

1. *Limited domestic value-added*. Despite large increases in domestic garment production capacity in the 1990s, including in state-owned *Gobi* and private firm *Buyan*, only 15-20 per cent of the 3,000 tonnes of domestically produced raw cashmere is processed into garments in Mongolia. Another 20 per cent is semi-processed into dehaired cashmere by both local companies (including *Gobi* and *Buyan*), and joint-venture cashmere companies, and then sold to garment producers in China, Italy and the UK mainly. The amount of dehaired cashmere exported, as opposed to used for garment manufacturing, is often decided on the basis of the price of dehaired cashmere in the international market, which fluctuates from one year to the next. The bulk of cashmere (60 per cent) simply crosses the border into China, either legally or through smuggling, where it is mixed with Chinese cashmere and spun into yarn, before being made into garments there. The reliance on raw and semi-processed cashmere exports leaves the industry vulnerable to price fluctuations common in agricultural commodities.

2. *Limited own distribution and marketing channels.* Domestic garment manufacturers do not or cannot market or distribute their products on the international market by themselves, and therefore miss out on the largest component of the value chain, namely distribution, marketing and own-label branding. These together are estimated to account for about 60 per cent of the final retail price,

Fig. 4.4. *Cashmere Value Chain, 2001*
(raw cashmere at $28/kg, 250 g. pullover selling for $130)



according to *Gobi*, the difference between its producer price and the final retail price ($30 and $130, see figure 4.4). If the retailers' margin is estimated at 20 per cent, domestic manufacturers (and herders) only 22 per cent of the price that consumers willingly pay in the fashionable retail stores of Europe, Japan and the USA (respectively 5, 5 and 12 per cent for herders, processors and garment producers). In contrast, Chinese competitors have developed their distribution and marketing channels and their own labels, and have access to part of these large profit margins. They can thus easily afford to pay a higher price to secure more raw materials, Until domestic cashmere garment producers develop their own marketing and distribution channels and a niche luxury market, on their own or with strategic partners, they will continue to face raw material shortages, and remain at the mercy of the large Chinese cashmere cluster just across the border.

3. *Low price of Mongolian dehaired cashmere in international market.* The international market pays less for Mongolian cashmere than for Chinese cashmere, because the latter is finer and white, while Mongolian cashmere is light grey and unsuitable for producing pastel shade women knitwear. In addition, the Chinese industry has labelled its own coarser fibre (as well as coarse fibre from Kazakhstan, Russia, Central Asian countries and Mongolia) as 'Mongolian', and sells it at $44 per kg. This has damaged the reputation of Mongolian cashmere somewhat. On the other hand, Chinese garment producers have also tarnished their reputation due to the common practice of blending non-cashmere fibres, and labelling such garments as 100 per cent cashmere, and because of poor workmanship. Mongolian garments do not have these negative connotations. Some Chinese garment producers, aware of this, are now marketing Chinese garments as Mongolian, conveniently forgetting to distinguish between Inner Mongolia (province of China) and independent Mongolia. The solution is therefore to switch from exporting dehaired cashmere to producing knitwear garments for export, but which can be clearly recognized by consumers as one hundred percent Mongolian cashmere.

4. *Inadequate promotion and marketing assistance*. The government has provided insufficient promotion and marketing assistance to Mongolian cashmere companies. As part of its export promotion strategy, the cashmere garment producers should be encouraged, on a cost-sharing basis with government, and with the assistance of trade attaches in Mongolian embassies abroad, to participate in trade fairs and exhibitions, to enter into partnership with foreign trading houses and to seek long-term contacts with retail store chains. Domestic firms should also be encouraged to make extensive use of internet-based promotion and advertising, including business-to-business networking. This may, in turn, promote the development of the IT industry.

5. *Limited research and development*. Despite its importance for the economy, only a limited amount of research and development is undertaken on cashmere at MTI, as well as the University of Agriculture and the Animal Husbandry Institute at present, because of limited funding. Due to lack of testing equipment, which is quite sophisticated and expensive, the researchers have to use the laboratory equipment of Gobi Company and other firms. MTI needs to establish, on a priority basis, a Cashmere and Wool Technical Centre, adequately staffed and funded, and with up-to-date testing and pilot processing facilities. Cashmere design education should become an important component of this centre, though the University of Science and Technology has started to offer general textile design education. The Japanese government has already expressed some interest in funding this, and this should be pursued vigorously. Private companies should be given tax and other incentives to establish R&D departments.

6. *Long-term quality deterioration of raw cashmere.* This is due primarily to the aging of goatherds, since older goats produce coarser hair, and to the absence of sorting of cashmere between old and young goats, between male and female goats, and between cashmere of different colours and shades. Some long-term slower but steadier deterioration over time is also due to cross-breeding with higher yielding goats with coarser fibre, which herders have adopted because they received the same price regardless of quality. As prices rose in the 1990s, herders switched from quality to quantity. Existing and mainly small-scale herd improvement programmes should be expanded using a nucleus of indigenous local animals, however results can only be expected in ten years' time. In the meantime, a price premium attached to finer cashmere fibre (white, and from young and female goats) would certainly encourage herders and traders to undertake grading, sorting and bailing of raw cashmere according to colour, age and sex. At the moment, there is no incentive for grading and sorting, since Chinese traders and their agents buy all available raw cashmere at one price regardless of quality. The USAID-funded Gobi Regional Initiative project has provided some technical assistance to breeders and to establish a goat-culling programme, however price signals are still missing to make these programmes really effective.

7. *Lack of grading, sorting and baling*. Because grading, sorting and baling are not undertaken at the source by herders and primary traders, mixed grades of fine and coarse cashmere, and cashmere of mixed colours are sorted at the plant level. Several projects including the UNDP restructuring project and the USAID-funded Gobi Regional Initiative project and Competitiveness Initiative project have organized training and auctions in regional centres to encourage herders and traders to bring sorted and graded cashmere to the market. There is a need to study how the private sector can hold such auctions regularly, and how herders can obtain premium prices for quality cashmere.

8. *Poor end-use behaviour*. The end-use behaviour of the domestically produced garments is poor due to pilling, inferior handling and dimensional stability. While some of this is due to the deterioration of raw material quality, the main factors are poor quality yarn, poor finishing and high coarse hair content due to imperfect dehairing. However focussed R&D has managed to resolve these technical problems in other countries by developing additional processing steps.

9. *Absence of good product designs.* Companies such as *Gobi* realize that they are using relatively out-dated designs in their garment, and that they undertake little active market research. Trained knitwear designers and technicians are scarce in the local market. However, these problems can be resolved by employing experienced designers, by close collaboration with foreign buyers, and by disseminating market information on international trends. Modern women knitwear designs do change periodically, and companies should be aware of these. However, there is also a continuing demand for luxury, classic designs.

10. *Inadequate spinning capacity.* The lack of domestic spinning capacity has prompted garment manufacturers to import yarn from abroad. It has also led some garment producers in Mongolia to ship Mongolian raw material to China for spinning, and to re-import yarn for producing garments in Mongolia for ultimate shipment to the quota-free US market. However, investment in additional spinning capacity is for private sector companies, and not for the government, to decide. In any case, one foreign venture company (*Eermel* Company/*Cashmerefine Asia* of Italy) may invest in spinning capacity.

Box 2.1. *Privatization of Gobi Cashmere Company*

Many observers of the Mongolian cashmere industry believe that the market power and behaviour of the state-owned *Gobi Cashmere Company* represents the single biggest hurdle to the future of the private cashmere industry in Mongolia. The state owns 75 per cent of this company, the largest cashmere company in the country, and one of the five largest cashmere companies in the world. The government, recognizing the need to privatize this concern, has twice attempted to do so, without much success, mainly due to opposition from vested interests entrenched in the various company operations, including in raw material procurement and commodity marketing. A third attempt to privatize the company was underway at the time of writing.

This company currently procures 1,000-1,400 tonnes of all raw cashmere, or a third to a half of total domestic production. In the early 1990s, when cashmere production was much smaller, it accounted for almost all procurement. It produces about 450 tonnes of dehaired cashmere, half of which is exported (mainly through long-term brokers), while the other half is made into garments. It sells half of its garments in its own chain of stores in the domestic market (largely to tourists), while foreign buying agents and brand owners sell the remaining half using foreign brand names. The company generated sales worth US$11 million in 2001 from dehaired cashmere, cashmere year and cashmere knitwear, blankets and fabric, and exported 80 per cent of its products (State Property Committee, www.spc.gov.mn).

Gobi is prone to political interference, undermining mainly private firms. It is obliged to undertake several activities on behalf of the government, and obtains soft loans and other privileges in return. Instances of non-commercial operations include:

1. Paying higher than market prices for raw cashmere to gain the support of herders
2. Selling low on international markets for hidden commissions
3. Obtaining preferential subsidized loans for equipment and for purchase of raw materials
4. Receiving preferential treatment from trade attaches based in Mongolian embassies abroad.

Gobi should be privatized as soon as possible to create a level-playing field in the Mongolian cashmere industry. Ideally, it should be sold to a long-term strategic foreign partner with established distribution and marketing channels, and perhaps also in possession of an established luxury brand name. In order to do so, *Gobi* needs to undergo a restructuring process to make it more attractive to potential investors and to obtain a good price. The model used by the Dutch-financed and GTZ implemented Enterprise Restructuring project, and which has successfully turned around a number of large privatized companies in Mongolia in the past, can be used to restructure *Gobi*. With the help of experienced and knowledgeable consultants, the following stages or activities should be undertaken:

1. A diagnosis of the company, and an elaboration of a vision of the company's future, followed by restructuring planning
2. Organizational and managerial restructuring, physical and operational restructuring, improving the skills and the morale of the staff, and improving the perception of the enterprise by outsiders, to increase its credibility towards outside financiers
3. Establishing proper financial accounts to show a realistic picture of the financial situation
4. Organizing the company's various operations, including procurement, dehairing plants, spinning facilities, garment manufacturing, and distribution and sales into separate profit centres, so that the contribution of each centre can be properly assessed and monitored
5. Undertaking financial restructuring, including debt reduction programme

The implementation of the above actions will enhance the company's financial status, and improve its attractiveness to potential investors, allowing it attract a long-term strategic partner to produce high-value finished cashmere products. In their absence, privatization is unlikely to be successful.

11. *Government intervention in cashmere industry*. The government has taken some favourable measures to develop the industry, such as import tax exemption on end use production equipment. Because of its importance, the government has often intervened in the industry, at times providing direct loans and loan guarantees to specific state-owned and private firms. These interventions have ended up hurting the cashmere industry, and should be avoided in the future. State-owned Gobi, where interventions continue to take place, is not operating on commercial basis for political reasons (see box 4.1), and its market behaviour is hurting other firms. It should be privatized as soon as possible. Government intervention to revive the cashmere industry, while necessary, should be market-friendly, based on a long-term vision and strategy for the industry, and should focus on enhancing the competitiveness of private cashmere companies.

12. *Strategic industry vision*. The government formulated a cashmere programme in 2000 for the period 2001-04. Quite apart from its short or medium-term nature, this programme did not solicit nor involve the private sector in its design. The public and private sector should jointly formulate a strategic vision of where the cashmere industry should be in twenty years' time, to provide signal to investors and guide their long-term investment. In particular, it should focus on how Mongolian private industries can acquire the marketing, distribution and own-brand capability, which together produce the bulk of value-added in this industry, and how they can develop a niche market where the Chinese industry will find it more difficult to compete. Responsibility for implementation of the various activities of the agreed programme should be well defined and shared between the public and private sectors, and should be supported by all the stakeholders including herders, processors, traders, garment manufacturers and the government, a so-called goat to garment strategy.

To concretely address some of the above challenges, the USAID-funded Competitiveness Initiative (TCI) project proposed the formation of a Fibre Promotion Board to create and register certification trademarks that member companies could use to market garments under strict quality control. The mark would increase consumer appeal by imparting quality and purity guarantees to the Mongolian garments. In addition the Board would conduct promotional activities to enhance their members' competitiveness, including publishing a newsletter, maintaining a website, publishing and distributing promotional material to educate the consumers and retailers, facilitating technology transfer by maintaining a database of equipment and machinery suppliers, conducting trade missions, organizing a trade fair in Ulaanbaatar, and providing pertinent market information and signals from the international consumer to the local industries (TCI, 2002).

The Mongolian Textile Institute (MTI), together with German Wool Research Institute (DWI), under a project called 'Mongolian Cashmere Mark 2+2' has begun to classify Mongolian cashmere and establishing quality standards for it by collecting cashmere samples from all over Mongolia. There are obvious reasons for the above projects to forge close cooperation. As an overall strategy, the Mongolian industry should not compete with the Chinese on costs but on higher value, and should aim to increase their share of the considerable value-added in own design, own label, and own marketing and distribution channels that high value cashmere products have to offer. Finally, in 2002 the government initiated the *Wholesale Marketing Network* project to re-establish a collection system for livestock-based raw materials, including cashmere, and a distribution system for consumer goods in rural areas. Direct state intervention in marketing is not recommended for reasons explained in more detail earlier (section 5.4, trade policies).

4.3 Carpets and Other Wool Products

Trends and opportunities

Mongolia produces vast quantities of inexpensive wool annually, much of which is discarded in the countryside due to bad roads and high transport costs, and inadequate domestic and export markets. This is partly due to the relatively low quality of Mongolian wool, 94 per cent of which is coarse (suitable for little else than carpets, felt footwear, insulating products, and blankets), 4 per cent of which is semi-coarse, and only 1 per cent is fine or semi-fine, suitable for garment production. The strains and breeds developed in the past to produce more of the latter have almost disappeared. Nevertheless, there is a potentially large export market for carpets especially in China and Russia, and for other wool and felt products elsewhere.

There are two major carpet producers (one in Ulaanbaatar and one in Erdenet), and one blanket producer, all of which were privatized. Their production capacity for scouring, spinning, knitting, weaving and felt making is far in excess of current production volumes (e.g., 60 per cent capacity in UB Carpets). However, their production technology for carpet making is out-dated and inflexible, while modern production techniques favour flexible, small batches of differentiated and novel designs to match consumer trends. Even felt and felt boot production is at around 10 per cent of installed capacity. The number of wool processing enterprises stood at 45 in 2001, including two foreign companies (table 4.3). Of these, 10 were located in Ulaanbaatar, while the remaining 35 plants were located outside the capital.

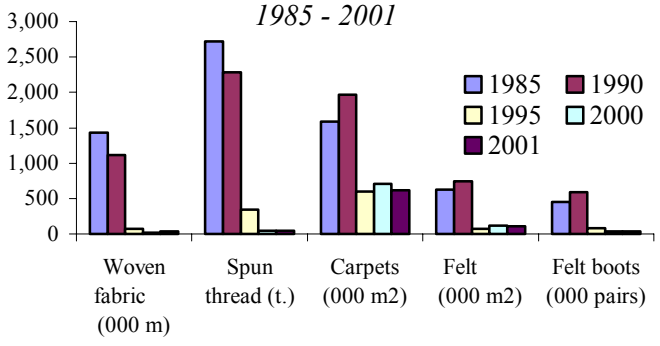
Table 4.3. *Number of Wool Processing Enterprises, 1989 - 2001*

Year	Domestic Companies	Foreign Companies	Total	Regional distribution	
				Ulaanbaatar	Other areas
1989	14	-	14	8	6
2000	43	-	43	8	35
2001	43	2	45	10	35

Source: Ministry of Industry and Trade (2001)

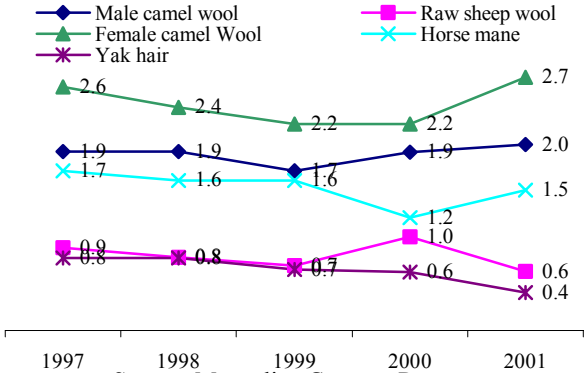
The production of woven fabric, spun thread, carpets, felt and felt boots fell sharply after 1990 (figure 4.5). Unlike cashmere, the prices of sheep, camel wool, horse mane and yak hair were relatively stable in the period 1997-2001 (figure 4.6).

Figure 4.5. *Production of Wool Products, 1985 - 2001*



Source : Statistical Yearbook (industry), various years, NSO.

Figure 4.6. *Wool Prices (US$/kg)*



Source : Mongolian Customs Reports

There is a potentially large market for machine-made carpets especially in China, but also in other countries that are presently supplied by Belgium, Turkey, Egypt and other major carpet exporters. Since many of these exporters produce 100 percent synthetic carpets, Mongolia can enter the wool carpet market. It can also produce three-metre wide wall-to-wall carpets, for which there is large demand in offices and hotels. In addition, there is a potentially large demand for hand-woven carpets presently supplied by Nepal, Pakistan and others. Hand-made carpets form only a small share of total carpet production.

Main issues and constraints

The carpet and wool industry faces the following major constraints at present:

1. *Limited experience in international trade*. The domestic carpet producers have limited experience in international trade, and limited contact with foreign buyers. They have yet to make effective use of internet-based promotion and advertising. Government export promotion services should assist them in taking part in fairs and exhibitions, in promoting their products through trade attaches in Mongolian embassies, and to make contact with foreign buyers and trading houses. Most of all, they need to position themselves in the domestic and international market, and acquire the ability to introduce new products on a regular basis. The government can also negotiate with Russia, as part of their forthcoming entry into WTO, to reduce import tariffs on Mongolian carpets.

2. *Outdated design and carpet making equipment*. Modern carpet manufacturers in Belgium and Turkey use flexible, computer-controlled equipment that can produce small batches of carpets based on the designs selected by their clients. The Mongolian producers cannot do this because their twenty-year old plants were designed to produce long production runs of a small range of standard designs. They also use time-consuming manually punched cards to transmit the designs to the carpet-producing looms. While replacing the carpet making equipment is likely to be expensive (around $1 million per weaving machine from Germany or Belgium), computerized card-punching machines only cost about $15,000, and are available from India and China. To encourage private investment in modern machinery, domestic producers should be provided with the same tax breaks as those given to foreign or joint-venture companies, such as import duty and VAT exemption for imported equipment.

3. *Poor end-use behaviour*. Mongolian carpets have a large amount of loose fibres on their surface and have a bad odour due to grease residue, while blankets also have large amounts of loose fibre and are prickly. These poor end-use behaviours, which have been resolved in New Zealand with scouring and setting stages in the production process, should be similarly addressed in Mongolia, with the help of practical research and development. A two-year project at the Mongolian Textile Institute (MTI) has demonstrated the possibility of substantially reducing loose fibres on the surface of carpets, and should be supported further.

4. *Limited design capabilities*. Company-level design capabilities and product development need to be improved, in collaboration with MTI and through linkage programmes with foreign design institutes. For instance, until recently, *Ulaanbaatar Khivs* continued to produce carpets based on designs that had not changed since the company was founded twenty years ago.

5. *Limited research and development*. As in the case of cashmere, there is little research and development undertaken on wool at present in Mongolia. MTI, which is already collaborating with industry on some research projects, needs a dedicated Cashmere and Wool Centre, properly staffed and funded, and with up-to-date testing and pilot processing facilities. The first task of this centre would be to conduct research on quality attributes of wool and build a database, as well as to provide classification scheme for wool and its end-use. A second task would be to develop a dehairing process to produce wool more suitable for blankets, carpets and knitwear. A third task would be to identify and disseminate other uses for Mongolian wool, including in the technical, medical and geo-textile areas. Fourth, carpet and wool design education should also become a component of the new centre. Finally, producers should be provided incentives to invest in their own R&D activities.

6. *Inappropriate marking materials*. Herders use bitumen, lacquer and dyestuff to mark their sheep, substances that are difficult to remove at the processing stage, and clog the equipment. The government should introduce and vigorously encourage the use of appropriate marking material such as the Australian paint S-IRO.

7. *Breed improvement programme*. A long-term breed improvement programme should be restarted to provide larger quantities of fine and semi-fine wool for higher value uses. At present, sheep are bred for their meat and hides and skins, which are more profitable than wool, with the consequence that only about 1 per cent of total wool is fine or semi-fine. A revival of the wool knitting and weaving industries should provide a renewed market and incentive for breeding more fine-wool producing sheep.

8. *Bad debt*. UB Carpet and Erdenet Carpet in particular, though privatized, are still saddled with bad debt contracted with an Austrian bank before the transition. Until this issue is resolved to the satisfaction of the Trade and Development Bank, which inherited the debt from the State Bank, these companies will continue to experience major problems in raising working capital and long-term investment loans, either from this bank or any other bank.

9. *Strategic vision*. Many of the above recommendations, including directions for R&D, breeding improvement and investment in new equipment, can be integrated into a long-term vision and strategy for promoting carpet and wool industries in Mongolia. While the government has formulated a medium-term wool programme in February 2001 for the period 2002-04 and a long-term programme for 2002-10, a joint public-private long-term vision is lacking at present. If well conducted and formulated, this could spearhead the development of the industry, as well as providing clear signals to existing and potential investors.

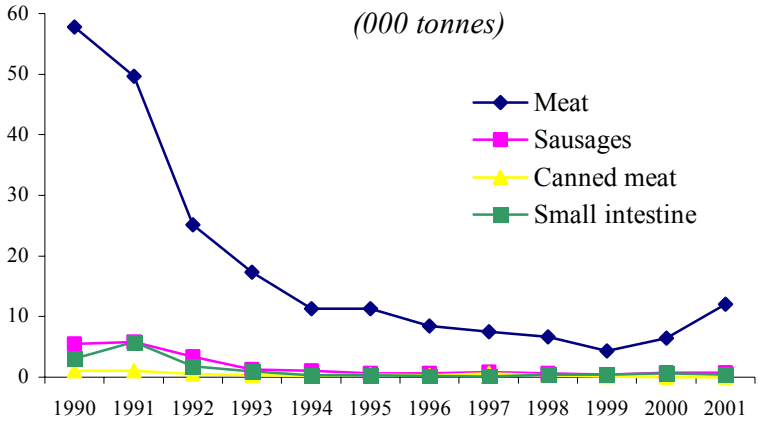
4.4 Meat Products

Trends and opportunities

Mongolian beef is very competitive at US$0.6-0.8 per kg, or only half the price in China and a third of the price in Russia. It can also be conveniently shipped by rail to Siberia and Beijing. The Mongolian Meat Exporters Association, which groups some 24 members including four larger ones, has managed to restart meat exports to Russia following a government-to-government agreement to repay debt in kind, on condition that Russian

veterinarians inspect all meat exported to that country. Unfortunately, much of this relatively quality raw meat is sold in carcasses (including bones) and used for making low cost sausages. The increasingly prosperous Southeast Asian and the Middle Eastern countries offer a large, and as yet untapped, market for both Mongolian meat and meat products. Finally, the hygienic and safety standards of the EU may be daunting, but this may also provide a niche market for natural and ecologically produced meat in the medium to long term.

Figures 4.7. *Trends in Industrial Production of Meat & Meat Products, 1990-2001 (000 tonnes)*



Source : Statistical Yearbooks (industry section), various years, NSO.

The industrial production of meat and meat products declined rapidly after 1990 (figure 4.7). Meat, sausage, canned meat and small intestine production in 1999 reached only 10 per cent of their 1990 volume. Industrial production of meat recovered in 2000, and trebled from its admittedly very low 1999 level by 2001. Even so, industrial slaughterhouses handle just 7 per cent of all the livestock slaughtered according to the Ministry of Agriculture and Food. The remaining 93 per cent of animals are slaughtered in backyard facilities in poor hygienic conditions, and veterinarians do not inspect this meat.

Meat export was a large business before 1990. Some 22,000 tonnes of raw meat were exported mainly to Siberia (1 million small animals and 0.2 million large animals), especially from the large, state-owned *Makh Impex* plant in Ulaanbaatar, but also from four or five other regional abattoirs. Following the transition, Russian demand declined drastically due to the lower purchasing power of its population, and the imposition of high import tariffs (20 per cent on raw meat and 40 per cent on meat products such as sausages and salami). Moreover, due to their monopsony power, Russian buyers dictated the price and terms of payment. Since the outbreak of foot and mouth disease in 2002, the Russian and other markets have been virtually closed. The outbreak has also provided China with an excuse to ban Mongolian meat from its promising Chinese market, though diseases such as foot and mouth can also be transmitted in hair, hides and skins which are freely exported to China. Japan and South Korea also imported small amounts of meat as canned pet food, while Japan imported limited amount of horsemeat.

The price of Mongolia beef in export markets fell from US$1,293 to US$902 per ton between 1998 and 2000, in contrast to the trends in world beef prices. For example, the CIF price of Australian beef in USA ports increased from US$1,931 to US$1,726 during this period (Doyod, 2001). The lower price of Mongolian meat was due mainly to animal health, low hygienic standards and underdeveloped butchering technology.

In the domestic market, meat is usually sold in carcasses with bones. In October 2002, the meat and meat products sold in the domestic open markets for 650, 600, 450, and 3,000 tugrik per kg for respectively mutton, beef, horsemeat and sausages. Shop prices were about

15 percent higher. Prices fluctuate during the year, and are lowest in autumn and winter, the main slaughtering period, and highest in spring and summer. In addition to carcass meat, bone meal, dried blood, casings, skins and hides, canned products, tallow, edible fats and soaps are also produced.

There were 22 combined slaughterhouses and meat-processing plants in Mongolia. Large plants operated approximately for 130 days per year, from the beginning of August to the middle of December. Some of them operated longer, to reprocess frozen carcasses into small products. Large-scale meat plants were located in Ulaanbaatar (3), Darkhan and Choybalsam, while medium and small-scale enterprises were located mainly near the Trans-Mongolian railway. The meat-processing factory in Bagakhangay district was considered to the best, with a slaughtering capacity of 400 small animals per day in two shifts. However, the majority of old slaughterhouses were equipped with outdated machinery imported mainly from former East Germany in the 1970s.

Major issues and constraints

The meat and meat product industry suffers from the following severe constraints:

1. *Disease prevalence*. The presence of several diseases in Mongolian livestock precludes most international trade in raw or processed meat. Foot and mouth disease broke out in 2000 in several, though not all areas. Other contagious diseases such as brucellosis, glanders, anthrax and animal tuberculosis are also prevalent. Parasitic diseases reduce the weight gain of animals. In order to revive veterinary services, which collapsed following the transition, *soum*-level veterinary offices were privatized in 1999. However, there is as yet no clear definition of the respective and complementary role of the public and private sectors in the control of contagious diseases and other more economic diseases and services (including parasitic and breeding services). For its part, the government retains virtual monopoly control over the purchase of veterinary drugs, which cost two or three times more in Mongolia than in other countries.

2. *Inadequate meat quality control*. The quality control of slaughtered animals in Mongolia does not match the code of hygienic practice for fresh meat and the codes of anti-mortem and post-mortem inspection of slaughtered animals published by the Joint FAO/WHO *Codex Alimentarius* Commission. While veterinary inspections are carried out in urban abattoirs and for all exported meat, 93 per cent of animals are slaughtered in *soum*-level slaughterhouses or in private backyards without inspection. Most *soum*-level slaughterhouses are out of operation. They need to be rehabilitated, and could be managed by herder cooperatives, with meat inspected by veterinarians. Meat inspection regulations and standards were updated in 2000 with the help of USAID, however some of these were inappropriate, requiring further revision, expected in 2003. Implementation guidelines to accompany these standards have never been formulated.

3. *Limited processing and value-added*. Only a limited proportion of meat is processed. The production of meat products such as sausage, salami and canned meat, for which there is great demand in the international market, should increase. Even raw meat is mainly sold as whole meat carcasses, and not in the form of portioned boneless cuts, butchered and packed according to international standards, which would fetch higher prices.

4. *Inadequate marketing assistance*. Most meat exporters have limited their sights to the long-established Russian market. They need assistance, perhaps through their association, to identify and supply other markets, particularly the large and more promising markets in China, South East Asia and the Middle East. Due to the many health issues involved, government-to-government negotiations will remain necessary to open up these markets. The UNDP Enterprise Restructuring project extended technical assistance to restructure the *Makh Impex* plant, including establishing a marketing department and exploring new markets, but with limited success.

5. *Meat exports to China and Russia*. There is an urgent need to restart government-to-government negotiations to allow meat and meat product exports to China, the most important and immediate market for Mongolia. Mongolia should also closely collaborate with the EU and Australia to achieve substantial import duty reductions for export of meat and meat exports to Russia before its accession to WTO (at present 40 and 20 per cent on processed and raw meat respectively).

6. *Livestock management*. To produce healthier animals, livestock management needs to be rehabilitated, including the repair of water wells, half of which are not operational at the moment. Pasture management must be improved and hay stocks increased (at present the supply of hay can only for three days).

7. *Butchery techniques and storage.* Butchery techniques need to be improved to cut meat more hygienically and according to European standards, and to obtain a higher price for prime cuts. At present meat carcasses are cut into three non-standard parts only, while the at least fifteen different parts of boneless meat are sold on the international market. Meat is also exported in carcass form, while boneless meat incurs lower transport costs and fetches a higher price. Since most slaughtering is undertaken before the winter season in November and December, while consumption is spread throughout the year, adequate and efficient storage and transport are necessary, which can be achieved more cost-effectively by storing boneless meat and appropriate packaging.

8. *Breed improvement*. Some local breeds produce more meat. These, rather than imported breeds, should be promoted and crossbred with other breeds in a long-term breeding programme.

9. *Long-term strategy*. The Ministry of Food and Agriculture has formulated three programmes, namely, a 'meat export' programme, a 'livestock quality, breeding and services' programme and a livestock health programme. Though they have identified most of the issues noted above, these programmes have failed to secure sufficient funding for their implementation. Here, as in other sub-sectors discussed above, there is a need for the public and private sector to jointly develop a long-term strategy for meat and meat product exports, and to secure funding for the long-term development of the industry.

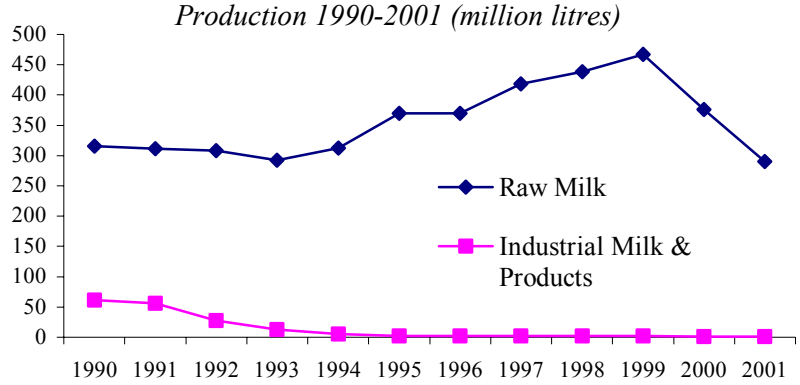
4.5 Dairy Products

Trends and opportunities

The Mongolian population enjoyed a high per capita consumption of milk comparable to that of many developed countries, thanks to its high livestock population. Following privatization and the distribution of most high yielding milk cows to the population, the domestic dairy

industry collapsed. Urban domestic demand for milk and dairy products was partly met by relatively expensive imports from Russia and European countries. Some urban consumers bought pasteurized milk produced by small dairy plants, but most consumed un-pasteurized milk brought in by middlemen and sold in markets and on the street in relatively unhygienic conditions, posing considerable health hazards. A couple of small cheese production plants also supplied their products to Ulaanbaatar, but their output was limited.

Figure 4.8. *Trends in Raw Milk and Industrial Milk Production 1990-2001 (million litres)*



Source : Ministry of Food and Agriculture for raw milk. *Statistical Yearbook,* various years, NSO, for industrial milk & milk products.

Domestic production of raw milk increased from around 300 to 470 million litres from 1990 to 1999, and then dropped by 40 per cent to 290 million litres by 2001 (figure 4.8). This then, mirroring the steady increase in the number of cows until 1999, followed by their sharp declined due to the 2000-01 *zud*. Milk plants processed some 60 million litres or 20 per cent of the raw milk in 1990, but this plummeted to 2 and 1 million litres by 1995 and 2001. Per capita consumption of milk increased in line with domestic production after 1995, rising from around 110 to 146 litres per capita between 1995 and 1999, but then declined to 101 litres in 2001. Imported dairy products, which averaged about 1 million litres between 1995 and 1999, increased threefold in 2000, and doubled again in 2001 to reach over 6 million litres of mainly UHT milk, according to figures compiled by the Ministry of Food and Agriculture.

Before 1990, the large *Suu* dairy plant in Ulaanbaatar produced 40 million litres of milk a year, supplied mainly by state-owned dairy farms in the outskirts of the capital city, some of them with 800 milk cows, each producing 15 litres per day. This was supplemented by a network of collection points and centres along a paved road to the north of the country. After transition, the collection system collapsed, while the intensive dairy farm also shut down due to poor management and death of its remaining livestock due to malnutrition. This plant is now operating at less than 1 per cent capacity. Other dairies in Ulaanbaatar, Erdenet and Darkhan are small (0.5-5 tons per day), and operate under poor hygienic conditions.

Traditional dairy products include yoghurt, butter oil, white butter (made from evaporated cream), soft curd, milk vodka (made from distilling yoghurt), acid cheese (made from heating curdled milk and separating curd using cloth bag), *eezgir* (made from evaporated partially skimmed curdled milk), and unwashed, sun-dried casein. Horse milk is commonly drunk as a light alcoholic drink in the countryside. In rural areas, transport their surplus milk to *soum* centres for processing into butter or casein. Due to low hygiene standards, inadequate temperature control and transportation, milk quality deteriorates rapidly. Clean water, chemicals for cleaning milk utensils, and storage facilities are unavailable, and knowledge of hygienic rules for milking and milk treatment is generally lacking. These problems are compounded by the lack of refrigerated storage facilities, particularly during summer, and storage of milk in cans for long periods, sometimes under the sun.

Major issues and constraints

Several challenges need to be addressed in order to rehabilitate the once thriving Mongolian dairy industry and provide safe milk and dairy products, including:

1. *Poor quality of milk and dairy product*s. The quality of dairy products does not meet existing Mongolian and international standards. In rural areas, milk quality deteriorates rapidly due to poor hygiene standards. In urban areas, small dairy processing plants, while being supplied with poor quality milk, themselves operate under poor hygienic conditions, with inappropriate equipment, and with unskilled personnel. Urban residents also consume dairy products directly from middlemen or farmers bringing un-pasteurised milk to the street or to local markets, posing a health hazard. The facilities and personnel of small and medium dairies should be upgraded, perhaps through their industry associations, with information on equipment, health and safety standards, and training.

2. *Collection points and centres.* There is a need to rehabilitate the existing collection points and collection centres in the cattle area along the northern road from Ulaanbaatar to the Russian border, and the need to transfer their management to herder cooperatives, which already exist informally among extended family members.

3. *Suu Dairy Plant*. This plant's refrigeration facilities were recently upgraded with help of the Japanese government, but the plant is barely operating due to poor management (which changed several times) and the lack of raw milk procurement system. Low operating capacity has affected its working capital in a downward vicious circle. This dairy plant can operate profitably under professional management, since the capital city alone requires some 100 tonnes a day.

4. *Private investment.* Private investment should be encouraged in combined intensive dairy farm-dairy plant operations in Ulaanbaatar and other urban centres, or at least remove obstacles in their way (as in the case of local government obstruction to the proposed foreign investment by NZM Company in the outskirts of UB). There is also a need to encourage and support private sector investment in the production of milk, butter and other dairy products especially in rural areas, where excess milk in the summer could be preserved during transportation to *soum* centres using simple techniques, and then converted into curd and casein products, and cheese for domestic consumption.

5. *Breed improvement*. The current mixture of breeds produce only 3 to 5 litres of milk per day. The cattle herds, kept in intensive farms near urban areas, can be improved through artificial insemination and imported bulls, services which were widely provided by the state before the transition. These services should continue to be provided on a cost-recovery basis, bearing in mind that improved herds require more feeding and management.

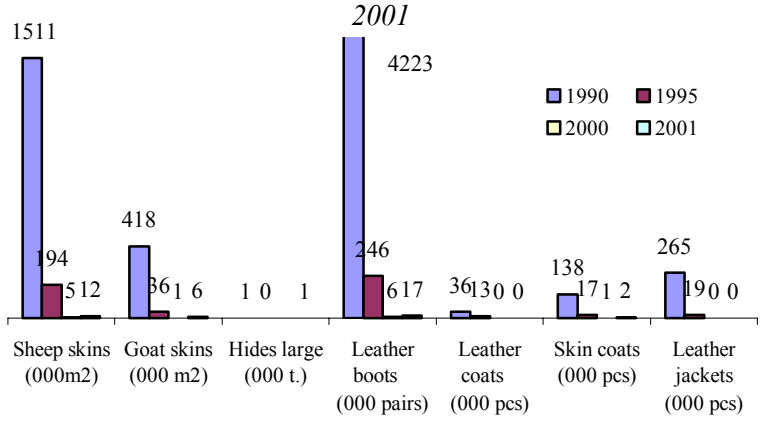
6. *Long-term strategy.* In 1999, the government formulated a 'white revolution' programme. This medium-term programme, formulated with the assistance of the Food Industry Association, as yet to be implemented. A long-term public-private strategy is needed for the development of the dairy and dairy product industry.

4.6 Leather Products

Trends and opportunities

Mongolian hides and skins are very price competitive, almost half the price of those in China, though some price differential is due to the generally smaller size and weight of Mongolian animals. There is a large demand for leather products in Mongolia and internationally, particularly for leather garments made with sheep or goatskin. Yet most hides and skins are exported to China either raw or as semi-processed *wet blue*. Before 1990, state owned sheepskin tannery and garment manufacturer *Darkhan Nekhii* exported 90 per cent of its double-face coats to Siberia, where its products were highly regarded for their warmth. This plant closed down its operations in early 1998 due to accumulation of large debts, sporadic production, frequent management changes, a 40-50 per cent import tax imposed by Russia, and lack of in-house marketing skills to explore new markets. Now imports from as far as Korea and Turkey, which enjoy virtually duty-free access to the Mongolian market, supply part of the domestic demand for leather jackets, boots and other products.

Figure 4.9. *Trends in Leather and Products, 1990-2001*



Source : Statistical Yearbook (industry section), various years, NSO.

Nowhere is the rapid de-industrialization of Mongolia more apparent than in the leather goods industry. Between 1990 and 1995, the production of sheepskin, goatskin, large hides, leather boots, leather coats, skin coats and leather jackets declined by 90 per cent, and was negligible by 2000 (figure 4.9). There was a slight revival in 2001 in sheepskin, goatskin and leather boots, but not in other products.

The poor quality of hides and skins, and procurement difficulties are often cited as major constraints for the domestic industry. Yet, they find a ready market in China despite their present quality, and a marketing chain stretching from the Mongolian hinterland to Chinese cities across the border regularly supplies Chinese manufacturers. The large, partly state-owned, *Buligaar* tannery does indeed face difficulty in procuring raw materials, but this is due to its inability to raise working capital, or prohibitive interest rates. Moreover, large amounts of working capital are required during the short slaughtering season in November and December. Buligaar, whose plant was recently fitted out with Italian machinery under a government-to-government loan from Italy, also faces a large debt burden and severe management problems. The factory was closed down for almost four years before recommencing operation in 2001, and is now producing at 10 per cent capacity.

Since 1990, some 48 small and medium companies, many Chinese-Mongolian joint ventures, were established for mainly primary processing (24), but also for processing fur (4), and leather and tannery products (10). There are also four large plants (*Buligaar*, *Shevro*, *Nekhii* and *Sor*). These larger enterprises were operating at approximately 10 percent of their

production capacities. Before 1990, the leather industry employed 15,000 workers. At present, however, the industry employs less than 2,000 workers.

Hides are marketed mainly in November and December. The state-organised collection system collapsed in 1990. Now, tanneries procure from traders or have contracts with slaughterhouses. Middlemen usually undertake barter trade with herders in barter at the *soum* level. They also procure on behalf of foreign traders. The main export market remains, China, however small amount of semi-processed products are exported to South Korea, and semi-processed and some leather products to Russia. Hides are commonly smuggled to China and Russia, due to a high import tax for skins and hides imposed by the Russian authorities (up to 45 per cent). Officially, export of skin and hides in 1995 earned nearly US$ 4 million, but declined to US$ 3.2 million in 2000.

Selected Mongolian sheepskin and goatskin, when not damaged by wormholes made by parasites, do meet international standards for leather clothing. The world demand for this type of processed skin is estimated at 60-70 millions pieces per year, and Mongolia could cover a tenth of this demand. Countries supplying hides and skins to the world market included Australia, China, EU countries, India, New Zealand, Russia, South Korea and USA. These countries produced goods worth US$85 billion in 2000, of which 37 percent was produced by USA, 37 per cent by EU and 10 percent by Australia.

Main issues and constraints

The leather product industry faces the following main challenges:

1. *Limited domestic value-added*. Most hides and skins are exported in raw form or as *wet blue* to China. The once thriving domestic leather product industry, which supplied jackets and boots to COMECOM countries as far as East Germany, has all but collapsed. As in the case of cashmere garments, Mongolia needs to compensate for its higher transport costs relative to its competitors by identifying market niches and concentrating on the luxury leather product market. This requires a long-term development strategy and a roadmap for the next ten or twenty years, and should probably include steps to develop its own design capability, and marketing and distribution channels, and perhaps its own brand names. Assistance in developing alternative markets, and using alternative channels such as the internet, is required. But the low quality of hides of skins must be addressed as a matter of priority.

2. *Poor quality of hides and skins*. The quality of skins has deteriorated markedly in the past ten years, since dipping baths and drugs used for treatment of state-owned herds in the past were abandoned. On a 1-5 scale used internationally, Mongolian leather ranked 4, because skins are covered with scars and perforations produced by parasitic worms. These cannot be detected at the time of purchase, and only appear when the leather is processed. The holes make the skins unsuitable for the production of higher value jackets and garments, and are mainly used for small items such as bags, boots and wallets. Herders are reluctant to pay for anti-parasite drugs because untreated and treated hides and skins fetch the same price. The long-term solution may be some form of contract arrangements, whereby the processors pay a premium price for treated (and marked) animals, in return for guaranteed supplies from selected herders, or even supply anti-parasitic drugs to herders, administered or monitored by veterinarians. Dipping baths at

soum level must also be rehabilitated. Another major problem is the poor cutting of hides and skins in household slaughtering, which accounts for most of slaughtering.

3. *Shortage of working capital*. Tanneries require large amounts of working capital during the relatively short slaughtering season of November-December. When interest rates are high, companies quickly become saddled with large debts, and have great difficulty in competing with Chinese companies that have access to low-interest loans. In addition, the demand for leather is concentrated in another season, in time for the sale of winter clothing.

4. *Sorting and grading*. At present, hides and skins are paid according to length, leading to stretching and damage. The National Metrology and Standardization approved some 30 standards for leather processing in 2001. There is now a need to widely disseminate these through newspapers, radio and television.

5. *Outdated technology and designs in large tanneries*. There has been considerable advancement in processing techniques around the world, although the main leather processing steps remain the same. In contrast, with some exceptions, Mongolia's leather processing technology is outdated. Improvements are also required in storage and handling of chemical materials, and in repairing machines that cause damage to the skins. Their designs of leather products are also outdated.

6. *Technological capacity to produce export-quality leather goods*. Many small and medium leather industries have limited capacity to produce export-quality products. A GTZ-funded SME development project is currently strengthening the capacity of the Armono Leather Research Centre to provide consultancy services to these industries. The UNDP Enterprise Restructuring project undertook the restructuring of the *Darkhan Nekhii* sheepskin company. Even here, the product quality was found to be poor and its finished product quality highly variable. Following specialist technical assistance and improvement of skills, the quality of skins became noticeably softer, lighter and better textured, while its dyeing process improved significantly and became more reliable, with essentially the same equipment (ERP, 2002:21).

7. *Environmental issue*. Chemicals used in leather processing are generally untreated, and pollute rivers and streams. Fragments of skins and offal thrown away also contribute to environmental pollution.

8. *Strategic vision*. Mongolia has vast resources of hides and skins and a large excess capacity in production facilities. A long-term vision jointly formulated by the public and private sector should be prepared to take advantage of these resources and turn the leather industry into a major foreign exchange earner and provider of employment.

5 INDUSTRIAL & TRADE POLICIES AND THEIR IMPLEMENTATION

5.1 Industrial Policy: Scope, Instruments and Development Strategy

Scope and instruments of industrial policy

The manufacturing sector, perhaps more than any other sector, depends on all other sectors of the economy because of its numerous backward and forward linkages with them. Consequently, any macro-economic or sectoral policy that has a direct or indirect impact on the manufacturing sector is considered to fall within the scope of industrial policy. In many policy discussions and in some technical literature on industrial development, industrial policy is often equated with selecting 'winners', protecting such promising industries as prioritized by the government, and directing preferential loans and other facilities at them. The scope of industrial policy as understood here is therefore much broader than the latter.

Besides specific policies targeted at the manufacturing sector, industrial policies include: macroeconomic policy (fiscal, monetary, and exchange rate policies); policies regarding governance and provision of government services to improve the business environment; trade policy (tariffs, export promotion, trade agreements); financial and banking sector policy; tax policy (general tax structure, corporate taxes); direct government investment, ownership, and privatization policy (public enterprises in manufacturing, utilities, physical infrastructure and industrial services); foreign direct investment policy; industrial regulation and licensing policy (including environmental protection); physical infrastructure policy; labour market policy; and education and training policy.

Faced with the need to direct scarce development resources to selected priority industries, the narrow industrial policy approach of selecting 'winners' is understandable. However, the governments of many developing countries have not been very successful at picking such industries, and have ended up selecting those in which the country did not have, or could not develop, competitive advantage over time. Also, countries have found it almost impossible to withdraw special facilities, subsidies and protection once in place, making many infant industries uncompetitive in the world market, and becoming a serious drain on the government budget. Moreover, in the current environment of globalization, trade liberalization and WTO membership, governments are increasingly unable to impose tariffs to protect their domestic industries.

While Mongolia has directed credit and taken other measures to rebuild its industrial base in the past, such as tanneries and carpet industries, and in promoting promising industries, such as cashmere, it has also actively promoted a wide range of non-discriminatory policy measures to strengthen the manufacturing sector. These have included measures to improve the macroeconomic, banking, legal and business environment, offering incentives to attract foreign direct investment, investing in physical infrastructure, reducing trade barriers, and upgrading the technical and managerial capacity of small and medium-scale industries. These general policies are discussed below (section 5.2 to 5.5), followed by a review of manufacturing specific policies (section 5.6).

Overall industrial development strategy

Because there is no single document outlining the overall manufacturing development strategy of Mongolia, it is often assumed that such a strategy does not exist. This is partly due

to the abolition of the Ministry of Industry and Trade between 1996 and 2000 by the previous government, and its reinstatement by the government that regained power in 2000 (Doyod, 2001:26). In fact an implicit manufacturing strategy is contained in government documents produced by the Ministry of Finance and Economy and of the Ministry of Industry and Trade, and may be considered to consist of the following five main elements:

(i) *Rapid manufacturing growth*. In the medium term, the Ministry of Finance and Economy (MOFE) has set a growth target for the whole economy of 3.7 per cent p.a. in 2002, gradually rising to 6.4 per cent in 2005. A key component of rapid overall growth is for the manufacturing sector to grow at 8.1, 7.3 and 6.5 per cent p.a. in respectively 2003, 2004 and 2005. The contribution of this sector in total GDP is expected to rise from 10.9 to 11.3 per cent in this five-year period.

(ii) *Rapid expansion of supporting sectors and infrastructure*. To support rapid growth in the manufacturing sector, MOFE has planned for the corresponding rapid growth of agriculture (4-5 per cent p.a.), construction, transport and financial and business services (5-7 per cent p.a.). The government has also allocated funds to improve roads, railways, electricity and communication facilities throughout the country. These will promote industrialization, particularly in provincial and district centres. Rural electrification alone is well known to be a powerful means of initiating rural industrialization.

(iii) *Conducive macroeconomic, financial, legal and business environment*. In the macro-economic area, the government has targeted low inflation, stable exchange rate, strengthened banking and financial sector, and increased supply of credit at low interest rates (MOFE 2002:19). The government's emphasis on these four key aspects starting in 2000 is the direct response to runaway inflation, extreme exchange rate volatility, banking crises and sky-high interest rates which characterized much of the 1990s, and which seriously hurt the manufacturing sector. In the business and legal environment area, the government has targeted tax and customs reforms, streamlining of government regulations, inspections and licensing, and improvement of government services. Labour laws were also amended to facilitate employment promotion and the international movement of labour (MOFE 2002:29).

(iv) *Overall manufacturing strategy.* The Interim Poverty Reduction Strategy Paper (I-PRSP) has emphasized private sector-led growth, including the further privatization or partial privatization of state-owned manufacturing enterprises, export-oriented manufacturing production, liberal import and export trade regimes, tax and other incentives to attract foreign direct investment, and promotion of small and medium industries.

(v) *Prioritizing five promising industries*. The government has selected the following five promising industries: (i) increased processing of copper and gold, (ii) meat processing, (iii) leather processing, (iv) cashmere, and (v) wool processing and carpets (MOFE 2002:19). The year 2002 was declared the year of 'domestic industry promotion' and several programmes, including the 'wool programme', the 'cashmere programme' and the 'hides and skins sub-programme' were formulated and began implementation (MOFE 2002:22). Preferential loans were directed at several state-owned companies such as Gobi cashmere, Erdenet Carpet, Monnoos and Dornod Wool, to improve their capacity utilization, leading to higher manufacturing output in 2001.

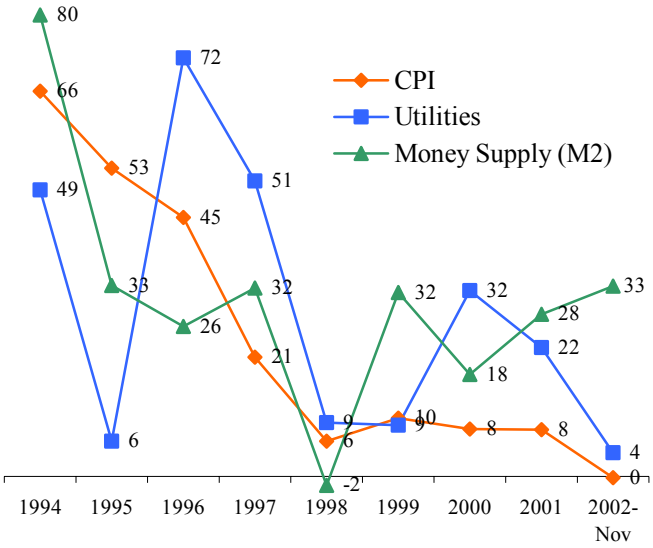
The remainder of this section reviews the above government policies, their implementation and their current and likely future impact on the manufacturing sector.

5.2 Macroeconomic Policies

Inflation control

After runaway inflation during most of the 1990s, the government began to gain control over inflation in the period 1998-2002. Following the transition to a market economy and rapid price liberalization, the consumer price index jumped by 53, 325 and 183 per cent per year between 1991 and 1993. By targeting broad money supply at 30 per cent p.a. (MOFE 2002:6), jacking up interest rates and stabilizing the currency, the rate of inflation gradually declined to 45-66 per cent during 1994-96, before declining to 20 per cent in 1997(figure 5.1). Since then, inflation had been brought under control, growing at a moderate 6-10 per cent per annum between 1998 and 2001, and prices remaining stable in 2002.

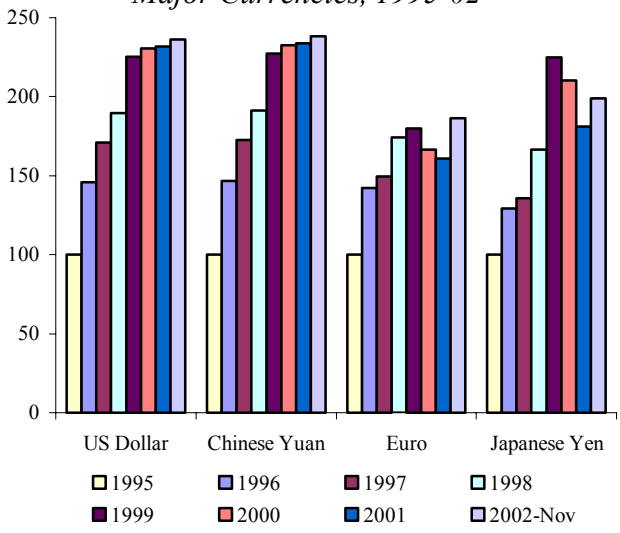
Fig. 5.1. *Inflation and Money Supply, 1991-2002 (year end)*



Source : *Statistical Yearbook 2001,* NSO. *Statistical Bulletin Nov. 2002,* Bank of Mongolia.

Stable exchange rate

Fig. 5.2. *Exchange Rate against Major Currencies, 1995-02*



Source : *Monthly Bulletin Nov. 2002* , Bank of Mongolia

Following the rapid depreciation of the tugrik after the 1990 transition, the government finally managed to stabilize the currency in the 1999-2001 period. Between 1995 and 1999, the tugrik depreciated by a uniform 23 per cent per year against the US dollar, the Chinese Yuan and the Japanese Yen (figure 5.2 and table 5.1). It depreciated by a lower rate of 16 per cent per year against the Ecu during this period. After 1999, the exchange rate against the currencies of these major trading partners stabilized, depreciating by just 1 per cent per annum against the US dollar, the Chinese Yuan and the Euro, and even appreciating by some 3 per cent per annum against the Japanese Yen. It should be noted that the behaviour of the Chinese Yuan was probably due to its pegging to the US dollar.

Table 5.1. *Exchange Rate against Selected Currencies, 1995-2002 (year end)*

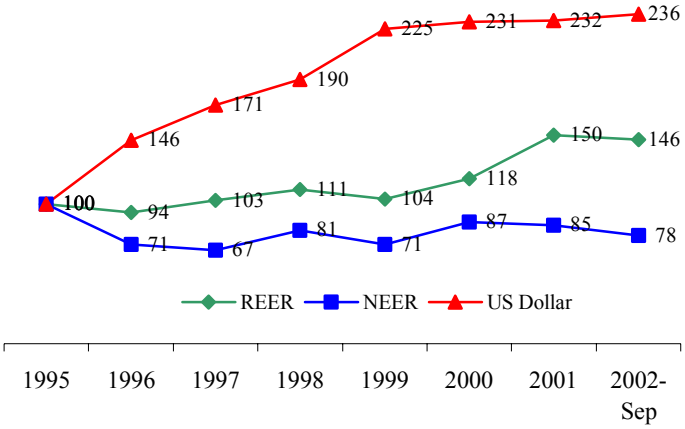
	1995	1996	1997	1998	1999	2000	2001	2002*	Average annual change 1996-99	Average annual change 2000-02
Exchange rate										
US Dollar	476	694	813	902	1,072	1,097	1,102	1,123	23.2	1.6
Chinese Yuan	57	84	98	109	130	133	133	136	23.5	1.6
Euro	605	861	905	1,053	1,087	1,007	974	1,126	16.8	1.7
Japanese Yen	4.6	6.0	6.3	7.7	10.4	9.7	8.4	9.2	23.0	-3.5
Index (1995=100)										
US Dollar	100	146	171	190	225	231	232	235	23.2	1.6
Chinese Yuan	100	147	172	191	227	233	234	237	23.5	1.6
Euro	100	142	150	174	180	166	161	181	16.8	1.7
Japanese Yen	100	129	136	167	225	210	181	203	23.0	-3.5
REER	100	94	103	111	104	118	150	146	1.2	12.8
NEER	100	71	67	81	71	87	85	78	-6.4	3.7

Source: *Monthly Bulletin November 2002*, Bank of Mongolia.
Note: * November for currencies and September for REER and NEER.

Besides improving the efficiency of the inter-bank operations related to foreign exchange (MOFE 2002:9), BoM intervened in the foreign exchange market to satisfy the growing need for the tugrik, buying $115 million and selling $181 million in 2001, or net selling of $66 million (BoM 2002:46; 84). This increased currency outside the banks and in tugrik deposits, and the overall money supply. The more stable exchange rate in 1999-2002 also relieving inflationary pressures of imports on the consumer price index.

Changes in nominal and real effective rates calculated by the Bank of Mongolia (BoM) are harder to interpret. The nominal effective exchange rate (NEER) data indicate a relatively stable situation throughout the 1996-2002 period, after an initial decline between 1995 and 1996 (figure 5.3). This is somewhat unexpected given the nearly 100 per cent depreciation of the tugrik against all major currencies by 1999 noted above, and the fact that the NEER is a weighted average of exchange rate movements against these currencies.

Figure 5.3. *Nominal and Effective Exchange Rates, 1995-2002 (1995=100)*

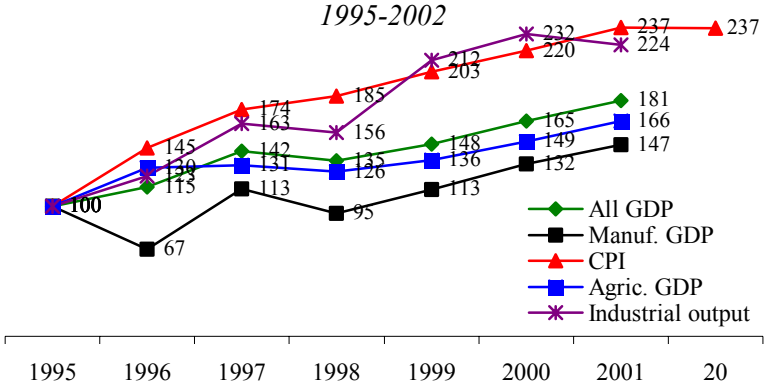


Source : *Monthly Bulletin November 2002,* Bank of Mongolia.

The real effective exchange rate (REER), which is the NEER adjusted for inflation rates in the respective currencies, and which use the CPI as the inflation rate for Mongolia, indicate a relatively stable situation between 1996 and 1999, followed by an appreciation of 12 per cent per annum in the 1999-2002 period. According to these figures, the tugrik appreciated by 50 per cent between 1996 and 2001, and remained more or less at that level in the first eight months of 2002. To the extent that the CPI, at least partly, reflects trends in producer prices, this in turn would imply a significant decline in the competitiveness of Mongolian producers.

To what extent is the CPI, used by BoM in calculating the REER, a measure of producer prices of manufactured goods? Since data on producer prices or wholesale prices are not available, the CPI can be compared with the overall and sectoral GDP deflators. Between 1995 and 1999, the CPI increased by an annual average of 20 per cent compared with just 10 per cent for the GDP deflator (figure 5.4). However, the industrial output deflator increased by 17 per cent in this period. From 1999 onwards, the CPI, the industrial output and the GDP deflators increased by about the same rate of 9-10 per cent per year. The relatively stable exchange rate against the dollar and other major currencies during this period, combined with a higher inflation rate in Mongolia than in its major trading partners, implies loss in domestic competitiveness.

Fig. 5.4. *Various Deflators Compared 1995-2002*



Source: *Statistical Yearbook*, various years, & *Monthly Bulletin November 2002,* NSO.

Though there was no inflation in 2002, the appreciation of the tugrik during the 1999-2001 period may warrant action by the monetary authorities to depreciate the overvalued local currency. However, this is easier said than done, because the exchange rate stability observed over the past three years was due to a number of factors as follows:

1. Inflow of remittance funds from migrant workers in Korea and elsewhere reaching $7 million in 2001 (MOFE 2002:17), entering the country through mostly informal channels, and now fuelling a consumption and construction boom in Ulaanbaatar, and becoming a major determining factor in the domestic foreign exchange market (BoM 2002:86)
2. Continued inflow of foreign aid, with grants increasing by 25 per cent to $118 million in 2001, mainly from Japan and Germany (MOFE 2002:17)
3. BoM's expanded transaction in gold, now larger in value than copper export revenues
4. Weakening of the US dollar against the Euro and other major currencies

The overvalued tugrik may handicap the competitiveness and the further development of domestic producers, increasingly unable to compete against relatively cheaper imports of consumer goods, particularly in dairy and other food and beverage industries, which accounted for nearly half of manufacturing value-added. The widening trade deficit observed in the past few years may provide support for this view. The share of agricultural products in total imports increased from 5 to 7 per cent, while the share of food products doubled from 4 to 8 per cent between 1995 and 2001. The monetary authorities need to urgently review trends in the real effective exchange rate and, if overvaluation is confirmed, take corrective action on the exchange rate to restore the competitiveness of domestic producers.

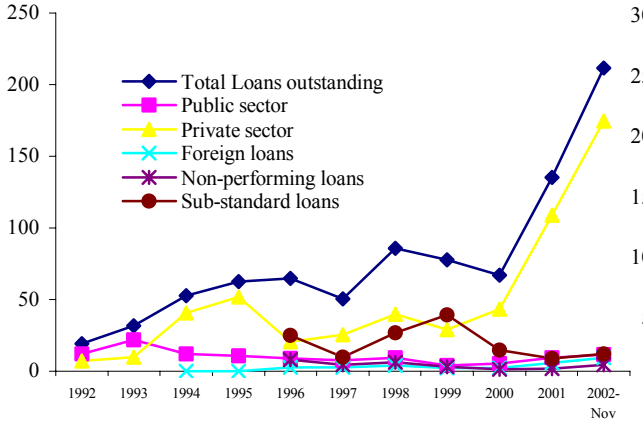
Increased credit availability at lower interest rates

Credit availability. During most of the 1990s, manufacturing enterprises were faced with tight credit and high interest rates. However, credit availability improved markedly starting in 2000. Outstanding loans doubled in value between 2000 and 2001, and doubled again in

2002. The private sector absorbed about 80 per cent of these loans, while the public sector and foreign loans accounted for 8 and 5 per cent of the total (figure 5.5 and table 5.2). Public sector loans consisted of bad loans, non-performing or sub-standard (2 and 6 per cent), following the 1998-2000 banking crisis, during which the non-performing and sub-standard loans expanded while bank deposits dried up.

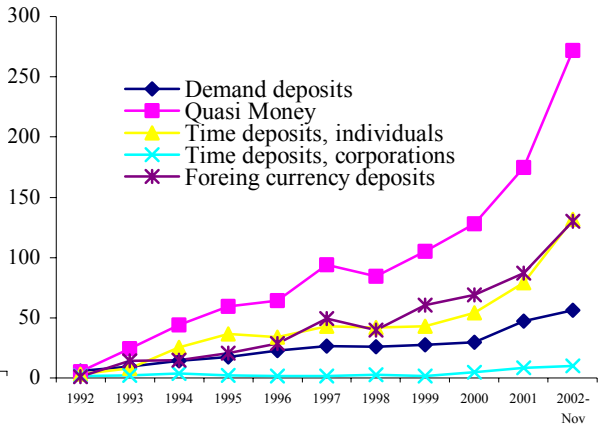
Figure 5.5. *Outstanding Loans and Bank Deposits, 1992-2002 (Mill. tug., year end)*

(a) Outstanding loans



Source: Monthly Bulletin Nov. 2002, Bank of Mongolia.

(b) Bank deposits



Source: Monthly Bulletin Nov. 2002, Bank of Mongolia.

Table 5.2. *Credit Availability: Loans and Deposits, 1992-2002 (Billion tugrik, year end)*

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002*	Avg. annual growth		
												93-96	97-98	99-01
Loans outstanding														
Total	19.1	31.6	52.8	62.7	64.8	50.4	85.6	77.5	66.8	135.1	211.5	33.7	-11.7	74.3
Public sector	12.2	21.7	12.2	10.9	9.0	7.8	9.3	4.0	5.4	9.5	11.4	2.1	-11.3	53.1
Private sector	6.9	9.9	40.6	51.8	20.3	25.3	39.7	29.1	43.3	108.7	174.5	67.1	11.1	98.4
Foreign loans			-	-	2.5	2.8	4.0	2.4	2.2	5.9	9.3		-24.1	125.8
Principal in arrears					8.1	4.6	6.1	2.9	1.3	1.8	4.3	-5.3	-53.9	104.5
Sub-standard loans					24.9	9.9	26.6	39.2	14.6	9.1	12.0	54.1	-7.7	-6.3
Per cent distribution	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Public sector	63.8	68.8	23.1	17.4	13.9	15.5	10.9	5.2	8.1	7.1	5.4			
Private sector	36.2	31.2	76.9	82.6	31.4	50.2	46.4	37.5	64.9	80.5	82.5			
Foreign loans			0.0	0.1	3.9	5.6	4.6	3.0	3.3	4.4	4.4			
Principal in arrears					12.4	9.0	7.1	3.8	1.9	1.3	2.0			
Sub-standard loans					38.4	19.7	31.0	50.5	21.9	6.7	5.7			
Deposits														
Demand deposits	5.8	9.8	14.1	17,405	22.6	26.3	26.1	27.5	29.8	47.0	56.2	30.3	6.9	31.4
Quasi Money	5.8	24.2	43.9	59,408	64.1	94.0	84.7	105.3	128.1	174.9	272.0	84.8	23.0	37.3
Time deposits, indiv.	3.0	8.0	25.3	36,603	33.8	42.9	42.0	43.3	54.1	79.3	131.7	74.4	14.0	44.6
Time deposits, corp.	1.4	2.1	3.6	1,926	1.3	1.8	2.8	1.8	4.9	8.3	10.2	21.8	68.0	66.7
Foreign cur. deposits	1.0	14.1	15.0	20.9	28.9	49.3	39.8	60.3	69.1	87.3	130.1	245.4	33.0	28.9

Source: *Monthly Bulletin November 2002,* Bank of Mongolia, pp. 6 and 17-18.
Note: * November 2002.

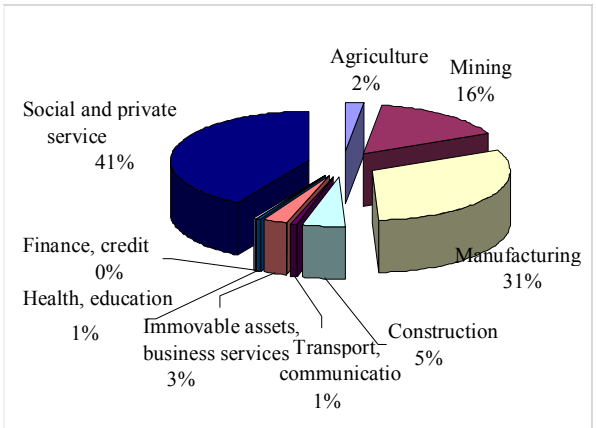
Credit availability improved in the 2000-2002 period, though mainly for short-term lending, and was due to several factors including: (i) doubling of deposits from individuals and trebling of deposits from corporations; (ii) reduction of principal in arrears and sub-standard loans; (iii) approval and entry of new commercial banks; (iv) increase in the equity requirements for operating a commercial bank from 1 to 4 billion tugrik between 2000 and 2002; and (v) reduced public sector borrowing, including central government borrowing, which had crowded out private sector borrowing in the past. The government also prioritized strengthening the banking system, and succeeded in restoring confidence in the commercial banks, thus bringing interest rates down as shown below.

However, there are indications that bank liquidity may have expanded too rapidly between 2000 and 2002. Principal in arrears, after falling from 6 to less than 2 billion tugrik between 1998 and 2001, rose again to over 4 billion by November 2002. Similarly, sub-standard loans, which declined from 39 to 9 billion tugrik between 1999 and 2001, rose again to 12 billion in by November 2002. The new commercial banks, in order to compete, have simplified loan approval procedures, and may have contracted more risky loans than more established commercial banks. Even public sector borrowing, which declined from 9 to 3 billion tugrik during 1998-1999, has expanded rapidly to reach 11.4 billion by November 2002. The government itself refrained from borrowing from the banking system, but lending to state-owned enterprises doubled from 6 to 13 billion tugrik in this period. A new crisis in the banking sector may be looming if these trends continue, and in the monetary authorities do not re-establish banking discipline.

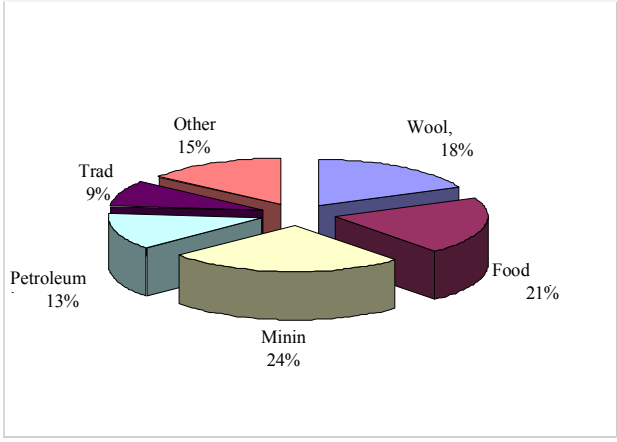
Loan portfolio. The manufacturing sector was the largest beneficiary of bank lending programme, despite the general view that traders utilized the most credit, because they could afford high interest rates and make use of short-term loans. Bank loans to manufactured sector doubled and accounted for 31 per cent of the total in 2001 (Figure 5.6). By comparison, the mining and trade sectors absorbed respectively 16 and 5 per cent. In the case of the largest commercial bank, the Trade & Development Bank, this share was nearly 40 per cent (18 per cent for wool and cashmere, and 21 per cent for food processing), while the mining and trade sectors absorbed respectively 25 and 9 per cent of the total.

Figure 5.6. *Structure of Outstanding Loans, December 2001(% of total)*

(a) All banks



(b) Trade & Development Bank



Source: *Annual Report 2001*, Bank of Mongolia. *Annual Report 2001*, Trade & Development Bank

Interest rates. Lending rates to entrepreneurs came down from 46 per cent per year in the height of the most recent banking crisis to 35 per cent per year 2002, due to the recovery of the banking sector and increased market competition from newer banks (table 5.3). Lending rates are still quite high for the manufacturing sector and moreover are generally available for short-term rather than medium or long term lending. Nevertheless, reputable manufacturing enterprises, which produce good proposals, can generally secure medium-term loans at lower interest rates of 18-23 per cent per year, or around 10 per cent less than other borrowers.

Table 5.3. *Loan Rates, Selected Commercial Banks, 1998-2002 (per cent per year, year end)*

	1998	1999	2000	2001	2002*				
					Weighed	Enterprise	Trade	Individuals	Others
Weighed average	45.8	38.8	34.7	41.4	35.0				
Selected banks									
Trade & Development		42.9	32.9	28.3	29.0	23-28	29-32	29-32	
Golomt Bank		35.8	37.2	26.6	30.1	18-36	24-42	36-42	24-42
Ulaanbaatar City		39.3	36.0	33.9	30.9	30		24-48	28-36

Source: *Statistical Yearbook 2001,* NSO, table 7.3; *Monthly Bulletin August 2002,* Bank of Mongolia, pp. 21-22 (weighed average and 2002 rates)
Note: * August 2002.

The government and the Central Bank played an important role in lowering interest rates. The government refrained from borrowing from the banking system, choosing instead to issue short-term bills through the stock exchange. For its part, BoM narrowed lending and savings rates and maintained an average interest rate on Central Bank bills to 8.6 per cent, relatively low but nevertheless positive in relation to inflation.

Special credit schemes for manufacturing sector. In addition to resources from commercial banks, the World Bank and the German government development bank KfW provided funds to two commercial banks for on-lending to manufacturing enterprises, the Trade and Development Bank and Golomt Bank. KfW loans were available for 5 to 8 years at the concessional rate of 7.5 per cent per annum, while World Bank loans were available for 3 to 5 years at the concessional rate of 10-13 per cent per annum. Disbursement has been slow due to arduous and stringent loan processing and approval procedures. These funds also competed against the increased availability of funds from the two banks' own resources, which were often given preference. The need for World Bank and KfW funds should be reassessed in light of recent developments in the banking sector.

In sum, credit availability from private commercial banks expanded rapidly and was accompanied by a corresponding decline in lending rates. These trends are likely to continue, allowing manufacturing enterprises greater access to credit funds at increasingly competitive rates. There is thus no need for a special industrial development bank or banking corporation in Mongolia. There may even be a need to reassess the role and impact of special credits extended by the World Bank and KfW on the health of the private banking sector, and perhaps decide to discontinue them. Private banking liquidity may have in fact expanded too rapidly, leading to the deteriorating quality of some loans. This calls for more discipline on the part of the commercial banks, and more vigilance on the part of the monetary and banking authorities to avoid another crisis.

Banking sector recovery

Following the 1998-99 banking crisis, this sector made a good recovery due to actions on several fronts. Legal reforms were enacted to amend regulations concerning the licensing of new bank and non-bank institutions, the Civil Code, the Law on Banks, and the Law on Payments, Savings and Credit (MOFE 2002:8). These reforms enhanced the accountability of borrowers and enforcement mechanisms for loan repayment, and expanded access to borrowing. State-owned Savings Bank and Agricultural Bank were restructured to facilitate their expansion, while state-owned Trade & Development Bank was privatized. The share of non-performing loans declined significantly as already noted, partly due to more power granted under the above laws to banks to repossess collateral. BoM raised the minimum equity capital requirement for domestic banks from 1 to 2 billion in 2001, and to 4 billion tugrik in January 2002 to strengthen the banks, mitigate risks, expand bank operations, increase the scope for financial operations, absorb the amount of currency outside the banking system and inject capital in the real economy.

By the end of 2001, the number of commercial banks grew to 16, while the number of non-bank financial institutions grew from 2 in 2000 to 28, providing banking and financial services in all *aimags*. Some 80 per cent of bank offices were located in rural areas. Four new banks were granted banking licenses. The expansion of the banking system and the non-banking financial institutions introduced more competition and lowered interest rates. Restored public confidence in the banking sector led to the rapid growth in demand and time deposits, which were in turn invested in loans and BoM bills. The latter indicated an improvement in solvency and liquidity of potential borrowers. By the end of 2001, the average capital adequacy ratio for the banking system stood at 25 per cent, well above the 10 per cent minimum BoM requirement (BoM 2002:84).

Capital market development

Though still relatively underdeveloped, the capital market nevertheless provided an alternative source of funds for manufacturing and other enterprises to borrowing from commercial banks, by channelling savings to businesses. The capital market played two other important roles. It provided continuous valuation of listed companies and, by offering an alternative investment to the money market, enhanced the stability of the financial market overall.

In 2001, a total of 400 limited liability companies were registered at the Mongolian Stock Exchange (MSE), 57 of which had state participation in their ownership, while 334 were fully privatized (BoM, 2002a:48). The most actively traded securities were however not in the manufacturing sector, but in trade and telecommunications, with the exception of largest cashmere *Gobi Company*.

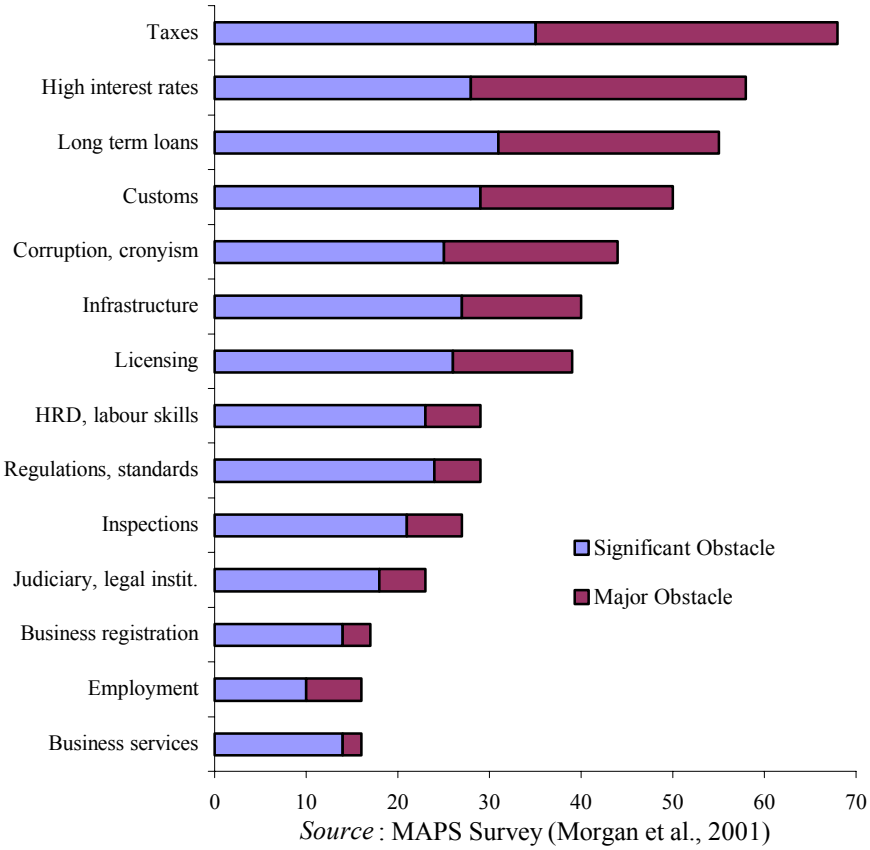
In sum, though much remains to be done to lower interest rate further, increase loans for medium and long-term industrial investment, and strengthen the banking sector, the government was in general quite successful in improving the macroeconomic environment for the manufacturing sector in the period 2000-2002, particularly in controlling inflation, stabilizing the currency and increasing credit availability to the manufacturing sector.

5.3 Business environment

The Mongolian business environment came under the spotlight in 2001-02 with several highly publicised studies sponsored by USAID (Adiya *et al.*, 2001, Flood *et al.*, 2001, and Morgan *et al*., 2001) and the World Bank (Darcy, 2002), followed by the frank dialogue between foreign investors and senior government officials during the third Foreign Investors' Conference in September 2002, co-sponsored by the Ministry of Industry and Trade and the World Bank. This sub-section therefore summarizes the key issues of the above studies and evaluations, as verified whenever possible by the present study's own series of discussions with domestic and foreign industrialists, and representatives of industry associations. Business environment issues are covered under the following headings: taxation system, implementation and enforcement of tax system, customs administration, legal and regulatory framework, other government services and control functions (including licences and factory inspections), investment climate, and public-private consultation mechanisms.

In 2001, the USAID-funded Competitiveness Initiative project undertook surveyed 375 respondents in collaboration with the World Bank, and using some of the latter's methodology, called the *Manual for Action in the Private Sector* (MAPS) survey. In general, the respondents did not consider the prevailing business environment in Mongolia to be a significant or major obstacle to company operation and growth, with the exception of the tax regime and high interest rates (Flood *et al*., 2001:5). The majority of companies, though acknowledging that the business environment was far from ideal, were nevertheless optimistic about their growth prospects, with 72 per cent forecasting higher sales, and around 50 per cent forecasting higher investment, exports and employment in the following year.

Fig. 5.7. *Severity of Business Environment Issues*
(% of respondents)



Source : MAPS Survey (Morgan et al., 2001)

Out of 14 main categories of issues, the majority of respondents only rated the tax regime, high interest rates and long-term loans as significant or major obstacle (68, 58 and 55 per cent, figure 5.7). Some 50 and 44 per cent of the respondents considered respectively the customs and corruption as significant or major obstacles, this percentage declining to about 40 for infrastructure and licensing. Less than a third considered labour skills, regulations and standards and factory inspections as major impediments. A quarter of the surveyed firms considered the functioning of the judiciary and legal institutions as a significant or major obstacle. Finally, only a sixth of the respondents considered employment and business services (banking, insurance, freight forwarding and legal services) to be seriously wanting.

Against this generally favourable picture, nearly half of the companies reported making significant or major losses of money and time to deal with procedures, rules and regulations to obtain licenses and permits (respectively 36 and 11 per cent, Morgan *et al.,* 2001:5). Nearly half of the respondents rated rules, laws and regulations as highly or completely unpredictable, while 70 per cent did not believe the government took into account their concerns, or those of their business associations, into account when making important changes in laws and policies affecting their business operations (Morgan *et al.,* 2001:3). Nearly a third believed that government officials always or often misinterpreted laws and regulations or set their own set of extra rules and regulations, while another third believed that they did so sometimes. Companies were most critical of the way the government spent taxes, with 67 per cent believing that this was highly inefficient, and a further 13 per cent that this was inefficient. This may have contributed to their belief that the tax burden was disproportionately high relative to benefits such as infrastructure or public services. Specific business environment issues are examined in more detail below.

Taxation system

The MAPS respondents expressed dissatisfaction with several aspects of the taxation system. The percentages of respondents rating tax issues as a significant or major obstacle were as follows: high tax rates, 75 per cent; large number of taxes, 60 per cent; tax inspections, 43 per cent; and changing tax legislations, 44 per cent (Morgan *et al*., 2001:7). The average company paid more than six types of taxes, while the majority believed that tax spending was highly inefficient (Flood *et al*., 2001:12-13). Businesses believed that while they paid large amounts of taxes, they did not benefit from infrastructural improvements nor were there any publicly financed services that businesses found useful. Some businesses stated that their tax money was being used to fund public agencies that were more obstructionist than helpful.

The Mongolian taxation system does indeed suffers from several weaknesses which impede business efficiency and investment, including: (i) high and discriminatory corporate income tax rate; (ii) conflicting tax regulations; (iii) withholding tax amounting to double taxation; (iv) inappropriate tax recovery system; (v) incompatibility between the Mongolian and the international tax assessment methods; and (vi) discriminatory tax and duty exemptions. In addition to these inherent weaknesses, which are discussed in turn below, the implementation and enforcement of tax rules and regulations are also weak, leading to further inefficiencies and higher costs of doing business in Mongolia. Tax implementation issues are discussed separately below.

High tax rates. To support higher government expenditures, which rose from 27 to 39 per cent of GDP between 1996 and 1999, tax revenues were jacked up from 25 to 38 per cent of GDP between 1996 and 2001 (World Bank, 2002:ii). The Mongolian tax rate is higher than in

most other transition economies, and rising. While revenue mobilization has been successful, high taxes are becoming a major disincentive to private sector growth. The government has raised taxes on income, profits, social security and payrolls to levels that are becoming distortionary. Personal income taxes were raised to 29 per cent, corporate income tax at 40 per cent (see below), VAT from 10 to 13 and again 15 per cent since 1998, well above the East Asian average of 10 per cent (World Bank 2002:iii). The obvious solution is for the government to reduce spending before it can cut taxes.

High and discriminatory corporate income tax rate. Companies generating more than 100 million tugrik of annual income are subject to a 40 per cent corporate income tax rate, while smaller companies are subject to 15 per cent. This two-tier system is an improvement over a more stratified system in the past, but nevertheless raises important issues. In addition to reducing corporate profits for re-investment, large companies often break up into smaller companies, hurting their economies of scale, and introducing unnecessarily complex corporate structures. The latter in turn impedes their chances of raising investment funds. Larger firms have a strong incentive to avoid paying taxes and to settle their tax obligations under the table. Finally, larger firms in certain sectors such as food and drinks face an un-level playing field with smaller companies, whose tax burden is considerably less.

The high corporate income tax rate for larger companies is due to the government's inability to effectively and efficiently tax other sources, in particular individuals and smaller firms in the formal and informal sectors, and customs. Ultimately of course, the government is under pressure to raise larger revenues to balance increasingly higher government expenditures. Tax revenues are their main source, accounting for 70 per cent of all government revenues. Corporate taxes alone raise 30 per cent while VAT provides another 25 per cent of these revenues. Larger firms are more visible and easier to tax, while many smaller firms and those in the informal sector pay little tax or avoid them altogether. Individuals also pay a fixed and generally low tax, which simplifies collection, but at the cost forfeiting higher revenues from this increasingly promising source.

Fixed and low individual tax amounts. The present system of requiring individuals who are not paying payroll taxes through their firms, to pay a fixed and low tax amount may be administratively convenient, but foregoes an important source of taxable income, as well as encouraging individuals to maintain their activities in the informal sector. To make the tax system progressive rather than regressive, all incomes should ideally be subject to an income tax rate rather than fixed amounts.

Conflicting tax legislation. New laws are continuously being enacted to address the needs of an evolving market economy. At least ten separate laws deal with tax issues and exemptions, some of which conflict with one another. Tax incentives, such as those granted to foreign investors or to encourage priority sectors, are included in new laws, but without correspondingly and comprehensively amending the Economic Entity and Organization Income Tax Law (EEIT) to ensure consistency. This provides opportunities to interpret regulations and extort bribes. In addition, there is a dearth of implementation guidelines for tax laws, and those that have been issued have not been widely disseminated. Finally, tax issue clarifications do not have 'precendential' value.

A priority task for the parliament is therefore to consolidate all separate tax laws into the general EEIT tax law, and for the government to produce detailed implementing guidelines to clarify rules and regulations. The tax office should issue clarifications in writing and within a

specific time frame, and these should become binding for other identical cases. This will reduce the discretionary authority of tax authorities.

Incompatibility with international standards. The Mongolian government has officially adopted the International Accounting Standards (IAS). However, the tax assessment system of the general EEIT tax law is incompatible with that of the IAS, especially regarding capital gains, depreciation schedules, taxes carried forward, and bad debt. It also does not recognize the deductible status of expenditures for advertising, other promotion activities and staff training. The General Department of National Taxation (GDNT) does not recognize nor understand IAS standards. The government and private businesses generally lack awareness of the need and usefulness of financial statements and audit practices based on IAS.

The government should give priority to amending the Tax Law to conform to IAS standards, and should establish a National Accounting Standards Board to modify tax laws and assist firms in implementing them. The US-Mongolian Business Council has taken steps to disseminate IAS in the business community, and to promote corresponding financial statements and audit practices. The government should promote this initiative and give it full support.

Withholding tax (double taxation). Foreign companies have to pay a 20 per cent withholding tax on all financial outflows abroad, including profits, dividends and interest payments on foreign loans. This essentially amounts to double taxation on profits, and leads Mongolian subsidiaries to under-declare profits. Also firms face higher costs on loans raised abroad. This tax is designed to generate additional revenues, and is relatively easy to collect. To encourage firms to raise capital abroad, and to provide incentives for manufacturers to add more value to their products before exporting them, the withholding tax should be abolished.

Income tax and VAT exemptions. Foreign investors in selected sectors, such as infrastructure and mining, and those exporting more than 50 per cent of their total production, qualify for income tax exemptions. Dividends from foreign direct investment, if re-invested, are not taxable. Foreign investors are also exempt from paying VAT on imported equipment. These tax holidays, designed to attract FDI, unfortunately discriminate between domestic and foreign investments, which are equally valuable. If considered necessary, they should be extended to all investors, domestic and foreign.

Stability agreements. Large foreign investors can, on a case-by-case basis, sign a stability agreement with the government to provide them with a degree of certainty. This consists of freezing the existing tax rules and regulations, and maintaining certain favourable tax exemptions for them for a specified period of time. Though designed to attract large-scale investment in priority sectors, their effectiveness has not been demonstrated, and may reduce competition by giving them unfair advantage over other firms. Stability agreements should be discontinued as soon as possible.

Wide legal authority of tax office. The tax office has the legal authority to seize money from bank accounts of firms suspected of tax evasion, whether proven or not. This leads companies to deposit only minimal amounts of funds in their bank accounts. The tax office is under pressure to collect more revenues and suspects all firms of tax evasion. Article 22 of the Law on Supervision of Tax Levy, Payment and Collection, is being amended so that the tax office will require a court order in the future, however this process should be expedited.

Reforming the tax system. To summarize, the Mongolian tax system is flawed for the following reasons: (i) it is the highest of all transition economies and is a disincentive to business; (ii) the 40 per cent corporate income tax rate of larger corporations is more than twice as high as the 15 per cent tax for smaller ones, leading to numerous distortions and economic inefficiencies; (iii) independent individuals not employed by formal sector companies or self-employed, pay a fixed and nominally low tax; (iv) there are at least ten tax laws, which conflict between one and another; (v) tax assessment methods conflict with the international accounting standards; (vi) the 20 per cent withholding tax on all financial inflows abroad, including foreign loans amounts to double taxation for foreign investors and restricts foreign investment; (vii) numerous tax exemptions granted to foreign investors, according to UNCTAD (1999), many not be necessary, and discriminate against domestic investors; (viii) stability agreements with large foreign investors give them unfair advantage over other firms; (ix) and the tax office has been given undue legal power to seize money from bank accounts of firms it suspects of tax evasion.

Many new taxes were introduced over time to meet rising government spending. However, the conclusion of the above review is that, in deciding who and how to tax, administrative convenience took precedence over effectiveness and efficiency. The direct and indirect impact of existing and new tax laws on the entities being taxed were not fully assessed, nor their likely impact on other entities in the short, medium and long term. The implication is that the tax system should be thoroughly overhauled to improve its fairness, its effectiveness and the overall business climate.

The government should learn from other developing countries, and from international organizations such as the World Bank and the IMF, on effective methods of taxing the income of individuals and businesses in the household and small business sectors, as well as raising revenues from alternative sources such as tobacco and alcohol excises. A more efficient collection of customs duties, now lost due to smuggling, will also generate additional resources. More importantly, as the experience of other Eastern European countries has shown, reducing corporate income tax to a flat 25 per cent range may end up raising more revenues than the present system which appears unfair and discriminatory, due to reduced tax evasion, a simpler tax system, and higher profits available for re-investment. A more diversified tax structure will lessen the heavy burden now placed on formal businesses. In the end, regaining discipline in government spending may be the long-term solution for reducing the tax burden on businesses.

Tax system implementation

Frequent disputes between tax office and businesspeople. Industrialists and other businesses are often engaged in lengthy and acrimonious disputes with tax officials regarding their taxable income assessments, which require them to either go to court, or to approach senior tax officials and government officials to resolve. This is takes up management time that could be used more productively, sours the business environment, and ultimately raises the cost of doing business in Mongolia. Such disagreements, and the apparently over-zealous behaviour of tax inspectors, are due to several reasons, including: (i) pressure on the tax office to maintain and increase tax revenues, (ii) a cash bonus for tax inspectors of 25 per cent of additional funds collected above their normal quotas, (iii) incompatibility between EEIT and IAS standards in calculating taxable incomes, (iv) lack of trained and qualified tax inspectors, and lack of clear manuals and guidelines, and (vi) the possibility, through continuous harassment, of extortion.

To elicit the cooperation of businesses and improve the overall business climate, the tax office should work with all its staff to make the tax collection system more user-friendly and to improve its implementation through the following measures: (i) alignment of forms used by the tax office with IAS standards, (ii) incentive scheme based on promotion, and not on immediate financial gains, (iii) training of tax inspectors, including attitudinal change towards businesspeople, (iv) production of unambiguous guidelines and manuals on tax rules and regulations, and (v) closer supervision of tax inspectors. All tax laws and amendments should be made available in one central location and one official website, including English translations, within a week of enactment. A number of technical assistance projects, such as those from ADB and JICA, have begun to address some of the above issues. These efforts should be given high priority by the government.

Advance payment of taxes. To allow the government to match the flow of expenditures with the flow of revenues throughout the year, firms are required to pay their corporate taxes on a quarterly basis, based on assessments undertaken by the tax office. However, the size of such advance payments should be at the discretion of the firms rather than the tax office, because they are the ones who have more comprehensive and up-to-date information on production costs, selling price of products, which can frequently change especially for commodities, and transport costs.

VAT financing costs. VAT has to be paid on an accrual basis, whether or not the firm has collected on receivables. Again this is designed to raise VAT resources on a regular basis and throughout the year, however its implementation should be more flexible to ease their burden on businesses.

VAT evasion by informal sector activities. Due to difficulties in supervising informal trade and other activities, many businesses routinely avoid paying VAT on cash payment, such as those made by traders to herders for cashmere and other animal products. This increases pressure on the government to raise tax revenues from legitimate businesses.

Customs administration

The majority of the MAPS respondents reported that their goods generally cleared customs in less than seven days, though exporters of high-value goods reported more significant delays (Flood *et al.*, 2001:13). Nevertheless, 50 per cent of respondents considered the customs service as a significant or major obstacle (figure 5.7), in terms of customs paper work, customs valuation procedures and treatment by customs officers (Morgan *et al*., 2001:8). Many firms reportedly made unofficial payments to customs officials on a regular basis to avoid problems. Three areas of particular concern were the discretionary power enjoyed by customs officials and their treatment of businesses, cumbersome customs certificates and procedures, and smuggling.

Discretionary power of customs officials. Customs officials exercise a high degree of discretion on customs tax assessments, leading to disputes with businesspeople, and time-consuming dispute resolution as well as delayed shipment. The immediate causes appear to include the absence of a standard processing time for customs clearance, the inadequate training of customs officials on goods classification and valuation, and their uncooperative attitude towards business. Several steps can be taken to rectify this situation, including amending the Customs Law to reduce the arbitrary power of customs officials, providing

customs officials with intensive training in goods classification (using the harmonized classification system) and valuation, introducing a binding time limit for customs clearance, and instilling a more cooperative attitude on the part of customs officials.

Cumbersome customs clearance certificates. A large number of certificates are required for exports, including those issued by the National Standards Authority, veterinary certificates from the Ministry of Food and Agriculture, a certificate or origin from the Mongolian Chamber of Commerce and Industry, and additional certificates depending on the nature of the products exported. Some of these were introduced to ensure quality and sanitation standards, while others were introduced to avoid fraud. It is time to undertake a comprehensive review of all certificate requirements for exports, and eliminate those that have outlived their usefulness in today's free trade environment. This will also directly reduce the discretionary power of customs officials and government officials, and ultimately lead to a more efficient and cost-effective trading environment.

Smuggling. Widespread import and export tax evasion have greatly reduced customs revenues, thus increasing pressure on raising tax revenues, and ultimately creating a disincentive for legitimate businesses. This is due to collusion between exporters and importers on one hand, and customs officials on the other, sometimes with the tacit knowledge and agreement of senior customs and government officials in Ulaanbaatar. Smuggling should be tackled at the highest level to raise more revenues from legitimate sources such as customs taxes, and to lessen the tax burden on industrialists and other businesses. Mongolia should also closely collaborate with the Chinese customs service and border officials.

Legal and regulatory framework

Around a quarter of the MAPS survey respondents rated the functioning of the judicial and legal institutions as a significant or major obstacle (figure 5.7). Other studies have highlighted the absence of reliable legal recourse and the unpredictable legal and regulatory environment as serious business environment issues.

Absence of reliable legal recourse. The legal system is unreliable, though foreign investors have been prepared to take the risks of investing and doing business in Mongolia. Nevertheless, the integrity of the legal system will become a decisive factor in the future. The legal system is in need of reform, including: (i) the administrative court system; (ii) court management and administration; (iii) case management; (iv) training, establishment of a qualification system and ethics; (v) and structure, jurisdiction and responsibilities of justice system agencies. In addition, there is a need for clarifying existing legislation, through for instance Supreme Court interpretation, and for decisions to be integrated with implementation guidelines, through 'precedential' value. Several projects have begun to tackle legal reform, including the USAID Judicial Reform project and the World Bank Legal and Judicial Reform project.

Unpredictable legal and regulatory environment. Due to the frequent need to correct and amend laws and regulations already passed, new laws and amendments have averaged 80 per year during 1996-96, and 116 per year during 1996-2000. The Economic Entity and Organization Income Tax Law (EEIT) was amended fifteen times during 1993-2002. This has understandably led to a profusion of laws and regulations, which are moreover conflicting

either on a conceptual or practical level. They are rarely accompanied by implementation guidelines, resulting in arbitrary interpretation and decision-making.

Nearly half of the MAPS respondents believed that changes were highly or completely unpredictable. Such of laws and regulations discourages investment and increases the cost of compliance. It is thus important for the government and parliament to avoid frequent amendments by proceeding more thoroughly on new laws and amendments, by inviting public participation at an early stage, and by adopting a more open, participatory and transparent approach to legislation making. Wider consultation on draft laws could significantly reduce the need for repeated amendments and improve the overall quality of laws (World Bank, 1997:ix).

Licenses. Licensing and permits were considered to be a significant or major obstacle by 49 per cent of the MAPS respondents (Morgan *et al*., 2001:4), while licensing alone was rated as such by 39 per cent of respondents (figure 5.7). Up to 87 licenses are required to establish and operate a legitimate business, though the 2001 Licensing Law reduced this number from 200 required until then. Many government offices, especially at the provincial and district levels, rely on these licensing fees for their revenues, and some licenses, which had been abolished, have reappeared under a different guise for this reason. Nearly half of the MAPS respondents, and the majority of agro- and food processing companies, estimated that the procedures, rules and regulations for obtaining licenses and permits caused either significant or major financial or time losses for their firms (Flood *et al*., 2001:10).

The central government and parliament should remain ever vigilant that abolished licenses do not reappear in a different form. They should also undertake a fresh assessment of all the remaining licenses, and further streamline them to reduce the cost of doing business in Mongolia. Only licenses that safeguard public interest should remain, such as those for public monopolies, minerals exploitation, pollution, and banking and insurance. Existing licenses for quality control purposes should be replaced with certificates from professional associations as guarantors of quality. This will also reduce bureaucracy and the discretionary power of government officials at the local level. In return, the government should allocate more adequate resources to local administration to compensate for licensing resources, otherwise the problem will not go away.

Factory inspections. Some 27 per cent of MAPS respondents rated inspections as a significant or major obstacle (figure 5.7). However, when the ten different types of inspections were itemized, only 11 per cent found them to be a significant or major obstacle (8 and 3 per cent respectively, Morgan *et al*., 2001:5). Hygiene and sanitation inspections ranked highest, followed by electrical, plumbing, and production and technology standards (20, 18, 12, 12 and 12 per cent). Labour, health, environmental and fire safety inspections ranked the lowest (10 per cent). Though necessary, companies felt that they were haphazardly and unfairly conducted, and provided the concerned officials with the opportunity to extract unofficial payments. Companies complained less about the need for inspections, than about the liberal interpretations of regulations and rules and the behaviour of inspectors, reflected in the high ranking given to corruption in the summary ranking question.

Land ownership titles. Foreign investors can obtain land titles granting them use for 40 years renewable for another 40 years. Though they cannot obtain land ownership titles, land use titles are similar to those issued by other countries such as Indonesia, and which are considered to provide adequate security for operating a manufacturing business.

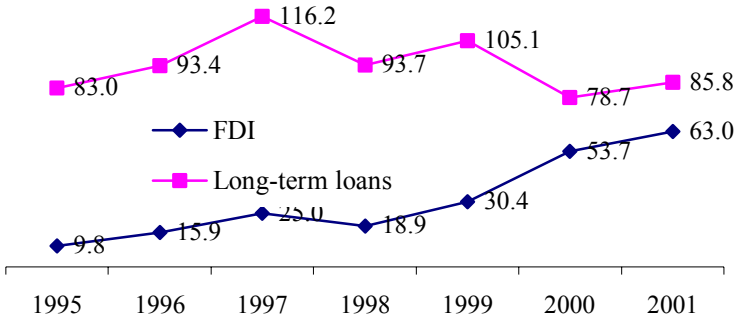
Labour market regulations. Only a sixth of the MAPS respondents rated employment regulations as a significant or major obstacle (figure 5.7). Labour market regulations were further improved by adopting the Laws on Employment Promotion and International Labour Movement (MOFE 2002:29).

Corruption. Some 44 per cent of MAPS respondents rated corruption and cronyism as a significant or major obstacle (figure 5.7). The tax and customs offices were judged the most corrupt, closely followed by the court system at lower levels. About a third of the MAPS respondents believed that government officials often misinterpreted laws and regulations, set their own rules, or imposed additional rules, which reduces business confidence in government integrity (Flood *et al*., 2001:10). Nevertheless, 55 per cent of MAPS respondents believed that firms in their types of business seldom or never had to make irregular payments, while the remaining 22 and 24 per cent indicated either usual or occasional payments (Flood *et al.*, 2001:13). Commitment at the highest level will be required to significantly reduce the level of corruption in the tax office, the customs office and the courts.

Investment policy

Foreign direct investment. As noted earlier, foreign direct investment constitutes a key component of the government's manufacturing development strategy. Numerous tax incentives have been introduced in recent years to attract FDI, as well as improving government services. FDI inflow nearly doubled from $10 to 19 million between 1995 and 1998, and then increased three-fold to $63 million between 1998 and 2001 (figure 5.8).

Fig.5.8. *Trends in FDI and Long-term Loans, 1995-2001 (US$ million)*



Source : Annual Report 2001, Bank of Mongolia (table 5)

The mining sector was the largest recipient of FDI, followed by banking and finance, and service sectors (BoM, 2002a:40). Several FDI companies also entered the cashmere processing industry following the ban on raw cashmere exports in 1994. After WTO entry, the outright ban was replaced by a 40 per cent export tax for ten years to protect domestic industries. A third category of FDI, mainly in the form of Chinese-Mongolian joint ventures, entered the garment industry during 1998-2000 to take advantage of the quota-free access to Mongolian exports granted by the USA (MOFE, 2002:15).

Between 2000 and 2001, the number of newly registered foreign investment companies included 17 in mining, 16 in agricultural raw material processing, 12 in food processing and 8 in agricultural production industries (MOFE, 2002:18). The average investment per company rose from $0.24 million between 1990 and 2000 (Williams *et al*., 2002:5) to $1.2 million in 2001, though this was probably due to several larger investments in the mining and oil sector. In the period 1999-2001, 37 per cent of companies were from China, followed by Korea,

Russia and Japan (19, 13 and 6 per cent). Some 60 per cent of companies invested a total of $10,000-50,000, 5 per cent invested $0.5-1.0 million, and 4 per cent invested $1.0 million and above. This shows that most FDI was for the establishment of small and medium-sized enterprises in Mongolia (Williams *et al*., 2002:5). These figures show a growing interest of foreign investors, however large investments by multi-national corporations remained low, due to the small domestic market and high transport costs for export-oriented manufacturing

Role of FIFTA. The Foreign Investment Facilitation and Trade Agency (FIFTA), intended to act as a one-stop agency for foreign investors, has become just one more stop.

Public-private consultation mechanism

The Mongolian National Chamber of Commerce and Industry and the sectoral associations provided formal channels of consultation with the government. However, as the September 2002 Foreign Investors' Forum and the November 2002 Symposium on Industrial and Trade Development revealed, industry's current dialogue with government has tended to focus problems, and not about problem solving or opportunity.

> '… [w]hile individual companies do offer criticism, industry is not organized to develop internal consensus on priorities and possible solutions, or to propose concrete strategies. As a result, the number one complaint of businesses has been that "government isn't listening". This complaint surfaced during the survey and in focus group discussions. A plausible and objective explanation is that government is unable to identify a view that reflects the consensus of any one interest group, or of interested parties on any one issue…. Since there is little industry leadership to develop or advocate business-friendly strategies, government becomes the master strategist by default… When business and government have met in the past, the discussion has been characterized by complaints from business citing a long list of problems that obstruct growth. Industry has not come prepared with its own consensus vision of how problems might be solved or with constructive suggestions for moving forward. If industry does not have a strategy, it is not possible to have a productive public-private dialogue on growth. The dialogue then falls apart and no follow-up action is taken' (Flood *et al*., 2001:6-7).

The above study proposed a dialogue driven by identifying specific opportunities for growth rather than focusing on general obstacles to it. In shifting the tone from obstacle to opportunity, the discussion should focus on practical micro-concerns, on implementation rather than restructuring and changing policies again, to repositioning the commercial sector to produce higher value products, generate high wages and contribute to improved standards of living. The private sector should become actively involved in the process, and share the responsibility for a strategy or plan for addressing particular business constraints. The *ad hoc* task force operating in the tourism sector, consisting of a mixed public-private sector body provides a good example in taking positive steps to improve the competitiveness of the tourism industry in Mongolia (Flood *et al.*, 2001:8).

In sum, the private sector must organize itself so that it can speak on different topics with one voice. This requires businesses to identify priorities for improving the business environment and by developing practical solutions to propose to government. In addition, a clear objective or goal must be agreed upon so that both sides know when it has been reached. Responsibility for implementing actions must be assigned, and someone must monitor progress and ensure that there is accountability. In several countries such as Thailand, private enterprises have taken initiative and accepted greater responsibility by offering realistic proposals for solving

the problems they have articulated. In return, government agencies must be prepared to let others influence the policy agenda (Flood *et al.*, 2001:9).

5.4 Trade Policies

Mongolia joined the World Trade Organization (WTO) in 1997. Since then, it has adopted a very liberal and open international trade policy regime for imports and exports to provide manufacturers with imported inputs at competitive prices, and to allow exporters to sell abroad at competitive prices. In domestic trade, the Ministry of Industry and Trade, aware of the high price of consumer goods in rural areas, as well as difficulty faced by urban businesses to procure agricultural and livestock raw materials from the countryside, launched the Wholesale Network project in 2002. Import, export and domestic trade policies are discussed in turn below.

Import regime

Between 1991 and WTO entry in April 1997, a flat 15 per cent import duty was imposed on all goods. Import duty rates were frequently changed since then, from zero per cent between May 1997 and June 1999, to 5 per cent in 2000, 7 per cent rate in 2001, and back to a flat 5 per cent in January 2002 (MOFE 2002:29). The low flat rate was adopted to simplify import duty valuation and collection, remove protection for domestic industries, increase competition in the domestic market, and benefit consumers. In addition to this flat rate, importers paid an excise tax on selected goods, and a 15 per cent value-added tax on all imports. The only current import restriction is a total ban on pure alcohol and weapons (Twesten, 2002:4).

Export regime

Exports were not subject to tax, with the exception of some raw materials and metal products to ensure domestic supply and to support domestic processors. The products subject to export tax were processed iron and steel, copper and aluminium products, raw cashmere, camel mane and wool and timber (Twesten, 2002:4), and were allowed under WTO rule for a limited period. However, these taxes have not deterred export, due to their low effective rates and rampant smuggling, especially of raw cashmere and timber.

The cashmere tax was calculated at 40 per cent of the rather low price of raw cashmere of $12 per kg prevailing, at the time of WTO entry. To facilitate valuation and duty collection, a flat $4 per kg was set. In subsequent years, the price of raw cashmere reached $40-50 per kg, thus greatly diminishing the effectiveness of the export tax rate. Moreover, around half of all raw cashmere is probably smuggled out of the country to China, the main market for raw cashmere. Smuggling is said to be common too for other export products such as camel wool and timber.

The illegal trade in cashmere at least indicates that foreign manufacturers were able to afford to pay a higher price than domestic manufacturers, perhaps because they were more efficient producers, or are better able to manage the whole value-added chain from product design to raw material processing, garment manufacturing, shipment and marketing in the luxury markets of Europe and the USA. Most cashmere companies in Mongolia, particularly the more recent joint ventures, have confined themselves to producing and exporting un-carded or dehaired cashmere, and have not invested in garment producing plants. Moreover, the

illegal trade in cashmere and other products at least ensures that the herders and foresters earn world prices for their valuable commodities. From their point of view, the export tax should be abolished to make trading legal and transparent, and more efficient by abolishing smuggling and protection fees, so as to get a higher price for their products.

The challenge for Mongolian policy makers is to address the problems of domestic manufacturers directly, and not indirectly through export tax and other trade instruments (Twesten, 2002:6). Long-standing weaknesses of the manufacturing sector, which vary from industry to industry, include overcapacity, outdated machinery, high interest rates, under-developed capital markets, inefficient tax and customs management, unfriendly business environment, and under-developed infrastructure. Above all, almost all industries lack knowledge or contact with overseas markets, and have not developed high value-added activities such as product design, branding and international marketing. Some of these problems are addressed later (section 5.6).

Domestic trade intervention

In order to reduce the price of consumer goods for herders and rural areas, and to facilitate the supply of agricultural and livestock raw materials to urban manufacturers, the Ministry of Industry and Trade (MIT) launched the Wholesale Network project in June 2002. The project consists of selecting and assisting selected traders to set up wholesale centres in rural areas to procure, store and ship raw materials bought from herders to urban centres, and to purchase consumer goods from Ulaanbaatar for distribution to herders. The project also wants to establish a trade information centre in MIT in Ulaanbaatar and satellite information centres in the rural wholesale centres, and to link the two. The long-term goal of the project is for the wholesale centres to develop into small and medium-scale industrial centres (GOM, 2001e).

In July 2002, MIT established three wholesale centres in Erdenet, Bayankhongor and Hentii (urban rather than rural centres), managed by private traders (they were selected through a bidding process, and all three winners were apparently from the capital). MIT allocated 650 million tugrik to provide interest-free loans for a period of two years to the first three selected traders as working capital. Three more such centres are planned for 2003, funds permitting. MIT's intention of reducing the price of consumer prices to herders and diminishing the monopsony power of the few traders who visit herders in their remote and shifting locations may be justified, however the Wholesale Network project fails to address the core factors which account for most of the urban-rural price differentials and impede efficient domestic trade. These, the government itself realizes, consists mainly of the remote locations of herders and the underdeveloped and deteriorating transport networks, leading to high transport costs and fewer traders venturing in remote rural areas, and dearth of up-to-date and accurate price and other market information for herders (GoM, 2001g:142).

The implication is therefore for the government to intensify investment in rural roads, and in all-weather roads and rail links between urban and rural centres, which will bring more traders to rural areas and increase competition among them to the benefit of herders. Regular radio and television broadcasts of market information will also empower better informed herders. The Wholesale Network project, which is reminiscent of centralized procurement and distribution systems, appears to be an ill-conceived government intervention in an area best left to the market, and moreover discriminates against the vast majority of traders, especially those outside Ulaanbaatar, who do not benefit from interest-free loans. There is little justification for MIT to continue this project.

5.5 Physical Infrastructure

Transport

The government, aware of the importance of physical infrastructure for industrial development, allocated a third of the public investment programme for financing roads and bridges in 2001. The Millennium road also commenced construction. The government intends to further upgrade the rural road network (MOFE 2002:32). A ten-year Master Plan for railway transport was adopted, consisting of measures to upgrade its capacity and constructing new facilities in selected regions. In air transport, airports at Uvs, Hentii, Sukbaatar *aimags* were reconstructed, and Hovd and Dornod airports were upgraded. Preparations for privatizing the Mongolian national airline *MAIT* were undertaken.

Energy

The government continued to restructure the energy sector to improve its efficiency. In 2001, a further round of price increases were undertaken, with energy tariffs rising by 14 per cent and thermal energy rising by 36 per cent. This however resulted in an increase of 22 per cent in the price index for housing and utilities (MOFE 2002:5). The energy sector was re-organized into 18 public shareholding companies, and contractual arrangements were introduced between producers and sellers. In terms of physical improvements, ten *soums* were connected to the centralized system, the Dornod Aimag power station in the eastern part of the country was renovated, and some 45 *soum*-level diesel stations were installed (MOFE, 2002:23). This investment in rural electrification and rehabilitation of rural power station will have a positive and potentially large impact on rural industrialization.

Communications

Aimag communication centres were upgraded and VISAT stations were installed in a number of *aimags*. All aimags have now access to automatic dialling, internet and email services through dial up tone services (MOFE 2002:25). Mobile telephone services were upgraded to improve service quality. The *Skytel* Company invested $70 million and introduced the CDMA network in the first quarter of 2001, while the *Mobicom* Company invested $10 million for upgrading of its capacity and introduction of the international roaming service. Mobile phone services were extended to ten *aimags* and settlements, so that herders within 10 km of stations can now have access to them (MOFE, 2002:26).

5.6 Industrial Development Policies

Privatization of state-owned manufacturing enterprises

The sudden and disorderly dismantling of the state procurement system and the introduction of the ill-prepared 1991-94 voucher privatization programme resulted in the virtual collapse of the manufacturing sector, and one of the most rapid change of ownership of manufacturing enterprises in transition economies. While the performance of smaller enterprises in agriculture, trade and services was considered relatively adequate (World Bank, 2002a), many of the larger formerly state-owned enterprises struggled in the aftermath of the voucher privatization programme. Some of them were even mothballed for a number of years before slowly being rehabilitated. Many companies have yet to recover from the disruption of their manufacturing supply chains.

The rushed privatization programme did not put in place adequate safeguards to ensure good enterprise governance, especially control over the company executives in the absence of government oversight, and moreover did not put in place a programme to prepare company management to take over functions provided by the state procurement system. The voucher scheme produced a considerable diffusion of shares throughout the population (44 per cent of state-owned assets in private hands between 1991 and 1994, World Bank, 1996:ii), which however was not followed up with subsequent rapid consolidation of ownership seen in countries such as the Czech Republic and Slovakia (World Bank, 1997:32). Unlike Mongolia, the Czech Republic set up effective arrangements for share consolidation (mutual funds), which resulted in improved governance and efficiency (World Bank, 1996:41). In Mongolia, shareholder authority was nominal, preventing outsiders from exercising effective control. The executives of many privatized firms, usually the same ones as before privatization, used the companies as their private cash cows, and routinely violated corporate governance rules such as regular shareholder meetings and exclusion of general managers from board membership.

In addition to the above two serious shortcomings, whose consequences were largely predictable because existing systems were dismantled without putting anything in their place, many firms faced very difficult external conditions outside their immediate control. These included the collapse of their traditional markets in the COMECOM countries, reduced domestic demand due to the recession and falling incomes, limited access to international markets, runaway inflation reaching 326 and 183 per cent in 1992 and 1993, rapid depreciation of the tugrik, sharp increase in the price of inputs, sharp increases in energy prices, and deteriorating physical infrastructure, which could no longer be maintained.

Having learned its lessons, the government proceeded more carefully in recent years. A number of shareholding companies continued to be privatized each year. In 2001, six such companies were privatized in various sectors, including the largest beverage company *APU* Vodka Distillery, *Monkhijm, Tuulbayan, Hotgor,* the *State Department Store*, and *Erdenet Autozam* (BoM, 2002:52). Preparations were made to privatize the government share of the large *Gobi* Cashmere Company. In addition to the 'Privatization of Public Utility and Service Programme', veterinary and breeding plants at *soum* and *bag* levels were privatized in 1999. After privatization, a five-year contract was made with the new owners of veterinary services, supervised by *Aimag* governors, the Ministry of Food and Agriculture, and the State Veterinary Office. Finally, a partial privatization of the Trade & Development Bank, an important source of finance for the industrial sector, was recently completed.

Management of state-owned enterprises

The government retained full or majority ownership of key manufacturing enterprises, including the profitable *Gobi* Cashmere Company. As noted in the case of the latter, state-owned enterprises (SOEs) suffered from the inadequate separation between company management and government, and interference in business decisions, leading to poor performance.

In return, several SOEs were recipients of 'directed' loans and budgetary subsidies, creating a soft budget constraint, and undermining their incentives to adjust (World Bank, 1997:32). Moreover directed loans have crippled or seriously handicapped the banking sector with non-performing loans, contributing to steep lending rates and constraining private sector growth.

Some firms, such as in food processing, were even forced to deliver goods at preset prices by the state procurement system until its abolition on 1995, resulting in state-owned enterprise losses (World Bank, 1997:32). The implication of the above is that SOEs must be turned into autonomous corporations as soon as possible to avoid government intrusion, especially local government, and to be able to run as commercial entities.

Firm-level upgrading in technology, management and marketing

This sub-section discusses firm-level upgrading, including capabilities in market research, product design and development, production management, quality control, supply chain management, branding and marketing of end product, and external linkages. There are essentially three types of manufacturing firms in Mongolia with respect to technological capabilities: (i) the large-scale enterprises established in the socialist era, now privatized or partially privatized in one form of another; (ii) the domestic small and medium-sized companies, which made their appearance after 1990 in the food and beverage sub-sector initially, and then spread to leather garments and other products, furniture making and many other sub-sectors; and (iii) the joint-venture firms which entered mainly the cashmere processing industry in the first half of the 1990s and the garment and leather product industries in the second half of the 1990s.

The first of these three types, the large-scale plants of the socialist period, had generally adequate equipment and facilities. Some of these were extensively upgraded or renovated in the 1990s through subsidized government-guaranteed bilateral loans, such as the Italian government subsidized loan for the *Buligaar* Leather Tannery, or using 'directed' government credit such as the new machinery acquired by the *Gobi* Cashmere Company. They generally had adequately skilled operators, technicians and managers to operate their plants, though their work force was drastically cut in some cases, such as the *Makh Impex* meat processing plant. Such plants that secured an adequate market for their products operated quite efficiently, while others could operate efficiently if they had access to sufficient working capital and markets for their end products.

Due to their past and present emphasis on production management, they lacked the necessary marketing organization and skills to market their products and identify new markets, or efficiently procure raw materials and inputs. Though some of these firms had specialized product design and development departments, their staff and facilities were under-utilized and had not been upgraded, and they were hampered by inadequate knowledge of product designs in demand internationally. They were dependent on their traditional markets such as Russia, Italy and Great Britain, or relied on foreign buying agents to gain access to world markets.

Their lack of external linkages, except perhaps with local technological institutes, also meant that the high value-added associated with distribution and marketing accrued to their foreign buyers and joint-venture partners. Having said this, many successful manufacturing firms in Southeast Asia, particularly in Thailand, Philippines and Indonesia, and producing a range of products from garments, to shoes, vehicles, electrical goods and electronics, are primarily manufacturing operations, and to this day depend on foreign agents or their joint-venture partners to undertake the higher value-added market research, distribution and marketing activities, and to incorporate them into the global manufacturing and trading network. In some cases, the foreign partners also provide all the imported inputs and working capital necessary for production.

The second type of manufacturing firms consisted mainly domestic entrepreneurs who established manufacturing plants following the transition to the market economy. Often, their plants were small or medium-sized, and their target the domestic urban consumers. They established mainly meat, bakery, dairy and drinks industries, as well as leather boots, leather jackets and wooden furniture making industries. Their production technology and production management were not that advanced, their equipment often purchased second-hand and aging, and they faced a shortage of skilled workers and managers, in technical areas as well as production organization, distribution and marketing.

The third type of manufacturing firms entered Mongolia to take advantage of trade restrictions. They established cashmere-processing firms, mainly Chinese, Korean, Japanese, European and American joint ventures, after the imposition of an export ban on raw cashmere, and garment making firms, mainly Chinese joint ventures, to export their finished products to the USA using Mongolia's quota-free preferential access. These joint-venture firms had the required external linkages, production technology and supply chain to procure raw materials and other inputs, imported mostly from China in the case of garment plants, and to distribute and market their finished products.

To address the capacity building needs of the first and second types of firms above, the government initiated two important projects. The first one, with the assistance of the Dutch government through UNDP and UNOPS, provided technical assistance during 1998- 2000 to restructure a small number of privatized state-owned companies considered important for the national economy, and turn them from loss making to viable industries. These included *Uguuj* Bakery, *Ulaanbaatar Khivs* Carpet Company, *Makh Impex* meat processing plant, *Darkhan Nekhii* sheepskin tanning and clothing factory and *Darkhan Flour Mill*. A follow-up phase, now funded by Dutch aid and involving GTZ, provides technical assistance to strengthen the management and marketing capacity of more domestic firms, whether state-owned, privatized or private, and to restructure them to better perform in a transition economy marked by large external shocks.

The project has adopted the following restructuring steps: (i) a pre-phase consisting of a comprehensive diagnosis and an elaboration of a vision of the company's future with the help of outside consultants, followed by restructuring planning; (ii) a first low-investment phase, focusing on urgent measures to improve the overall situation of the enterprise, including organizational and managerial restructuring, physical and operational restructuring, improving the skills and the morale of the staff, and improving the perception of the enterprise by outsiders, to increase its credibility towards outside financiers; and (iii) a second phase to secure the future of the enterprise through the implementation of more ambitious projects requiring significant financing, including financial restructuring, investment in new equipment, investment in human resources and ongoing operational changes (ERP Management Team, 2002:5).

The second project, under the Ministry of Industry and Trade and implemented by GTZ, is directed at raising the production capabilities and technical skills of domestic small and medium industries in the leather, wood and publishing industries, using the technical staff and facilities of the existing network of technology institutes in these areas. The objective of this project is to directly enhance the product quality and therefore competitiveness of SMEs, and to strengthen the technical capabilities of the technology institutes so that they can continue to offer consultant services to the private sector after the end of the project.

These two projects are particularly important at the current stage of Mongolia's manufacturing development. For larger firms, they are about building their distribution and marketing skills and their external linkages, and also their design and engineering capabilities as a basis for starting significant technology development activities. For the SMEs, especially in the more traditional industries, the most important capability thresholds are about achieving export-quality standards to compete against imports, and about acquiring, using and operating existing technologies.

The firms involved in the above two projects are nevertheless only a sub-set of the total number of manufacturing enterprises in the country. They have somehow become aware of the need to change and develop their product technology and management, and have approached the projects on their own initiative. There are however many other firms, the majority perhaps, who do not realize or recognize the need to change, or do not know where and what they might improve. There are also firms that may recognize the need for change, but are unclear about how to go about it. To further stimulate firm-based investment in technology among these firms, there is a need to promote the awareness and demand for technology on the part of these firms.

An effective way of raising the demand for technology and upgrading of firms in many countries has consisted of public technology institutes explicitly incorporating an outreach scheme, whereby enterprise counsellors and industrial advisors take initiative and visit the companies. In addition to the pro-active role of technological institutes advocated above, international experience shows that collective action by industry associations, local government and chambers of commerce can often be effective in developing new markets and introducing new technologies (World Bank 1997:34). At present, industry associations are rather weak in Mongolia, and academics rather than industrialists manage many.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of Major Manufacturing and Trade Issues

Before the transition from a socialist to a market economy in 1990, the manufacturing sector was relatively large and organized, and generated substantial modern sector employment. During the course of the decade however, the privatized state-owned companies collapsed, and the overall industrial output index fell from 100 to 27. The manufacturing sector became less diverse and technologically advanced, with the food, textile and garment sub-sectors becoming more important at the expense of the chemical, metal, transport and electrical industries. The manufacturing sector's former high labour productivity, the engine of growth for the rest of the economy, now matched the average for the whole economy.

Major manufacturing development issues. In addition to physical factors such as the country's land-locked geography and rugged terrain, and economic factors such as its sparsely located nomadic population, low purchasing power, and inadequate physical infrastructure, the Mongolian manufacturing sector faces the following main issues: (i) several unresolved structural problems stemming from a rapid transition from a socialist to a market economy; (ii) changing international environment and, in particular, increasing competition from neighbouring China and Russia, in its home as well as third markets; (iii) low value production consisting mainly of unprocessed mining and agricultural commodities; (iv) inadequate government services and relatively inhospitable business environment; and (v) limited export markets and products. Certain sub-sectors, such as the carpet industry, also suffered from a lack of investment in modern and more flexible equipment due to the general sickness of the manufacturing sector during the 1990s. Together, they present serious challenges to rapid industrialization.

The unresolved and long-standing problems due to the very rapid transition include the following: (i) bungled privatization of state-owned firms, leading many viable industries to bankruptcy, and from which others have still to recover; (ii) breakdown in supply chains, particularly in the procurement of raw materials from the livestock and agricultural sectors; (iii) inability of previously state-owned firms to identify new markets following the collapse of the once thriving markets of the socialist block for Mongolian products such as leather boots and jackets or, in the case of meat, virtually closure of the Russian market through high tariff barriers; and (iv) deteriorating quality of raw materials, particularly hides and skins, cashmere and wool, following the collapse of quality control systems, and the resurgence of animal diseases, previously under control from an effective network of veterinary services.

On the other hand, the Mongolian manufacturing sector has opportunities too. Though overall industrial production plummeted after the transition to a market economy throughout the 1990s, the manufacturing sector recovered strongly in 2001 and 2002, led by the food, textile and garment sub-sectors. The wide range of livestock-based industries, which contributed to the recent recovery, offers good prospects for sustained manufacturing growth. Mongolia possesses ample excess capacity in most sub-sectors, which can be quickly revived with minimal investment in new equipment in most cases. It has ready access to the rapidly expanding economies of China, Korea and Southeast Asia, as well as the large Russian market. It also has relatively developed industrial skills and substantial previous experience in operating and managing a modern manufacturing sector. Labour costs are lower than in China, Indonesia and India, giving Mongolia a significant cost advantage. All these factors

can return the manufacturing sector as the engine of economic growth and provide productive employment.

Main trade development issues. Mongolia's trade sector faces the following key constraints: (i) limited product diversification, and heavy reliance on commodity exports (copper, gold and cashmere), whose prices have fluctuated in the world market and have experienced long-term declines, leading to deteriorating terms of trade; (ii) limited market diversification of most Mongolian exports, with one country often purchasing close to 95 per cent of each of the main exports such as copper and garments; (iii) poor market positioning because the world demand for traditional Mongolian exports (mostly resource-based and labour-intensive, including its newest export, garments), has declined relative to other goods traded in the world market; (v) abolition of the Multifibre Agreement by the end of 2003 and of preferential access particularly to the USA, and the likely exodus of garment manufacturers out of Mongolia and into countries with lower transport costs and higher economies of scale; (vi) difficult access to the relatively lucrative markets of neighbouring Russia and China, due to high tariff barriers in the case of Russia, and non-tariff barriers in the case of China; (vii) Mongolia's weak position in fighting non-tariff barriers, due to the prevalence of animal diseases and poor hygienic and sanitation standards; and (viii) underdeveloped trade promotion services, from government agencies as well as from private institutions.

6.2 Policy Recommendations

Mongolia is a market economy with a small population and limited domestic demand, sandwiched between Russia and China. Industrial development can only succeed if the country focuses on its comparative advantages and export-oriented manufacturing. In order to rehabilitate the once thriving manufacturing sector of Mongolia and develop it further into a competitive, export-oriented sector, the government needs to take decisive steps to resolve the long-standing transition problems just noted, correct its over-valued currency, improve its business climate and government services, and establish effective trade promotion services. It also needs an overall strategy for the development of the manufacturing sector which requires a creative and innovative approach, and close public-private partnership. The strategy should focus on enhancing the productive and transaction efficiency of manufacturing firms, diversifying export products and markets, identifying new markets for niche products with a higher processing and value-added content than the commodities mainly exported now, investing in the necessary physical infrastructure, and upgrading the technical, managerial and marketing capacity of domestic firms. In sum, public policy should be geared to strengthening the competitive capabilities of firms.

Manufacturing Development Strategy for Mongolia

Mongolia's implicit manufacturing strategy consists of the following five main elements: (i) budgetary allocation to foster rapid manufacturing growth; (ii) investment in supporting physical infrastructure and agriculture; (iii) improvement of macroeconomic, business and legal environments; (iv) emphasis on private sector-led growth, export-oriented manufacturing production and foreign direct investment; and (v) prioritizing five key industries. However, few people in the private sector and international and bilateral partner agencies are aware of this strategy. MIT should now take the following steps:

- Recognize that it is firms that compete in domestic and international markets, and that public policy should be geared to strengthening the competitive capabilities of firms

- Undertake comprehensive dialogue and discussions with the private sector on the elements of the strategy, solicit their views, aspirations and feedback, and jointly produce a revised and more comprehensive strategy
- Include a long-term vision, shared with the private sector, of where the manufacturing sector will be in say twenty years' time
- Recognize government's role in providing and improving physical infrastructure that the private sector cannot finance itself, particularly in rural areas, because this is the most powerful way to promote rural industrialization
- Spell out the investments in upgrading the technical, managerial and marketing capacity of domestic firms
- Agree on shared public-private mechanisms for implementing the agreed policies and investment programmes
- Prepare separate industrial strategies for four or five key industries
- Widely disseminate the joint public-private overall and industry-level strategy documents

Macroeconomic Policies

The government's measures to improve the macroeconomic environment – through moderate inflation, stable exchange rate, revival of the banking system and deepening the overall financial system – have already improved the business environment, including lower interest rates and improved credit availability, and contributed to the revival of the manufacturing sector in 2000-02. There is thus no need for a special industrial development bank or corporation in Mongolia. However, the following measures may be necessary to strengthen manufacturing recovery:

- Private banking liquidity may have expanded too rapidly, judging from the rise in non-performing loans in 2002, calling for more discipline on the part of the commercial banks, and more vigilance on the part of the monetary and banking authorities to avoid another banking crisis
- The practice of extending directed, subsidized credit to particular companies should be discontinued now that credit availability has improved, to ensure a level playing field for other companies and to safeguard the banking sector from incurring additional non-performing loans
- Reassess the need for special credit facilities extended by the World Bank and KfW, since they may crowd out the private banking sector
- The tugrik may have become overvalued in between 1999 and 2002, due to a relatively stable exchange rate but higher inflation in Mongolia relative to its major trading partners, which may have contributed to widening the trade deficit, and the possible loss of competitiveness of domestic producers

Business environment

The Mongolian business environment may have improved in recent years, judging by the increasing number of foreign investors coming to the country, the establishment of many manufacturing establishments in the meat processing, other food, textile and garment industries, particularly in the second half of the 1990s and early 2000s, the enactment or amendment of numerous laws and regulations to better match the requirements of a market economy, the reduction in licensing requirements, the simplification of the tax system, and the generally positive findings of recent surveys of the private sector, where only tax issues,

high interest rates and lack of long-term loans, and customs issues rated as significant or major obstacles by the majority of businesses out of a total of fourteen different issues.

Nevertheless, much remains to be done to provide an optimal business environment, including lowering the tax burden for businesses, improving tax and customs administration, and streamlining licensing requirements and factory inspections.

Reforming the tax system. Many new taxes were introduced over time to meet rising government spending. So regaining discipline in government spending may be the long-term solution for reducing the tax burden on businesses. In the meantime, in deciding who and how to tax, the government has usually given preference to administrative convenience over effectiveness and efficiency. The direct and indirect impact of existing and new tax laws on the entities being taxed were not fully assessed, nor their likely impact on other entities in the short, medium and long term. The following measures are proposed to thoroughly reform the tax system to improve its fairness, its effectiveness and the overall business climate:

- Reduce the high and rising overall tax rate (38 per cent of GDP in 2001 up from 27 in 1996), currently the highest of all transition economies, which is distortionary and a disincentive to business
- Replace the dual corporate income tax rate (40 and 15 per cent for larger and smaller companies), which is leading to numerous distortions and economic inefficiencies, with a flat 25 per cent or lower tax rate for all businesses; this rate should be carefully calculated to minimize its impact on the small establishments (however small-scale industries employing 10-49 workers accounted for less than a quarter of total manufacturing employment, and probably a smaller share of manufacturing value-added)
- Replace the fixed tax rate on independent individuals not employed by formal sector companies or self-employed with a tax rate to diversify tax sources
- Consolidate the existing ten tax laws, which conflict with one and another, within the general tax law
- Revise current tax assessment methods of the General Department of Taxation with those of international accounting standards
- Abolish the 20 per cent withholding tax on all financial inflows abroad, including foreign loans, which amounts to double taxation for foreign investors and restricts foreign investment
- Reassess tax exemptions to attract foreign investors (they may not be necessary according to UNCTAD, 1999), or if considered necessary, extend the same privileges to domestic investors to avoid discrimination and level the playing field
- Phase out stability agreements with large foreign investors, which give them unfair advantage over other firms
- Revise the legal power granted to the tax office to seize money from bank accounts of firms it suspects of tax evasion, by requiring it to obtain a court order

Tax implementation. To elicit the cooperation of businesses and improve the overall business climate, the tax office should work with its entire staff to make the tax collection system more user-friendly and to improve its implementation through the following measures:

- Alignment of forms used by the tax office for tax assessment with international accounting standards

- Incentive scheme for tax inspectors based on promotion, and not on immediate financial gains
- Training of tax inspectors in tax assessments methods, including attitudinal change towards businesspeople
- Production of unambiguous guidelines and manuals on tax rules and regulations
- Closer supervision of tax inspectors
- Deposit all tax laws and amendments in one central location and one official website, including English translations, within a week of enactment
- Consider the establishment of a tax tribunal to hear tax and customs disputes

Improving customs administration. Several steps can be taken to improve the operations of the customs office, including the following:

- Amending the Customs Law to reduce the arbitrary power of customs officials
- Train customs officials in goods classification (using the harmonized classification system) and valuation
- Introduce a binding time limit for customs clearance
- Instilling a more cooperative attitude on the part of customs officials
- Undertake a comprehensive review of many certificate requirements for exports, and eliminate those that have outlived their usefulness in today's free trade environment
- Tackle smuggling at the highest level to raise more revenues from legitimate sources such as customs taxes, and to lessen the tax burden on industrialists and other businesses
- Collaborate with the Chinese customs service and border officials

Legal and regulatory environment. Several projects have begun to tackle legal reform, including the USAID Judicial Reform project and the World Bank Legal and Judicial Reform project to make the legal system more reliable. The following measures are proposed to improve the legal and regulatory environment:

- To avoid the frequent need to correct and amend laws and regulations already passed, which discourages investment and increases the cost of compliance, the government and parliament should proceed more thoroughly on new laws and amendments, by inviting public participation at an early stage, and by adopting a more open, participatory and transparent approach to legislation making
- To reduce the cost of doing business, streamline licensing and permits (87 licenses are required to establish and operate a legitimate business), and only keep designed to safeguard public interest, such as those for public monopolies, minerals exploitation, pollution, and banking and insurance
- To compensate local administrations for the loss of licensing revenues, the government should allocate adequate resources, otherwise some licenses will reappear
- To avoid burdening businesses, factory inspections – which are numerous at present, and cover hygiene and sanitation, electrical, plumbing, production and technology standards, labour, health, environmental and fire safety – should be confined to those considered essential, and should be undertaken by professional factory inspectors, closely supervized by their superiors

Finally, a government-wide effort to increase information dissemination and transparency would also resolve many of the issues perceived as obstacles in the areas of taxes, licensing and inspections, customs and bureaucracy.

Opportunity-driven public-private consultation

The public-private sector dialogue should be driven by identifying specific opportunities for growth rather than focusing on general obstacles to it. In shifting the tone from obstacle to opportunity, the discussion should focus on practical micro-concerns, on implementation rather than restructuring and changing policies, to repositioning the commercial sector to produce higher value products, generate high wages and contribute to higher standards of living. The private sector should become actively involved in the process and share the responsibility for a strategy or plan for addressing particular business constraints. The *ad hoc* task force operating in the tourism sector, consisting of a mixed public-private sector body, offers a good example.

The private sector must organize itself so that it can speak on different topics with one voice, through more effective industry associations. Private enterprises must take initiative and accept greater responsibility by offering realistic proposals for solving the problems they have articulated, while government agencies must be prepared to let others influence the policy agenda.

Privatization

The government is about to privatize several large manufacturing concerns including the profitable *Gobi* Cashmere Company. The government should pay particular attention to the strengths and weaknesses of such companies, and implement a tailor-made privatization scheme on a case-by-case basis. In general, the preferred privatization method for countries has been the sale to strategic investors, who can bring finance, new investment, technology, external linkages and expertise on markets, raw materials and inputs, but other methods have been chosen in line with the country's objectives. In the case of *Gobi* for instance, a strategic foreign partner, with operational and extensive distribution and marketing channels for high-value cashmere garments in Europe and America, should be identified. Such a long-term partner can take advantage of Gobi's efficient production facilities and management, while transferring fashion, marketing and distribution knowledge to *Gobi* and hopefully sharing the high value-added associated with these activities.

The central lesson in voucher privatization scheme is that transfer of ownership rights alone is not sufficient to bring about efficiency. It has to be accompanied by outside ownership concentration, including by auction, a competitive environment, and clarity over what is privatized (e.g., assets *and* liabilities). The World Bank devoted a whole devoted report on public enterprise and privatization issues (World Bank 1996), followed by a comprehensive chapter in their country economic report on Mongolia on efficient privatization, including methods and process, speed versus efficiency, clarity, review of legal framework and improved governance (World Bank 1997, chapter 3). UNIDO also provided recommendations on the preparation of industrial enterprises for privatization and restructuring (Abeywickrama, 1994). The government has therefore at its disposal useful guidelines for implementing a careful privatization process dealing with the policy, competition, employment and other issues.

The government should also tackle ownership and governance issues. Efficiency in state-owned enterprises could be improved from more outside board members, better external audits and more competition. Increased governance of privatized enterprises depends to a large extent on hardening their budget constraints, and more concentrated ownership. The

latter required a better functioning stock market and a broader presence of non-banking financial institutions.

Livestock-based industries

The most promising export-oriented industries in Mongolia are those that process animal-based products, including meat, dairy, leather, wool, cashmere hair, camel hair, and animal hair of other animal including yak. Yet the livestock sector is in disarray, unable to control diseases such as foot and mouth and brucellosis, or worms, insects and other pests, which destroy the quality of hides and skins, wool and hair, and lacking in veterinary services, hygienic slaughterhouses, water wells and hay. Export markets for meat and dairy products will remain or become even more uncompromising with respect to sanitation and hygiene standards. The government should therefore give its highest priority to rehabilitating the livestock sector.

After the 1990 transition, the livestock cooperatives, which managed all livestock on behalf of the state, were disbanded, and their livestock stock distributed among the *soum* households, herders and non-herders alike. Because no system was put in place to manage their cooperatives' facilities, including veterinary services, slaughterhouse, milk collection centre, hay reserve and water wells, these facilities deteriorated rapidly and ceased to function in most cases. Many problems plaguing the livestock-based industries today originate from this hasty privatization, and have yet to be resolved adequately.

The main issues facing key livestock-based industries are discussed in turn below for cashmere products, wool products, meat products, dairy products and leather products.

Cashmere products. After a promising start in the mid-1990s, the cashmere industry was in decline by 2001-02, unable to secure raw material, a large share of which crosses the border into China, despite being the second largest producer in the world, with a share of 20-25 per cent after China's 70 per cent of world production. For Mongolian cashmere industries to successfully compete against their Chinese counterparts, the government and the cashmere industry together must accomplish the following:

- Increase manufacturing domestic value-added, since only a small portion of cashmere is manufactured into garments and other end-products, while the majority is exported as dehaired cashmere and, at the same time, lessen reliance on dehaired cashmere which fetches a low a price in the international market
- Assist firms in establishing their own distribution, brand name and marketing channels, which account for nearly 60 per cent of the retail value of cashmere garments (and which now accrue to foreign buyers and agents), and expand the local firms' share in the total value chain of cashmere garments and other products
- Increase government assistance in international promotion and marketing
- Increase research and development, by establishing a dedicated *Cashmere and Wool Centre*, properly staffed and funded, and with up-to-date testing and pilot processing facilities, to improve the end-use behaviour of garments and to develop new products
- Improve the quality of raw cashmere by encouraging herders to cull older animals, sort cashmere according to grades and colour, and discourage cross-breeding with higher yielding breeds with coarser hair
- Privatize the *Gobi* Cashmere Company as soon as possible (preferably to a strategic partner) according to the most suitable method and procedure selected by the government

itself, and refrain from providing assistance to selected companies, to create a level playing field for other companies
- Formulate a strategic and long-term vision for the industry, which is shared between the public and private sector, to provide signals to investors and guide their long-term investment plans to utilize the country's large, valuable and sustainable raw cashmere resources

To concretely address some of these challenges, the government should support the formation of a Fibre Promotion Board, as recommended by the USAID-funded Competitiveness Initiative (TCI) project, to undertake the following:

- Create and register certification trademarks that member companies could use to market garments under strict quality control, which would increase consumer appeal by imparting quality and purity guarantees to the Mongolian garments
- Conduct promotional activities to enhance their members' competitiveness, including publishing a newsletter, maintaining a website, publishing and distributing promotional material to educate the consumers and retailers, facilitating technology transfer by maintaining a database of equipment and machinery suppliers, conducting trade missions, organizing a trade fair in Ulaanbaatar, and providing pertinent market information and signals from the international consumer to the local industries
- Collaborate with the Mongolian Textile Institute (MTI), together with German Wool Research Institute (DWI), to establish quality standards for Mongolian cashmere

As an overall strategy, the Mongolian cashmere industry cannot and should not compete with the Chinese on costs but on higher value, and should aim to gradually increase its share of the considerable value-added in own design, own label, and own marketing and distribution channels that high value cashmere products have to offer.

Wool products. The government and the carpet and wool industry should work together to accomplish the following:

- Expand government promotion services to assist manufacturers in taking part in fairs and exhibitions, to promote their products through trade attaches in Mongolian embassies, and to make contact with foreign buyers and trading houses
- Encourage investment in modern carpet-making equipment, to introduce flexible, computer-controlled equipment that can produce small batches of carpets based on the designs selected by their clients, and computerized card-punching machines
- Increase design capabilities, perhaps through linkages with foreign technical institutes and design centres, to produce designs in demand in the international market
- Increase research and development by establishing a dedicated *Cashmere and Wool Centre*, properly staffed and funded, and with up-to-date testing and pilot processing facilities, to (i) conduct research on quality attributes of wool and build a database, as well as to provide classification scheme for wool and its end-use, (ii) develop and disseminate a dehairing process to solve the poor end-use behaviour (large amount of loose fibres on carpet surface and bad odour, prickly blankets), identify and disseminate other uses for Mongolian wool, including in the technical, medical and geo-textile areas, and run a design course
- Encourage herders to use appropriate marking materials, and not bitumen, lacquer and dyestuff, which are difficult to remove at the processing stage, and clog the equipment

- Institute a breed improvement programme to provide larger quantities of fine and semi-fine wool for higher value uses
- Resolve the long-standing bad debt problem of carpet companies, contracted with an Austrian bank before the transition, to allow them to raise fresh capital
- Formulate a strategic vision, to allow the government and the private sector to agree on a long-term development programme for the industry, and to provide manufacturers with a long term vision of where the industry will be in twenty years' time, to guide them in their investment decisions, and ultimately utilize the country's vast and largely under-utilized raw wool resources to create domestic value-added and expand employment

Meat products. The government, aware that animal diseases and the country's reliance on a single market, Russia, have contributed to lower export prices, has taken several measures to address these problems. In addition, the government and the meat processing industry should work together to accomplish the following:

- Control the various diseases prevalent in Mongolian livestock (foot and mouth, brucellosis, glanders, anthrax and animal tuberculosis), which precludes or severely curtails international trade in raw and processed meat
- Improve meat quality control, rehabilitate *soum*-level slaughterhouses and require veterinarians to inspected all slaughtered meat, and update meat inspection regulations and standards
- Increase manufacturing value-added by increasing the level of processed meat
- Provide marketing assistance, perhaps through the meat exporters' association, to identify and supply new markets
- Intensify government-to-government negotiations to open up new markets particularly Russia and China, reduce the high import tariff in the case of Russia, and address the non-tariff barriers related to hygiene and sanitation
- Improve livestock management to produce healthier animals, including the repair of water wells (half of which are not operational at the moment), pasture management and larger hay stocks (at present the supply of hay can only for three days)
- Disseminate modern butchery techniques to cut meat more hygienically and according to European standards, so as to obtain a higher price for prime cuts
- Assist firms in investing in adequate and efficient storage and transport facilities (including storing boneless meat and using appropriate packaging), since most slaughtering is undertaken before the winter season in November and December, while consumption is spread throughout the year
- Establish a long-term breeding programme using some local breeds which produce more meat than others
- Formulate a long-term strategic vision, jointly formulated by the public and private sector for the long-term development of the industry to utilize the country's large and rising livestock resources, and to secure funding for the long-term development of the industry

Dairy industry. The government and the dairy industry should address the following challenges to rehabilitate the once thriving Mongolian dairy industry and provide safe milk and dairy products:

- Improve the quality of milk and of dairy products to meet existing Mongolian and international standards, by improving the hygiene standards of milk collection, storage,

transport and processing in rural areas, and of upgrading the facilities and personnel of small and medium dairies in urban areas

- Rehabilitate the milk collection points and centres in the cattle area along the northern road from Ulaanbaatar to the Russian border, and transfer their management to herder cooperatives
- Appoint a professional management team to revive the *Suu* dairy plant in Ulaanbaatar, whose milk is badly needed by the capital city, and whose refrigeration facilities were recently upgraded with help of the Japanese government, in conjunction with the rehabilitation of the collection points and centres and private investment in dairy farms
- Encourage private investment in combined intensive dairy farm-dairy plant operations in Ulaanbaatar and other urban centres, or at least remove obstacles in their way
- Encourage and support private sector investment in the production of milk, butter and other dairy products in rural areas, where excess milk in the summer can be preserved during transportation to *soum* centres using modern but simple techniques, and then converted into curd, casein products and cheese for domestic consumption
- Improve the cattle herds for intensive farms near urban areas through artificial insemination and imported bulls, services which were widely provided by the state before the transition, and which can be reinstated on a cost-recovery basis
- Formulate a joint public-private long-term strategy and vision to develop the dairy and dairy product industry to utilize the country's large output of raw milk to create domestic value-added, generate household incomes and expand employment

Leather product industry. The government and the leather product industry should together address the following main challenges:

- Increase domestic manufacturing value-added, since at present most hides and skins are exported in raw form or as wet blue to China, and focus on market niches and on the luxury leather product market, to avoid competing on price against Chinese and other products
- Improve the quality of hides and skins, by preventing scars and perforations due to parasitic worms, and making them unsuitable for the production of higher value jackets and garments, perhaps by promoting some form of contract arrangements, whereby the processors pay a premium price for treated (and marked) animals, in return for guaranteed supplies from selected herders
- Discourage the present custom of paying for hides and skins according to length, because this leads to stretching and further damage
- Encourage the banking sector to advance working capital on commercial basis to tanneries, which require large amounts of cash during the relatively short slaughtering season of November-December
- Replace outdated equipment of large tanneries
- Expand the current MIT/GTZ programme to improve the capacity of small and medium leather industries to produce export-quality products Many
- Encourage factories to treat all chemicals used in leather processing before discharging them into rivers and streams, and discourage the untreated disposal of fragments of skins and offal, which contribute to environmental pollution
- Formulate a long-term vision, jointly formulated by the public and private sector to utilize the vast resources of hides and skins and the industry's excess production capacity, and to turn the leather industry into a major foreign exchange earner and provider of employment

As noted above, a GTZ-funded SME development project is currently strengthening the capacity of the *Armono* Leather Research Centre to provide consultancy services to the leather product industries. This project, which is also upgrading the furniture and printing industries, should be supported.

Firm-level upgrading in technology, management and marketing

Competitiveness depends increasingly on technology development and its underlying knowledge, skills and organizational arrangements. In terms of technological capabilities, there may be three types of manufacturing firms in Mongolia: (i) the large-scale establishments of the socialist era, now privatized or partially privatized in one form of another, (ii) the domestic small and medium-sized companies, which made their appearance after 1990 in the food and beverage sub-sector initially, but are now common in meat exports, leather product manufacturing, furniture making and other sub-sectors, and (iii) the joint-venture and foreign firms, including the cashmere processing industry since the early 1990s and the garment industries after 1999. The government has initiated two important projects to address the capacity building needs of the first and second types of firms above. Phase two of Netherlands-funded and GTZ implemented Enterprise Restructuring project (phase one was executed by UNDP, also with Dutch funds, in 1998-2000) is strengthening the management and marketing capacity of larger firms, while the GTZ-funded SME Promotion project focuses on the building production capabilities and technical skills of domestic small and medium industries to produce quality products.

These two projects are especially important at the current stage of Mongolia's manufacturing development, and should be expanded, especially to serve those firms that have already recognized the need to change and develop their product technology and management. There are however many other firms, the majority perhaps, that do not realize or recognize the need to change, or do not know where and what they might improve, as well as firms that do recognize the need for change, but are unclear about how to go about it. To further stimulate firm-based investment in technology among these firms, there is a need to promote the demand for technology. One way of achieving this is to require the public technology institutes to explicitly incorporate an outreach scheme, including enterprise counsellors or industrial advisors.

In addition to the pro-active role of technological institutes advocated above, collective action by industry associations, local government and chambers of commerce can often be effective in developing new markets and introducing new technologies. Industry associations in Mongolia, and are often not managed by industrialists, but by academics. In the new competitive environment, industry associations need to upgrade themselves, not just firms. The National Productivity and Development Centre can play a role in upgrading industry associations to provide useful marketing, price and technological services to their members.

Small and medium-scale enterprises

Larger establishments (200+ workers) provided 41 per cent of total manufacturing employment. Small-scale (10-49 workers) and medium-scale industries (50-199 workers) each accounted for 17-18 per cent of the total, while household industries (1-9 workers) accounted for 12 per cent of the total. The remaining 12 per cent were employed as undeclared workers in the above firms or in un-registered establishments.

While the government and its international partners have emphasized SME development in recent years, the upgrading of larger establishments, which continue to account for nearly half of total manufacturing employment, should not be neglected. The more advanced larger establishments are in stronger position to assist the government in implementing its labour-intensive and export-oriented manufacturing strategy. They nevertheless will need help to overcome the numerous technological and management obstacles in accessing international markets. When they do, they will also benefit the smaller firms through backward linkages.

Ideally, the development strategy for SMEs is not to treat them in isolation, but to foster their integration with larger firms as suppliers of intermediate goods and services. The MIT/GTZ approach of upgrading their technical capabilities is perhaps the best approach to assist them, and this should be continued and expanded. MIT may complement this with some assistance to SMEs in identifying and fulfilling sub-contracts on behalf of larger firms, by for instance, arranging and promoting vendor-supplier visits and meetings. In contrast, the household segment provides essentially survival employment, and will still need special policies to raise its productivity and income, including access to credit and training.

Trade policies and promotion

Apart from a handful of largest companies, most manufacturing enterprises have limited financial and human resources, especially in the area of export marketing skills. They also had very limited links to trading companies overseas. The 'best practices' in successful exporting countries indicate that a range of services are required to facilitate rapid export growth, and that these services cannot be provided by a single institution. Some services should be supported and delivered by government agencies in cooperation with the private sector. However, public sector officials are bureaucratic and rarely business-oriented, and lack understanding of what is required to enhance export competitiveness. Private trade support institutions should provide other services, however these are mostly young, inexperienced, and poorly funded and staffed.

Some capacity building technical assistance has been made available in the past, but it has been largely *ad hoc* and not part of any broader institutional or national strategy. Two trade-related technical assistance projects are currently operating in Mongolia. The GTZ International Trade Policy/WTO project is assisting MIT in WTO related issues, including helping Mongolia in meeting its WTO commitments, and in specific advice on a number of trade issues, such as meat exports to Russia, China and EU. The USAID-funded Competitive Initiative project (four years, $2 million) is providing company level assistance to cashmere producers and tourism agencies, strengthening and empowering their associations, and encouraging collaborative action. However, Mongolia can benefit from a trade promotion directed programme, focused on a few carefully chosen sectors, functions and institutions.

The ITC proposal to establish an effective trade promotion framework in Mongolia, based on the country's priorities in the trade sector, should be fully supported. This would involve a number of activities, including the following (Williams *et al*., 2002:6):

- Formulate a public-private sector joint *national export strategy* to create a shared vision for export development
- Establish an autonomous *Export Promotion Council* to take the lead in developing and organizing the trade support network, and develop an appropriate infrastructure and

enabling environment for coordination and cooperation among the key trade support organizations

- Establish a specialized public-private *training institution* for export management and related training
- Focus on a few *selected sectors, functions* (trade strategy formulation, financing, trade and export marketing training, trade/market information) and clients
- Strengthen *key institutions*, the choice of which would be guided by the selection of above sectors and functions, including selected sector associations and NMCC
- Encourage MIT, FIFTA, MOFE and commercial banks to act as *facilitators* rather than controllers
- Establish active *foreign trade wings* in Mongolian embassies abroad, staffed with trained and competent personnel
- Establish a special window in Central Bank for *export financing*
- Expand *export diversification* programmes and activities
- Establish *database* on export markets
- Establish a *commodity board*

6.3 Suggestions for Further Technical Assistance

The previous sections have already made reference to several technical assistance projects currently being implemented in Mongolia to improve the business environment, and to develop the industrial and trade sectors. These include the following:

Business environment

1. JICA tax officials training
2. ADB tax officials training
3. USAID Judicial Reform
4. World Bank Legal and Judicial Reform

Industrial development and manufacturing competitiveness

5. MIT/GTZ Small and Medium Enterprise Promotion
6. Netherlands/GTZ Enterprise Restructuring project, phase II
7. USAID Competitiveness Initiative (cashmere and tourism associations)
8. MOSTEC/BMBF Mongolian Textile Institute/German Wool Research Institute wool & cashmere standards

Trade development and export promotion

9. MIT/GTZ International Trade Policy and WTO
10. Korea/ITC Preparatory Assistance for Establishment of Trade Promotion Network

The above ten projects are valuable technical assistance initiatives, which should be continued and expanded in directions already suggested in sections 4, 5 and 6 of the present study. In addition to the above and to complement them, this study proposes twelve proposals for further technical assistance to strengthen industrial and trade development policy in Mongolia: three to improve the business environment, six to improve the long-term competitiveness of industrial firms, and three to develop international trade and to promote exports (identified and proposed by the International Trade Centre). These are as follows:

Business environment

1. Tax reform task force
2. Customs administration task force
3. Licensing and factory inspection task force

Industrial development and manufacturing competitiveness

4. Overall industrial long-term vision and strategy
5. Industry-level long-term visions and strategies
6. Strengthening selected industry associations
7. Industrial outreach programme
8. Restructuring of *Gobi* Cashmere Company
9. Improvement of Industrial statistics

Trade development and export promotion

10. National export strategy
11. Establishment of national export council
12. Trade training institute

A brief description of each of the business environment and industrial development technical assistance project proposals is given below. Technical assistance proposals for trade development and export promotion are available in a separate document produced by the International Trade Centre (Williams *et al*., 2002). The design of all technical assistance projects should keep in mind that Mongolia's absorptive capacity remains limited in both government agencies and in private sector support institutions. Technical assistance should take this into account, and gradually build local absorptive capacity, focus on carefully selected sectors, functions and institutions and, above all, strengthen the working relationship between the government and the private sector, and among government ministries, departments and agencies themselves.

1. TA for Taxation Reform Task Force

The Mongolian tax system is flawed for the following reasons: (i) it is the highest of all transition economies and is a disincentive to business; (ii) the 40 per cent corporate income tax rate of larger corporations is more than twice as high as the 15 per cent tax for smaller ones, leading to numerous distortions and economic inefficiencies; (iii) independent individuals not employed by formal sector companies or self-employed, pay a fixed and nominally low tax; (iv) there are at least ten tax laws, which conflict between one and another; (v) tax assessment methods conflict with the international accounting standards; (vi) the 20 per cent withholding tax on all financial inflows abroad, including foreign loans amounts to double taxation for foreign investors and restricts foreign investment; (vii) numerous tax exemptions granted to foreign investors may not be necessary according to UNCTAD (1999), and discriminate against domestic investors; (viii) stability agreements with large foreign investors give them unfair advantage over other firms; (ix) and the tax office has been given undue legal power to seize money from bank accounts of firms it suspects of tax evasion.

In addition, to elicit the cooperation of businesses and improve the overall business climate, the tax collection system should be improved and become more user-friendly by: (i) alignment forms used by the tax office for tax assessment with international accounting standards; (ii) improving the incentive scheme for tax inspectors based on promotion, and not on immediate financial gains, (iii) training of tax inspectors in tax assessments methods, including attitudinal change towards businesspeople, (iv) producing unambiguous guidelines and manuals on tax rules and regulations; (v) closer supervision of tax inspectors; (vi) depositing all tax laws and amendments in one central location and one official website, including English translations, within a week of enactment; and (vii) considering establishing a tax tribunal to resolve tax and customs disputes.

To encourage private domestic and foreign investment, the tax system should be reformed as soon as possible to create a more diversified tax structure, a system which is effective, internally consistent and non-discriminatory, and which is regarded as fair by the business community. In order to achieve these aims and to improve tax collection, it is proposed to set up an *ad hoc* Task Force, supported by a technical committee and a small secretariat. Technical assistance (foreign and domestic) will be required to support the work of the task force, the technical committee and the secretariat, and to undertake the following activities:

1. Prepare terms of reference for *task force*, and assist the government in identifying and selecting task force members from representatives of all stakeholders, including business (Mongolian National Chamber of Commerce and Industry, industry associations, large, medium and small-scale industries, informal businesses), workers, taxation office, members of parliament (standing committee for economic affairs), Ministry of Finance and Economy and Ministry of Trade and Industry
2. Prepare terms of reference and assist the government in establishing a *technical committee* responsible for preparing draft proposals as identified by the task force
3. Form a small *Secretariat* to organize monthly task force meetings, monthly technical committee meetings, distribute position papers, prepare final proposals and undertake other organizational and logistical activities
4. Assist the technical committee in reviewing all tax regulations and drafting amendments or laws to be presented to government and parliament
5. Assist the technical committee in drafting measures to improve tax administration in the field and in the preparation of detailed implementation guidelines

The reform of the taxation system and its administration can become a pilot programme for increasing government transparency and improving the business environment.

2. TA for Customs Administration Reform Task Force

Several steps are required to improve customs administration, including: (i) mending the Customs Law to reduce the arbitrary power of customs officials; (ii) training customs officials in goods classification and valuation; (iii) introduce a binding time limit for customs clearance; (iv) instilling a more cooperative attitude on the part of customs officials; (v) undertaking a comprehensive review of many certificate requirements for exports, and eliminating those that have outlived their usefulness in today's free trade environment; (vi) tackling smuggling at the highest level to raise more revenues from legitimate sources such as customs taxes, and to lessen the tax burden on industrialists and other businesses; (vii) collaborating with the Chinese customs service and border officials.

In order to achieve these aims and to improve tax collection, it is proposed to set up an *ad hoc* Task Force, supported by a technical committee and a small secretariat. Technical assistance (foreign and domestic) will be required to support the work of the task force, the technical committee and the secretariat, and undertake similar activities to the ones outlined for the Tax Reform Task Force.

3. TA for Licensing and Factory Inspection Task Force

To reduce the cost of doing business, licensing and permits should be streamlined. At present, some 87 licenses are required to establish and operate a legitimate business. Ideally, only licenses designed to safeguard public interest, such as those for public monopolies, minerals exploitation, pollution, and banking and insurance, should be maintained. To compensate local administrations for the loss of licensing revenues, the government should allocate adequate resources to local administration, otherwise some licenses will reappear.

To avoid burdening businesses, factory inspections – which are numerous at present, and cover hygiene and sanitation, electrical, plumbing, production and technology standards, labour, health, environmental and fire safety – should be confined to those considered essential, and should be undertaken by professional factory inspectors, closely supervized by their superiors.

In order to streamline licenses and factory inspection, it is proposed to set up an *ad hoc* Task Force, supported by a technical committee and a small secretariat. Technical assistance (foreign and domestic) will be required to support the work of the task force, the technical committee and the secretariat, and to undertake similar activities to the ones outlined for the Tax Reform Task Force.

4. TA for White Paper on Long-term Vision and Industrial Strategy

Mongolia's official documents contain an implicit industrial strategy. However, few people in the private sector and international and bilateral partner agencies are aware of this strategy. MIT needs to undertake the following activities: (i) recognize that it is firms that compete in domestic and international markets, and that public policy should be geared to strengthening the competitive capabilities of firms; (ii) undertake comprehensive dialogue and discussions with the private sector on the elements of the strategy, solicit their views, aspirations and feedback, and jointly produce a revised and more comprehensive strategy; (iii) include a long-term vision, shared with the private sector, of where the manufacturing sector will be in say twenty years' time; (iv) recognize government's role in providing and improving physical infrastructure that the private sector cannot finance itself, particularly in rural areas, because this is the most powerful way to promote rural industrialization; (v) spell out the investments in upgrading the technical, managerial and marketing capacity of domestic firms; (vi) agree on shared public-private mechanisms for implementing the agreed policies and investment programmes; (vii) obtain parliament approval; and (viii) widely disseminate the strategy paper to all stakeholders or their representatives

To accomplish the above it is proposed to set up a Task Force, technical committee and a small secretariat. Technical assistance (foreign and domestic) will be required to support the work of the task force, the technical committee and the secretariat, and to undertake the following activities:

1. Prepare terms of reference for *task force*, and assist the government in identifying and selecting task force members from representatives of all stakeholders, including business (Mongolian National Chamber of Commerce and Industry, industry associations, large, medium and small-scale industries), workers, taxation office, members of parliament (standing committee for economic affairs), Ministry of Finance and Economy, Ministry of Trade and Industry, and other relevant ministries
2. Prepare terms of reference and assist the government in establishing *technical committee* responsible for preparing draft proposals as identified by the task force
3. Form a small *Secretariat* to organize monthly task force meetings, monthly technical committee meetings, distribute position papers, prepare final proposals and undertake other organizational and logistical activities
4. Assist the technical committee in undertaking a detailed *SWOT analysis* (strengths, weaknesses, opportunities and threats) of the manufacturing sector
5. Assist the technical committee in drafting a *long-term vision* of where the manufacturing sector will be in twenty years' time
6. Assist the technical committee in drafting detailed *policy measures, programmes and projects* to achieve the long-term vision
7. Assist the technical committee in identifying government policies, laws and regulations which are hampering the development of the manufacturing sector and drafting corresponding amendments
8. Assist the technical committee in preparing detailed *resource requirements* and in identifying funding resources (local and foreign companies, government, ODA)
9. Assist the technical committee in drafting joint public-private *implementation mechanisms* for implementing the strategy
10. Assist the Task Force and the government in obtaining approval from parliament and disseminating it as a government white paper

5. TA for White Papers on Industry-level Long-term Vision and Strategy

In addition to the overall industrial strategy, there is a need to elaborate a long-term vision and strategy for the development of key sub-sectors industries, including the cashmere, wool, meat, dairy and leather industries. It is proposed to form ad hoc industry-level Task Forces whose activities will be similar to the ones above. Technical assistance (foreign and domestic) will be required to support the work of the task force, the technical committee and the secretariat for each of the industry-level Task Force, to undertake similar activities to these outlined above for the overall manufacturing strategy.

6. TA for Strengthening Selected Industry Associations

Several sector associations were set up in the 1990s to collect and share information, identify and deal with industry problems, and represent their sectors in relation to government. These included the Mongolian Wool and Cashmere Federation, the Mongolian Meat Exporters Association, the Mongolian Textile Producers Federation, and the Mongolian Association of Hides and Skins. Most associations are relatively young, poorly funded (depending almost entirely on membership dues and fees for services provided), and poorly staffed (usually just two persons, the chair and a secretary). Their personnel are inadequately qualified for international trade (limited language skills, limited marketing knowledge and experience). Academics rather than industrialists manage many industry associations. A recent assessment by the International Trade Centre concluded that, due to their institutional weaknesses, most associations lack the resources to meet their members' needs (Williams *et al*., 2002:13-15).

To enable domestic manufacturing firms to successfully compete abroad, industry associations also need upgrading to undertake the following activities for their members: (i) monitor prices and other market developments; (ii) analyze signals from international consumers and communicate these to local firms; (iii) facilitate technology transfer by maintaining a database of equipment and machinery suppliers; (iv) conduct trade missions; (v) organize trade fairs in the country; (vi) publish and distribute promotional material; (vii) publish a newsletter; and (viii) maintain a website.

Technical assistance will be required to begin the process of upgrading of industry associations in one or two key industries. The experience and lessons learned by the USAID-funded Competitiveness project in strengthening associations in the cashmere and tourism industries should be taken on board. Capacity building of the National Productivity and Development Centre should be considered, so that it can continue upgrading industry associations to provide useful marketing, price and technological services to their members.

7. TA for Industrial Outreach Programme

Two projects, the MIT/GTZ Small and Medium Enterprise Promotion and the Netherlands/GTZ Enterprise Restructuring project phase II, are already strengthening technological and managerial capabilities at the firm level. Nevertheless, the firms involved are only a sub-set of the total number of manufacturing enterprises in the country. They have somehow become aware of the need to change and develop their product technology and management, and have approached the projects on their own initiative. There are however many other firms, the majority perhaps, that do not realize or recognize the need to change, or do not know where and what they might improve. There are also firms that may recognize the need for change, but are unclear about how to go about it. To further stimulate firm-based investment in technology among these firms, there is a need to promote the awareness and demand for technology on the part of these firms.

An outreach programme, consisting of enterprise counsellors and industrial advisers, located in existing public technology institutes is an effective way of raising the demand for technology and upgrading of these firms. The difference between this programme and the above two projects is that counsellors and advisers take initiative and visit the companies. These can be drawn from the pool of experienced industrial experts who have been laid off due to downsizing of many large-scale manufacturing enterprises in the 1990s. Technical assistance will be required to set up an outreach programme in selected public technology institutes.

8. TA to Restructure Gobi Cashmere Company

State-owned *Gobi* is scheduled for privatization in 2003. Ideally, it should be sold to a long-term strategic foreign partner with established distribution and marketing channels, and perhaps also in possession of an established luxury brand name. In order to do so, *Gobi* needs to undergo a restructuring process to make it more attractive to potential investors and to obtain a good price. The model used by the Dutch-financed and GTZ implemented Enterprise Restructuring project, and which has successfully turned around a number of large privatized companies in Mongolia in the past, can be used to restructure *Gobi*.

The following stages or activities are required: (i) a company diagnosis, and an elaboration of a vision of the company's future, followed by restructuring planning; (ii) organizational and managerial restructuring, physical and operational restructuring, improving the skills and the morale of the staff, and improving the perception of the enterprise by outsiders, to increase its credibility towards outside financiers; (iii) establishing proper financial accounts to show a realistic picture of the financial situation; (iv) organizing the company's various operations, including procurement, dehairing plants, spinning facilities, garment manufacturing, and distribution and sales into separate profit centres, so that the contribution of each centre can be properly assessed and monitored; and (v) undertaking financial restructuring, including debt reduction programme.

These steps, when successfully completed, will enhance the company's financial status, and improve its attractiveness to potential investors, enabling it to attract a long-term strategic partner to produce high-value finished Mongolian cashmere products. In their absence, privatization is unlikely to be successful. Technical assistance will be required to provide experienced and knowledgeable consultants to undertake the above activities.

9. TA to Improve Manufacturing Statistics

The current manufacturing statistical system of the National Statistical Office (NSO) is not fully geared to collect adequate value-added information on the large number of household and small-scale industries, many of which are not registered and in the informal sector, and which are characteristic of a developing market economy. In addition, NSO has traditionally computed gross industrial output figures, and has only recently embarked on producing manufacturing value-added figures by sub-sectors. These are only available from 1995 onwards, however there are several discrepancies between gross industrial output and value-added figures, as well as in the sub-sectoral composition of value-added between current and constant prices. Published industrial production and value-added figures are based mainly on registered establishments, and do not include un-registered and informal sector activities. There are inconsistencies even in the established industrial production figures. For instance, the manufacturing output in first eleven months of 2002 grew by 2.2 per cent in current price and by 28.2 per cent in constant price of the same period in 2001, while the consumer price index remained essentially unchanged (*Monthly Statistical Bulletin November 2002*:40-41).

The National Statistical Office and the Ministry of Industry and Trade should prioritize the development of time series data on the following aspects: (i) manufacturing GDP, which at present does not appear to include the informal sector which may account for 20-30 per cent of manufacturing employment; (ii) GDP by manufacturing sub-sector and industrial output in current prices, which are inconsistent among themselves as well as with those in constant price; (iii) wholesale price indices and producer price indices, which do not exist at present; (iv) establishments and employment by size; and (v) labour costs and labour productivity by manufacturing sub-sectors. Technical assistance from industrial statisticians, experienced in statistical methods appropriate for developing countries, is necessary to upgrade NSO's capabilities.

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ANNEXES

Annex A. List of People Consulted

	Name	Agency
	Ministry of Industry and Trade	
1	Mr. Ts. Yondon	Secretary of State
2	Mr. Badarch	Director, Industrial Development Policy
3	Ms. Oyuntsetseg	Director, Trade Development Policy
4	Dr. B. Chimedsteren	Deputy Director, Industrial Policy
5	Ms. G. Oyunchimeg	Officer, Trade Policy and Cooperation Dept.
6	Ms. Puntsagnorov Narangua	Senior Officer, Trade Policy & Cooperation Dept.
7	Mr. Dondordoj	Officer, Industrial Policy (Cashmere)
8	Mr. Jadamba B.	Coordinator, Wholesale project management unit
9	Mr. Ganbold Ayush	Director, SME Fund
10	Ms. D. Amarjargal	Officer, Industrial Policy and Coordination department MIT
	Members of Parliament	
11	Mr. Sharavsambun	Member of Parliament
12	Mr. Shagdarsuren	Member of Parliament
13	Mr. Tuvden Ochirkhuu	Chair, Standing Committee on Economic Policy
14	Mr. Chilhayovirin Avdai	Member, Standing Committee on Economic Policy
	Ministry of Food and Agriculture	
15	Mr. D. Terbishdaya	Vice Minister, Ministry of Food and Agriculture
16	Mr. Davaadorj Gochoo	Director of Planning Min. of Food & Agriculture
17	Mr. Mr.Nergui Dolji	Director, Policy Implementation and Coordination
18	Ms. Tsetsegee Ser-Of	Head, Food Production Division
19	Ms. Enkhtuya Sanjid	Senior Officer, Policy Implementation and Coordination Department
20	Ms. Enkhbayar Sundui,	Senior Officer, Policy Implementation and Coordination Department
21	Mr. Nantsagiin Batsuuri	Chairman, State Inspection Agency
	Other Ministries & Govt Agencies	
22	Ms. Oidovdanzan Enkh-Ariunaa	Deputy Director, Economic Policy and Planning department, Min. Finance & Economy
23	Mr. Boldbaatar	Director, Monetary Policy & Research Department, Central Bank of Mongolia
	Academics/Researchers	
24	Ms. G. Nadmid	Head, Mongolian Textile Institute
25	Ms. Enkhtuya Dorj	Director, Mongolian Textile Institute
26	Ms. Enkhtuya Batsukh	Head, Food Technology Department Mongolian University of Science and Technology
27	Mr. D.Altangerel	Director, Research Institute of Animal Husbandry
28	Mr.T.Saipolda	Deputy Director, Animal Husbandry Research Institute
29	Mr.Bumbein Dashnyam,	Director, National Institute of Biotechnology
30	Mr. Genden Bizya	Head, Marketing Department, Agricultural Univ.

	Name	Agency
31	Ms. Alimaa Jigjiddorj	Head of the Department of Biotechnology, University of Science & Technology
32	Ms. Dagvyn Nansalmaa,	Dean, University of science & Technology
33	Mr. Khuukhenkhu Bayambaagiin	Executive Director, Hunstech Cooperation
34	Ms. A. Ariunaa	Vice chair, Mongolian National Centre for standardisation
	Donor Representatives & Projects	
35	Ms. Saraswathi Menon	Resident Representative, UNDP Office, Mongolia
36	Mr. Natsuki Hiratsuka	Deputy RR, UNDP Office, Mongolia
37	Ms. Ts. Tsolmon	Economist, UNDP Office, Mongolia
38	Ms. Helen Bie Lilleoer	Economist, UNDP Office, Mongolia
39	Mr. Gordon Johnson	Senior Environment Adviser, UNDP Mongolia
40	Mr. B. Bathkhuyag	Rural Development Specialist, UNDP Mongolia
41	Mr. Murray Gibbs	Regional Project Coordinator, Asia Trade Initiative, UNDP, Vietnam
42	Mr. Sergio M. Miranda-da-Cruz	UNIDO Representative, China, Mongolia, DPR Korea and RO Korea
43	Mr. Michele Amedeo	International Programme Officer, UNIDO Beijing
44	Mr. Michael G. Martin	IMF Representative, Mongolia
45	Mr. Darius F. Teter	Deputy Country Director, ADB Mongolia
46	Ms. Jeanne Bartholomew	Rural develop. strategy consultant, World Bank
47	Mr. David Hepburn	Project Director, EU Tacis project
48	Mr. Trevlin Webb	Livestock expert, Tacis Project
49	Mr. K.Wiener,	Team Leader Tacis Project
50	Mr. Baavgai Khurendbaatar	National expert, EU Tacis Project
51	Mr. Franz Muller	Project Coordinator, GTZ Project
52	Mr. Stephen D. Vance	Exec. Director, Soros Foundation for Open Society
53	Mr. Henning Twesten	GTZ International Trade Policy/WTO project coordinator, MIT
54	Mr. Timuujin	GTZ WTO project Project Officer, MIT
55	Mr. Horst Ammann	Project director, GTZ Promotion of SMEs, MIT
56	Mr. Jonathan Simon	Project director, GTZ/Netherlands, Director, Enterprise Restructuring project phase II
57	Ms. D. Dejid	Coordinator, GTZ leather industry research project
58	Mr. Jargalsaikhan Ser-Od	USAID Gobi Regional Economic Growth Initiative
59	Ms. Alttantsetseg Bazarragchaa	USAID Gobi Regional Economic Growth Initiative
60	Mr. Batbaatar Dashdondog	Deputy Director, USAID Gobi Corporation
61	Ms. Michelle Morgan	Programme Director, USAID/Nathan Associates Competitiveness Initiative Project
62	Ms. Alan Safferey	USAID/Nathan Associates Competitiveness Initiative Project
63	Ms. Oyumbileg Namkhaldorj	Meat specialist, USAID/Nathan Associates Competitiveness Initiative Project
64	Ms. Jigjidmaa Dugeree	Marketing specialist, USAID/Nathan Associates Competitiveness Initiative Project
65	Ms. Dash-Ulzii Badamtsetseg	Economist, USAID/DAI Economic Policy Project

	Name	Agency
66	Ms. Gankhuyag Uyanga	Economist, USAID/DAI Economic Policy Project
67	Mr. S. Kumar	Energy Programme, Asian Institute of Technology
68	Mr. Dairiijava Dagvadorj	Coordinator, UNDP National Council for Sustainable Development project
69	Mr. Yoshi Motoyama	Management and Business Development Specialist, Buyan Cashmere Company and JICA
70	Mr. Xuejun Jiang	Senior Trade Promotion Officer, WTO/UNCTAD International Trade Centre
71	Mr. Philip Williams	Senior Adviser, ITC Geneva
72	Mr. Paul Baker	Trade Analyst, ITC Geneva
73	Mr. Surenkhor Damdinsuren	National Consultant, ITC project, Mongolia
	Manufacturers	
74	Mr. S. Ulambayar	Director, Nomin Holding (Erdenet Carpets)
75	Ms. Namsai Enkhjargal	Manager, Erdenet Carpets
76	Mr.	Director, Makh Impex Meat Company
77	Mr. B, Lkhagvadorj	Exec. Director, Buligaar Tanneries (JSC)
78	Mr. T. Dorjgotov	Marketing Director, Buligaar Tanneries (JSC)
79	Mr. Berenbaral Munkhtur	President, Beren Corporation
80	Mr. Berenbaral Lkhagvasurn	Gen. Director, Atar-Urguu Bakeries
81	Ms. Munkhargal Dugarsuren	Exec. Director, Ulaanbaatar Carpets
82	Mr. D. Chimeddamba	Exec. Director, Armono Leather Corporation
83	Ms.Uramchimeg	Scientific Secretary, Armono Corporation
84	Mr. Testsgee	Technical engineer, Mongol Nekhmel Co (JSC)
85	Mr. Enkhtaivan	Mongol Nekhmel Compay
86	Mr. Munkhjargal	CEO, Eermel Company
87	Ms. Urtasanan Erdenechimeg	General Director, Jin Tuul Bakery
88		Director, Wood factory (ex state-owned)
89	Mr. T. Luvsandorj	Executive Director, Mongol Amicale Joint Venture
90	Mr. Ronnie Lamb	Executive Director, Mongol Amicale Joint Venture
100	Ms. A. Altantuya	Procurement director, Mongol Amicale
101	Mr. Altantsetseg Mishing	General Director, Monenzyme Company
102	Ms. D.Boldmaa	Director, Monsuu Compoany
103	Mr. Rentsendoo Borkhuu	Director, Sun-Shiro Company
	Industry and other Associations	
104	Mr. L. Damdinsuren	Exec. Director, Food Industry Association
105	Mr. Gonshig Gombo	President, Food Industry Association
106	Mr. Yadonsambuu	Chair, Wool & Cashmere Federation
107	Mr. D. Altantsetseg	Exec. Director, Wool & Cashmere Federation
108	Mr. Ganbaatar	Exec. Director, Employer Association
109	Mr. Dashulzii	Chair, Garment Producers' Association
110	Mr. Dushenbat	Chair, Hides and Skins Producers' Association
111	Mr.	Chair, Meat Exporters' Association

	Name	Agency
	Other	
112	Ms. Hulan Dashdavaa	Vice President, Trade & Development Bank
113	Ms. Oyuntsetseg	Farmer, Veterinarian, Jargalan
114	Mr. Jadamba	Governor, Jargalan Territory
115	Ms. J. Sunjidmaa	Managing director, BizMongolia Consulting
116	Ms. Davaajamts Enkhsanaa	Economist, Nomin Fund (credit & saving)
117	Mr. Nazumu	Farmer, Jargalan
118	Mr. Erdene Chogoo	Veterinarian
119	Mr. Tsuhuundach	Farmer

Annex B. Donor and Government Development Projects

Table B.1. *Projects financed by Foreign Aid, 2002-2004*

No	Project and Activities	Duration	Country	Budget		Annual funding 2002-2004		
				Ml. Tug.	Equiv. US$000	2002	2003	2004
A.	Already approved			21,492	19,087	12,916	7,856	720
1	SME promotion programme	1999-2004	Germany	3,132	2,782	3,132	-	
2	Programme for export oriented production promotion	1998-2010	World Bank	12,960	11,510	6,480	6,480	
3	Consulting agency for SME promotion	1998-2002	Germany	1,312	1,165	656	656	
4	Enterprise restructuring	1999-2004	Netherlands	2,160	1,918	720	720	720
5	International trade policy/WTO	2000-2004	Germany	1,929	1,713	1,929	-	
B.	Not yet approved			19,789	17,574	15,856	2,223	1,710
1	Information subsystem of Wholesale Network Programme	2001-2004	Japan	2,310	2,052	800	800	710
2	Master plan of developing metal (iron) processing industries in Mongolia	2001-2004		200	178	200		
3	Geological information database	2001-2003		600	533	600		
4	Standardized sample, laboratory enforcement	2001-2003	Japan	846	751	423	423	
5	Cashmere quality testing laboratory	2001-2006	Japan	11,000	9,769	11,000		
6	Classification of Mongolian sheep wool	2001-2006	Japan	1,100	977	1,100		
7	Training & research centre for primary processing of hides & skins	2001-2006	Japan	440	391	440		
8	Rural trade project	2001-2002	Japan	293	260	293		
9	SME promotion fund	2001-2004		3,000	2,664	1,000	1,000	1,000
	Grand total			41,281	36,661	28,772	10,079	2,430

Source: Directorate of Industrial Development Policy, Ministry of Industry and Trade.
Note:
Exchange rate: US$1= 1,126 tugrik.
All projects 100% foreign-funded, i.e., counterpart domestic budget nil.

Table B.2. *Projects Financed by State Central Budget Financing*

	Project	Budget		Annual Funding 2002-2004		
		Ml. Tugrik	Equiv. $000	2002	2003	2004
A.	Projects other than equipment	7,098	6,320	5,453	1,436	119
1	Reviving forestry & wood processing industries	120	107	40	40	40
2	Wool programme	99	88	28	46	26
3	Cashmere programme	20	18	12	4	4
4	Hides and Skin programme	119	106	15	60	43
5	SME promotion programme	25	22	12	6	6
6	Metrology unit national prototype developing programme	738	657	319	329	
7	Wholesale network programme	3,810	3,393	2,860	950	
8	Geological expedition work	1,666	1,484	1,666		
9	Export promotion fund	500	445	500		
B.	Equipment	919	818	227	413	279
10	Geological Research Centre	670	597	165	350	155
11	Geological Central Laboratory	249	222	62	63	124
	Total	8,017	7,139	5,680	1,848	398

Source: Directorate of Industrial Development Policy, Ministry of Industry and Trade.
Note: Exchange rate: US$1= 1,123 tugrik.

Annex C. Statistical Annex

Table A.1. *Manufacturing GDP by Sub-sector, Current and Constant Price, 1995 – 2001*

		Million Tugrik							Composition (%)							Annual growth rate (% p.a.)			
ISIC		1995	1996	1997	1998	1999	2000	2001	1995	1996	1997	1998	1999	2000	2001	95-99	00-01	99-00	00-01
	Current Prices																		
15	Food & beverages	30,588.3			25,050.6	22,339.7	30,033.7	48,729.2	46.1			52.7	40.6	48.0	54.1	-7.6	48.3	34.4	62.2
17	Textiles	21,553.3			12,231.3	21,547.0	16,566.5	21,395.2	32.5			25.8	39.2	26.5	23.7	0.0	3.0	-23.1	29.1
18	Garments	3,868.6			2,402.4	5,406.3	9,088.9	8,130.8	5.8			5.1	9.8	14.5	9.0	8.7	28.8	68.1	-10.5
19	Leather, footwear	2,128.7			649.2	-262.5	428.4	1,182.9	3.2			1.4	-0.5	0.7	1.3		-43.5	-263.2	176.1
20	Wood & products	1,131.4			928.2	1,271.7	1,690.5	1,065.3	1.7			2.0	2.3	2.7	1.2	3.0	-2.0	32.9	-37.0
21	Paper & products						15.8	126.5						0.0	0.1				
22	Publishing, printing	396.8			1,050.5	820.1	2,614.6	3,535.6	0.6			2.2	1.5	4.2	3.9	19.9	127.0	218.8	35.2
24	Chemicals	588.3			1,144.7	1,515.4	1,260.5	1,622.8	0.9			2.4	2.8	2.0	1.8	26.7	6.0	-16.8	28.7
25	Rubber, plastic prod				2.5	0.2		3.5				0.0	0.0		0.0				
26	Other mineral prod.	3,704.1			1,641.6	473.9	311.1	1,085.6	5.6			3.5	0.9	0.5	1.2	-40.2	107.3	-34.4	249.0
27	Basic metals	-676.5			108.0	987.7	-638.7	677.7	-1.0			0.2	1.8	-1.0	0.8		-185.4	-164.7	-206.1
28	Fab. metals	-61.3			74.1	423.8	211.0	827.4	-0.1			0.2	0.8	0.3	0.9		121.0	-50.2	292.1
29	Machinery, equip.	25.0			116.5	56.3	50.9		0.0			0.2	0.1	0.1		22.5	-54.8	-9.6	-100.0
31	Electrical goods	55.8			53.6	6.0	373.6	90.9	0.1			0.1	0.0	0.6	0.1	-42.7			
32	Radio, television	241.5			7.0	3.9	6.3	19.4	0.4			0.0	0.0	0.0	0.0	-64.4	134.7	61.5	207.9
33	Precision equip.	137.3			575.4	-11.3	-259.5	344.6	0.2			1.2	0.0	-0.4	0.4		981.8	2,196.5	-232.8
34	Vehicles, trailers	212.9			19.1				0.3			0.0				-100.0			
35	Other transport equip.	63.6			76.5	177.9	172.7	259.5	0.1			0.2	0.3	0.3	0.3	29.3	23.7	-2.9	50.3
36	Furniture	2,420.1			1,362.4	214.6	581.1	1,047.4	3.6			2.9	0.4	0.9	1.2	-45.4	125.5	170.8	80.2
	All manufacturing	66,377.9			47,493.6	54,970.7	62,507.4	90,144.3	100.0			100.0	100.0	100.0	100.0	-4.6	29.0	13.7	44.2
	Constant Prices 1995																		
15	Food & beverages	30,588.3				21,452.5	23,290.4	28,475.9	46.1				43.9	49.3	45.7	-8.5	15.4	8.6	22.3
17	Textiles	21,553.3				16,564.7	14,136.3	18,532.7	32.5				33.9	29.9	29.8	-6.4	8.2	-14.7	31.1
18	Garments	3,868.6				1,602.4	1,851.5	2,979.0	5.8				3.3	3.9	4.8	-19.8	38.2	15.5	60.9
19	Leather, footwear	2,128.7				85.5	151.9	169.8	3.2				0.2	0.3	0.3		44.7	77.7	11.8
20	Wood & products	1,131.4				404.7	392.7	517.2	1.7				0.8	0.8	0.8	-22.7	14.4	-3.0	31.7
21	Paper & products						15.8	26.1						0.0	0.0				65.2
22	Publishing, printing	396.8				369.8	604.1	604.1	0.6				0.8	1.3	1.0	-1.7	31.7	63.4	
24	Chemicals	588.3				465.8	466.9	513.2	0.9				1.0	1.0	0.8	-5.7	5.1	0.2	9.9
25	Rubber, plastic prod					20.9		366.1					0.0		0.6			-100.0	
26	Other mineral prod.	3,704.1				2,377.4	2,176.3	2,015.3	5.6				4.9	4.6	3.2	-10.5	-7.9	-8.5	-7.4
27	Basic metals	-676.5				595.8	-547.8	653.0	-1.0				1.2	-1.2	1.0		-205.6	-191.9	-219.2
28	Fab. metals	-61.3				247.2	172.4	46.0	-0.1				0.5	0.4	0.1		-51.8	-30.3	-73.3
29	Machinery, equip.	25.0				13.5	14.2		0.0				0.0	0.0		-14.3	-47.4	5.2	-100.0
31	Electrical goods	55.8				0.2	0.2	0.2	0.1				0.0	0.0	0.0	-75.5			
32	Radio, tv	241.5				0.9	0.9	2.9	0.4				0.0	0.0	0.0	-75.3	111.1		222.2
33	Precision equip.	137.3				58.7	63.9	68.1	0.2				0.1	0.1	0.1		7.7	8.9	6.6
34	Vehicles, trailers	212.9				114.9			0.3				0.2			-14.3		-100.0	
35	Other transport equip.	63.6				34.3	34.0	51.1	0.1				0.1	0.1	0.1	-14.3	24.7	-0.9	50.3
36	Furniture	2,420.1				4,415.4	4,387.9	7,222.2	3.6				9.0	9.3	11.6	16.2	32.0	-0.6	64.6
	All manufacturing	66,377.9				48,824.6	47,211.6	62,242.9	100.0				100.0	100.0	100.0	-7.4	14.3	-3.3	31.8

Table A.2. *Manufacturing Output by Sub-sector, Current and Constant Price, 1995 – 2001*

ISIC		Million tugrik									Composition (%)				Annual Growth Rate (% p.a.)				
		1995	1996	1997	1998	1999	2000	2001	Aug-01	Aug-02	1995	1999	2000	2001	95-99	00-01	99-00	00-01	01-02
	Current Prices																		
15	Food & beverages	52,321.8	65,319.5	77,022.5	75,246.0	67,794.6	81,216.9	93,691.9	45,009.8	46,427.8	41.0	37.9	38.8	37.1	6.7	12.8	19.8	15.4	3.2
17	Textiles	38,348.4	40,746.0	38,803.0	37,607.9	71,287.1	72,213.1	82,381.9	29,854.8	37,441.8	30.1	39.8	34.5	32.7	16.8	13.6	1.3	14.1	25.4
18	Garments	8,354.5	5,568.4	7,160.5	6,324.4	11,816.8	22,741.9	31,946.2	16,581.5	19,669.0	6.6	6.6	10.9	12.7	9.1	50.5	92.5	40.5	18.6
19	Leather, footwear	3,176.8	2,207.8	2,044.8	2,867.5	811.0	1,277.6	2,536.4	792.9	540.7	2.5	0.5	0.6	1.0	-28.9	41.4	57.5	98.5	-31.8
20	Wood & products	3,002.9	2,153.0	5,381.7	3,226.0	3,302.1	4,275.1	3,142.3	1,921.4	1,646.1	2.4	1.8	2.0	1.2	2.4	-3.8	29.5	-26.5	-14.3
21	Paper & products		3,834.1	3,395.6	3,815.9		51.2	524.1		34.3									
22	Publishing, printing	1,321.7	2,187.7	2,755.6	3,282.8	4,698.8	7,279.0	9,145.8	4,320.2	4,663.9	1.0	2.6	3.5	3.6	37.3	29.5	54.9	25.6	8.0
24	Chemicals	1,934.5	6.5	40.9	12.2	3,359.6	4,161.0	4,843.3	3,359.1	3,287.3	1.5	1.9	2.0	1.9	14.8	12.7	23.9	16.4	-2.1
25	Rubber, plastic prod		7,931.8	10,222.4	7,748.7	2.0		44.6						0.0					
26	Other mineral prod.	8,777.2	1,675.8	3,971.8	5,038.8	5,163.1	5,942.0	7,407.5	3,856.0	5,099.8	6.9	2.9	2.8	2.9	-12.4	24.0	15.1	24.7	32.3
27	Basic metals	2,546.4	134.4	547.9	310.5	6,941.1	4,611.4	10,550.0	1,584.5	2,267.3	2.0	3.9	2.2	4.2	28.5	46.1	-33.6	128.8	43.1
28	Fab. metals	413.7	229.1	195.4	361.3	922.7	718.9	1,702.6	76.1	455.7	0.3	0.5	0.3	0.7	22.2	204.5	-22.1	136.8	498.8
29	Machinery, equip.	82.2	215.2	105.8	89.1	146.6	241.1	194.4	42.9	66.3	0.1	0.1	0.1	0.1	15.6	33.2	64.5	-19.4	54.5
31	Electrical goods	121.6	1,555.4	130.7	20.5	22.0	1,195.8	137.7	0.9		0.1	0.0	0.6	0.1	-34.8				
32	Radio, television	403.2	604.4	1,048.1	1,041.6	27.5	25.3	28.8	9.2	11.3	0.3	0.0	0.0	0.0	-48.9	9.6	-8.0	13.8	22.8
33	Precision equip.	334.5	358.6	119.1	28.0	1,104.8	1,193.0	1,213.1	739.2	719.6	0.3	0.6	0.6	0.5	34.8	2.3	8.0	1.7	-2.7
34	Vehicles, trailers	690.7	282.6	470.9	523.8						0.5								
35	Oth transport equip.	186.7	1,741.8	3,508.2	5,221.3	588.9	573.3	787.3	453.2	432.1	0.1	0.3	0.3	0.3	33.3	10.0	-2.6	37.3	-4.7
36	Furniture	5,505.2	414.6	329.4	248.8	913.9	1,488.3	2,025.7	536.8	555.7	4.3	0.5	0.7	0.8	-36.2	34.2	62.9	36.1	3.5
	All manufacturing	127,522.0	137,166.7	157,254.3	153,015.1	178,902.6	209,204.9	252,303.6	109,138.5	123,318.7	100.0	100.0	100.0	100.0	8.8	16.8	16.9	20.6	13.0
	Constant Prices 1995																		
15	Food & beverages	52,321.8	42,010.6	40,829.0	41,644.8	34,836.9	37,333.9	46,344.8	16,418.4	17,906.9	41.0	41.3	41.5	41.1	-9.7	13.5	7.2	24.1	9.1
17	Textiles	38,348.4	36,866.1	26,433.0	28,230.4	29,472.6	25,151.9	32,974.1	12,589.9	20,592.6	30.1	35.0	27.9	29.3	-6.4	26.7	-14.7	31.1	63.6
18	Garments	8,354.5	4,540.2	3,060.1	3,035.6	3,460.6	3,998.4	6,433.4	2,414.6	5,404.3	6.6	4.1	4.4	5.7	-19.8	66.8	15.5	60.9	123.8
19	Leather, footwear	3,176.8	1,239.3	402.8	337.5	127.6	226.6	253.4	416.4	286.4	2.5	0.2	0.3	0.2	-55.2	19.4	77.6	11.8	-31.2
20	Wood & products	3,002.9	2,315.0	1,539.5	1,485.6	1,074.1	1,042.3	1,372.7	674.5	477.8	2.4	1.3	1.2	1.2	-22.7	-0.1	-3.0	31.7	-29.2
21	Paper & products						51.2	84.6		11.9			0.1	0.1				65.2	
22	Publishing, printing	1,321.7	726.1	770.4	1,396.6	1,231.8	2,012.1	2,012.1	985.3	1,285.1	1.0	1.5	2.2	1.8	-1.7	31.3	63.3		30.4
24	Chemicals	1,934.5	1,763.6	1,409.1	1,547.2	1,531.7	1,535.4	1,687.4	930.6	727.1	1.5	1.8	1.7	1.5	-5.7	-3.9	0.2	9.9	-21.9
25	Rubber, plastic prod		6.5	6.5	126.7	125.5		2,777.6				0.1		2.5					
26	Other mineral prod.	8,777.2	7,713.2	6,355.7	6,018.8	5,633.6	5,157.0	4,775.4	2,839.1	4,023.5	6.9	6.7	5.7	4.2	-10.5	8.6	-8.5	-7.4	41.7
27	Basic metals	2,546.4	1,986.7	2,586.7	2,211.6	-2,242.6	2,061.8	-2,457.7	652.2	2,192.6	2.0	-2.7	2.3	-2.2		-58.3	-191.9	-219.2	236.2
28	Fab. metals	413.7	322.8	420.2	359.3	-1,669.0	1,164.0	-310.8	6.9	88.8	0.3	-2.0	1.3	-0.3					
29	Machinery, equip.	82.2	69.3	84.6	61.3	44.4	46.6		0.8	0.5	0.1	0.1	0.1						-37.5
31	Electrical goods	121.6	66.9	19.8	1.6	0.5	0.5	0.5			0.1	0.0	0.0	0.0					
32	Radio, television	403.2	221.7	65.6	5.4	1.6	1.6	4.8			0.3	0.0	0.0	0.0	-74.9				
33	Precision equip.	334.5	143.8	181.3	98.4	143.1	155.8	166.1	444.9	559.8	0.3	0.2	0.2	0.1	-19.1	13.8	8.9	6.6	25.8
34	Vehicles, trailers	690.7	581.9	711.1	514.9	372.8					0.5	0.4							
35	Oth transport equip.	186.7	157.3	192.2	139.1	100.7	99.8	150.0			0.1	0.1	0.1	0.1					
36	Furniture	5,505.2	10,849.3	11,261.5	10,664.7	10,059.9	9,983.7	16,375.8	277.9	352.3	4.3	11.9	11.1	14.5	16.3	30.0	-0.8	64.0	26.8
	All manufacturing	127,522.0	111,580.3	96,329.1	97,879.5	84,305.8	90,022.6	112,644.2	38,651.5	53,909.6	100.0	100.0	100.0	100.0	-9.8	23.8	6.8	25.1	39.5

Table A.3. *Number of Establishments by Employment size, 1998 and 2001 at four and two-digit ISIC classification*

ISIC	Industrial category	1998								2001							
		>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+	>10	10-49	50-99	100-199	200-499	500-999	1000+	All 10+
	4 digit classification																
1511	Slaughtering	47	20	2	1	1		1	25	81	46	2	2	1	1		52
1513	Processing fruit, vegetable	1								4	1						1
1514	Cooking oil, margarine		1						1	4	1						1
1520	Milk products	60	13	1	1	1			16	93	20	1	2				23
1531	Grain milling	121	22	2	5	3			32	107	14	4	2	4			24
1532	Wheat flour	1								2							
1533	Animal feed	2								5	1						1
1541	Bakery products	177	41	6	3	2		1	53	225	47	4	1	2	1		55
1543	Food with chocolate	2								6							
1544	Noodles, spaghetti	6		1					1	10	3						3
1549	Cakes, pastry	5	1						1	3	1						1
1551	Liquors	45	38	3	1		2		44	60	36	4	1	1	1		43
1552	Wines, similar prod.	1	2						2	1	2						2
1553	Malt liquors, malt	2	3						3	5	3						3
1554	Soft drinks	123	7						7	121	12						12
1600	Tobacco & products											1					1
1711	Textile spinning, threads	2	9	4	2	3		1	19	23	20	9	2	3		1	35
1712	Finished yarn, textile									1	1						1
1721	Made up articles	8	1				1		2								
1722	Carpets, rugs	6	1	1		2	1	1	6	9		1		1		1	3
1729	Embroidery, other text.	6	5	1					6	14	7	2					9
1730	Knitted textiles, wear	10	5			1			6	18	4	3	2	3	1		13
1810	Garments incl. Leather	273	35	6	14	12	2		69	352	41	11	15	19	5	1	92
1820	Furs	7	7		1	1			9	26	6		1	1			8
1911	Leather tanneries	19	4		1				5	21	10		1				11
1912	Leather products	2	2						2	6	3						3
1920	Footwear	57	10	1	1	1			13	52	6	1					7
2010	Sawmills	53	51	7	2				60	62	34	1					35
2021	Plywood, laminated		1						1								
2022	Moulding, build. comp.	74	11	2					13	54	10	1					11
2023	Wood containers	3	1						1	7	1						1

ISIC	Industrial category	1998								2001							
		>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+	>10	10-49	50-99	100-199	200-499	500-999	1000+	All 10+
2029	Wood carving, utensils	86	6						6	180	20						20
2101	Pulp		1						1	2	2						2
2102	Boxes, cardboards		1						1		1						1
2109	Paper products n.e.c.									3	1						1
2211	Publishing, books	6	1						1	6							
2212	Publish., newspapers	18	3	2					5	7	1						1
2213	Recorded media	1								1							
2219	Other publishing	1	1						1	7	1						1
2221	Printing	69	19	2		1			22	151	30	6					36
2222	Supporting, printing									3							
2230	Reproduction., film video									1							
2310	Coal products	1								3	1						1
2411	Basic inorganics		1						1		2						2
2412	Natural fertilizer	1								2	1						1
2413	Synthetic rubber, resin									2	1						1
2421	Pesticides									1	1						1
2422	Paints, varnishes	1								2	2						2
2423	Drugs, medicines	13	7	1		1			9	11	9	2		1			12
2424	Soaps, cosmetics, toothp.	6	1	1					2	19	4						4
2429	Adhesives, inks, matches	4								3	1						1
2510	Tires, bans	1								5							
2520	Plastics pipes, hose	2								3							
2610	Glass		1						1	4	1						1
2691	Mineral products n.e.c.	2	1	1					2	3		1					1
2692	Mineral product			1					1	1							
2693	Mineral product	5	3	1	1	1			6	8	4	2					6
2694	Mineral product	6	3			1	1		5	11	3			1	1		5
2695	Mineral product	8	8	2	3	2			15	18	8	1	3	1			13
2696	Mineral product	2	1						1	3	1						1
2699	Mineral product			1					1	2		1					1
2710	Iron, steel basic industries	2	2		1				3	2	3			1			4
2720	Non-ferrous industries	6	2						2	16	2	1		1			4
2731	Iron, steel smelting			1					1	2	1	1					2
2732	Non-ferrous smelting	1	1						1		2						2

ISIC	Industrial category	1998								2001							
		>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+	>10	10-49	50-99	100-199	200-499	500-999	1000+	All 10+
2811	Fab structural prod.	2	3	2					5	9	4	1					5
2812	Vessels, tanks	1								1							
2813	Vessels, tanks									1	1						1
2891	Forging, stamping	2	1	1					2	1							
2892	Support. services, metal	7	1						1	8	1						1
2893	Agricultural tools	9								7							
2899	Kitchenware, nails wire	13		1					1	14	2	1					3
2911	Engines	5	5	1	2				8	7	7		1				8
2912	Pumps, compressors	1															
2913	Transmission equipment			1					1		1						1
2914	Stoves, heaters, ovens	3	1						1	4							
2915	Lifting, moving mach.	1		1					1	1							
2919	Packing weighing mach		1						1	1	1						1
2921	Agricultural machines	1	1						1	1	1						1
2922	Machine tools									1							
2923	Machinery, metallurgy									1							
2924	Machines, mining	1								2	1						1
2925	Machines, food proc.									10	2						2
2926	Sewing machines									2							
2929	Printing, paper mach.	6	1		1				2	7	1						1
2930	Hhold appliances	3	1	1					2	9							
3000	Office mach, computers	1								6							
3110	Electrical motors	6	1						1	10	1						1
3120	Electrical control mach	1	1	1					2	4	1						1
3130	Electric. Cables										1						1
3140	Dry cell batteries	1															
3150	Lamps	1								3							
3190	Other elect. apparatus	3		1					1	3	2						2
3210	Electronic valves, tube	1	1						1		1						1
3220	Comm. equipment	3								6	1						1
3230	Radio, television	2								1							
3311	Medical equipment	20	1	1					2	11	1	1	1				3
3312	Measuring equipment		1						1	2							
3320	Eyeglasses, frames	12	1						1	14							
3330	Watches, clocks									1							

ISIC	Industrial category	1998								2001							
		>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+	>10	10-49	50-99	100-199	200-499	500-999	1000+	All 10+
3410	Motor vehicles									1							
3430	Vehicle components	1	1						1	4	1						1
3530	Aircraft repair									1							
3599	Other transp. equipment									1							
3610	Wood furniture	75	11	2					13	35	7	1					8
3691	Jewellery	37	6		1				7	48	3	1					4
3692	Musical instruments	1								1							
3693	Sports articles	3								4							
3694	Toys	3	2						2	2	1						1
3699	Writing articles, other	10		1					1	16	2	1					3
3710	Recycling, metal									2	1						1
3720	Recycling, non-metal	3	1						1	3							
	All Manufacturing	1,594	396	64	41	33	7	4	545	2,120	478	66	34	40	10	3	631
4010	Electricity	27	26	18	7	6	2	3	89	50	31	9	6	8	2	3	109
4030	Thermal stations	7	37	2	4	2			52	18	40	3	3	1			65
4100	Water	11	15	4	3	4		1	38	14	17	7	4	3		1	46
	Total	1,639	474	88	55	45	9	8	724	2,202	566	85	47	52	12	7	851

ISIC	Industrial category	1998								2001							
		>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+	>10	10-49	50-99	100-199	200-499	500-999	1000+	All 10+
	2-digit classification																
15	Food, beverages	593	148	15	11	7	2	2	185	727	187	15	8	8	3		221
16	Tobacco											1					1
17	Textiles	32	21	6	2	6	2	2	39	65	32	15	4	7	1	2	61
18	Wearing apparel	280	42	6	15	13	2		78	378	47	11	16	20	5	1	100
19	Tanning, leather	78	16	1	2	1			20	79	19	1	1				21
20	Wood & products	216	70	9	2				81	303	65	2					67
21	Paper & products		2						2	5	4						4
22	Publishing, printing	95	24	4		1			29	176	32	6					38
23	Coal, refined petrol.	1								3	1						1
24	Chemicals	25	9	2		1			12	40	21	2		1			24
25	Rubber, plastics	3								8							
26	Other mineral prod.	23	17	6	4	4	1		32	50	17	5	3	2	1		28
27	Basic metals	9	5	1	1				7	20	8	2		2			12
28	Fab. metal products	34	5	4					9	41	8	2					10
29	Machinery, equip.	21	10	4	3				17	46	14		1				15
30	Office equip., comp.	1								6							
31	Elect. Machinery	12	2	2					4	20	5						5
32	Radio, television	6	1						1	7	2						2
33	Medical, precision	32	3	1					4	28	1	1	1				3
34	Vehicles, trailers	1	1						1	5	1						1
35	Other transport equip									2							
36	Furniture, manuf n.e.s.	129	19	3	1				23	106	13	3					16
37	Recycling	3	1						1	5	1						1
	All manufacturing	1,594	396	64	41	33	7	4	545	2,120	478	66	34	40	10	3	631
	% Share	**292**	**73**	**12**	**8**	**6**	**1**	**1**	**100**	**336**	**76**	**10**	**5**	**6**	**2**	**0**	**100**
40	Electricity, thermal st.	34	63	20	11	8	2	3	141	68	71	12	9	9	2	3	174
41	Water	11	15	4	3	4		1	38	14	17	7	4	3		1	46
	Total	1,931	547	100	63	51	10	9	824	2,538	642	95	52	58	14	7	951

ISIC	Industrial category	1998								2001							
		>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+	>10	10-49	50-99	100-199	200-499	500-999	1000+	All 10+
	Column Percent																
15	Food, beverages	37.2	37.4	23.4	26.8	21.2	28.6	50.0	33.9	34.3	39.1	22.7	23.5	20.0	30.0		35.0
16	Tobacco											1.5					0.2
17	Textiles	2.0	5.3	9.4	4.9	18.2	28.6	50.0	7.2	3.1	6.7	22.7	11.8	17.5	10.0	66.7	9.7
18	Wearing apparel	17.6	10.6	9.4	36.6	39.4	28.6		14.3	17.8	9.8	16.7	47.1	50.0	50.0	33.3	15.8
19	Tanning, leather	4.9	4.0	1.6	4.9	3.0			3.7	3.7	4.0	1.5	2.9				3.3
20	Wood & products	13.6	17.7	14.1	4.9				14.9	14.3	13.6	3.0					10.6
21	Paper & products		0.5						0.4	0.2	0.8						0.6
22	Publishing, printing	6.0	6.1	6.3		3.0			5.3	8.3	6.7	9.1					6.0
23	Coal, refined petrol.	0.1								0.1	0.2						0.2
24	Chemicals	1.6	2.3	3.1		3.0			2.2	1.9	4.4	3.0		2.5			3.8
25	Rubber, plastics	0.2								0.4							
26	Other mineral prod.	1.4	4.3	9.4	9.8	12.1	14.3		5.9	2.4	3.6	7.6	8.8	5.0	10.0		4.4
27	Basic metals	0.6	1.3	1.6	2.4				1.3	0.9	1.7	3.0		5.0			1.9
28	Fab. metal products	2.1	1.3	6.3					1.7	1.9	1.7	3.0					1.6
29	Machinery, equip.	1.3	2.5	6.3	7.3				3.1	2.2	2.9		2.9				2.4
30	Office equip., comp.	0.1								0.3							
31	Elect. Machinery	0.8	0.5	3.1					0.7	0.9	1.0						0.8
32	Radio, television	0.4	0.3						0.2	0.3	0.4						0.3
33	Medical, precision	2.0	0.8	1.6					0.7	1.3	0.2	1.5	2.9				0.5
34	Vehicles, trailers	0.1	0.3						0.2	0.2	0.2						0.2
35	Other transport equip									0.1							
36	Furniture, manuf n.e.s.	8.1	4.8	4.7	2.4				4.2	5.0	2.7	4.5					2.5
37	Recycling	0.2	0.3						0.2	0.2	0.2						0.2
	All manufacturing	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100.0

ISIC	Industrial category	1998								2001							
		>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+	>10	10-49	50-99	100-199	200-499	500-999	1000+	All 10+
	Row Percent																
15	Food, beverages		80	8	6	4	1	1	100		85	7	4	4	1		100
16	Tobacco											100					100
17	Textiles		54	15	5	15	5	5	100		52	25	7	11	2	3	100
18	Wearing apparel		54	8	19	17	3		100		47	11	16	20	5	1	100
19	Tanning, leather		80	5	10	5			100		90	5	5				100
20	Wood & products		86	11	2				100		97	3					100
21	Paper & products		100						100		100						100
22	Publishing, printing		83	14		3			100		84	16					100
23	Coal, refined petrol.										100						100
24	Chemicals		75	17		8			100		88	8		4			100
25	Rubber, plastics																
26	Other mineral prod.		53	19	13	13	3		100		61	18	11	7	4		100
27	Basic metals		71	14	14				100		67	17		17			100
28	Fab. metal products		56	44					100		80	20					100
29	Machinery, equip.		59	24	18				100		93		7				100
30	Office equip., comp.																
31	Elect. Machinery		50	50					100		100						100
32	Radio, television		100						100		100						100
33	Medical, precision		75	25					100		33	33	33				100
34	Vehicles, trailers		100						100		100						100
35	Other transport equip																
36	Furniture, manuf n.e.s.		83	13	4				100		81	19					100
37	Recycling		100						100		100						100
	All manufacturing		73	12	8	6	1	1	100		76	10	5	6	2	0	100

Source: National Statistical Office industrial database (special tabulations).

Table A.4. Employment by Establishment size, 1998 and 2001 (four and two-digit ISIC classification)

ISIC	Industrial category	1998								2001							
		>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+	>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+
	4-digit category																
1511	Slaughtering	184	364	129	163	365		1,300	2,321	275	1,035	108	233	315	519		2,210
1513	Processing fruit, vegetable	2								8	25						25
1514	Cooking oil, margarine		10						10	4	12						12
1520	Milk products	224	271	60	102	211			644	286	360	56	256				672
1531	Grain milling	516	369	117	693	887			2,066	421	236	293	298	1,082			1,909
1532	Wheat flour	6								7							
1533	Animal feed	5								9	12						12
1541	Bakery products	593	768	377	376	697		1,029	3,247	730	991	284	147	653	530		2,605
1543	Food with chocolate	8								14							
1544	Noodles, spaghetti	26		50					50	39	71						71
1549	Cakes, pastry	13	28						28	6	15						15
1551	Liquors	247	738	192	146		1,125		2,201	311	701	296	190	372	534		2,093
1552	Wines, similar prod.	6	22						22	4	21						21
1553	Malt liquors, malt	13	68						68	16	53						53
1554	Soft drinks	365	114						114	358	213						213
1600	Tobacco & products											52					52
1711	Textile spinning, threads	13	201	257	337	911		1,400	3,106	35	530	549	385	841		2,110	4,415
1712	Finished yarn, textile									2	20						20
1721	Made up articles	20	13				550		563								
1722	Carpets, rugs	10	10	58		801	719	1,039	2,627	21		58		396		1,180	1,634
1729	Embroidery, other text.	24	107	50					157	39	164	163					327
1730	Knitted textiles, wear	26	122		140				262	34	95	246	291	749	502		1,883
1810	Garments incl. Leather	803	697	425	2,088	3,307	1,550		8,067	932	878	713	2,278	5,757	3,290	1,222	14,138
1820	Furs	22	163		168	379			710	59	113		162	436			711
1911	Leather tanneries	72	47		110				157	87	208		110				318
1912	Leather products	6	21						21	15	60						60
1920	Footwear	201	206	70	150	247			673	160	121	98					219
2010	Sawmills	261	997	542	225				1,764	298	532	96					628
2021	Plywood, laminated		20						20								
2022	Moulding, build. comp.	247	199	136					335	165	260	61					321

ISIC	Industrial category	1998								2001							
		>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+	>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+
2023	Wood containers	11	36						36	19	10						10
2029	Wood carving, utensils	226	94						94	540	378						378
2101	Pulp		23						23	3	45						45
2102	Boxes, cardboards		19						19		19						19
2109	Paper products n.e.c.									4							
2211	Publishing, books	24	10						10	15							
2212	Publish., newspapers	60	51	142					193	10	43						43
2213	Recorded media	2								2							
2219	Other publishing	2	10						10	17	10						10
2221	Printing	262	348	126		208			682	473	634	368					1,002
2222	Supporting, printing									3							
2230	Reproduction., film video																
2310	Coal products	2								4	25						25
2411	Basic inorganics		16						16		35						35
2412	Natural fertilizer	5								11	15						15
2413	Synthetic rubber, resin									15	25						25
2421	Pesticides									2	12						12
2422	Paints, varnishes	5								8	50						50
2423	Drugs, medicines	37	147	74		326			547	30	164	134		326			624
2424	Soaps, cosmetics, toothpaste	25	21	76					97	51	107						107
2429	Adhesives, inks, matches	24								18	20						20
2510	Tires, bans	9								21							
2520	Plastics pipes, hose	8								9							
2610	Glass		13						13	21	13						13
2691	Mineral prod. n.e.c.	3	15	84					99	6		84					84
2692	Mineral product			85					85	1							
2693	Mineral product	25	79	54	121	232			486	30	95	171					266
2694	Mineral product	28	46			330	771		1,147	46	56			370	788		1,214
2695	Mineral product	41	211	120	410	574			1,315	67	208	70	545	259			1,082
2696	Mineral product	2	14						14	8	14						14
2699	Mineral product			63					63	6		50					50
2710	Iron, steel basic industries	13	78			470			548	13	88			464			552
2720	Non-ferrous industries	11	49						49	23	27	50		211			288
2731	Iron, steel smelting			54					54	1	10	75					85

ISIC	Industrial category	1998								2001							
		>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+	>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+
2732	Non-ferrous smelting	4	18						18		47						47
2811	Fab structural prod.	12	80	149					229	39	121	57					178
2812	Vessels, tanks	2								2							
2813	Vessels, tanks									2	29						29
2891	Forging, stamping	3	13	50					63	4							
2892	Supp. Services, metal	23	17						17	18	10						10
2893	Agricultural tools	18								16							
2899	Kitchenware, nails wire	56		66					66	46	46	56					102
2911	Engines	22	85	56	231				372	19	141		106				247
2912	Pumps, compressors	3															
2913	Transmission equipment			62					62		16						16
2914	Stoves, heaters, ovens	19	44						44	21							
2915	Lifting, moving mach.	2		65					65	2							
2919	Packing weighing mach		11						11	7	11						11
2921	Agricultural machines	1	15						15	1	15						15
2922	Machine tools									7							
2923	Machinery, metallurgy									1							
2924	Machines, mining	5								6	25						25
2925	Machines, food processing									24	41						41
2926	Sewing machines									2							
2929	Printing, paper mach.	21	21		132				153	22	25						25
2930	Hhold appliances	9	28	65					93	21							
3000	Office mach, computers	3								9							
3110	Electrical motors	16	18						18	28	10						10
3120	Electr. Control machinery	3	17	52					69	7	35						35
3130	Electric. Cables										25						25
3140	Dry cell batteries	4															
3150	Lamps	2								10							
3190	Other elect. apparatus	7		88					88	6	55						55
3210	Electronic valves, tube	6	20						20		11						11
3220	Comm. Equipment	12								17	25						25
3230	Radio, television	2								1							
3311	Medical equipment	53	25	90					115	17	25	59	111				195
3312	Measuring equipment		15						15	6							

ISIC	Industrial category	1998								2001							
		>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+	>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+
3320	Eyeglasses, frames	33	16						16	31							
3330	Watches, clocks									1							
3410	Motor vehicles									1							
3430	Vehicle components	4	40						40	11	40						40
3530	Aircraft repair									4							
3599	Other transport equip.									1							
3610	Wood furniture	233	234	119					353	116	188	69					257
3691	Jewellery	130	87		114				201	150	41	71					112
3692	Musical instruments	1								1							
3693	Sports articles	10								13							
3694	Toys	9	22						22	7	12						12
3699	Writing articles, other	34		51					51	46	48	81					129
3710	Recycling, metal									7	25						25
3720	Recycling, non-metal	11	16						16	8							
	All Manufacturing	5,511	7,677	4,254	5,706	9,945	4,715	4,768	37,065	6,570	9,896	4,468	5,112	12,231	6,163	4,512	42,382
4010	Electricity	110	476	1,315	890	2,190	1,131	3,837	9,839	160	725	672	806	2,724	1,536	10,852	17,315
4030	Thermal stations	37	723	174	494	567			1,958	66	788	213	335	267			1,603
4100	Water	43	366	294	420	963		1,060	3,103	43	366	459	613	809		1,170	3,417
	Total	5,701	9,242	6,037	7,510	13,665	5,846	9,665	51,965	6,839	11,775	5,812	6,866	16,031	7,699	16,534	64,717

ISIC	Industrial category	1998								2001							
		>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+	>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+
	2-digit Classification																
15	Food, beverages	2,208	2,752	925	1,480	2,160	1,125	2,329	10,771	2,488	3,745	1,037	1,124	2,422	1,583		9,911
16	Tobacco											52					52
17	Textiles	93	453	365	477	1,712	1,269	2,439	6,715	131	809	1,016	676	1,986	502	3,290	8,279
18	Wearing apparel	825	860	425	2,256	3,686	1,550		8,777	991	991	713	2,440	6,193	3,290	1,222	14,849
19	Tanning, leather	279	274	70	260	247			851	262	389	98	110				597
20	Wood & products	745	1,346	678	225				2,249	1,022	1,180	157					1,337
21	Paper & products		42						42	7	64						64
22	Publishing, printing	350	419	268		208			895	520	687	368					1,055
23	Coal, refined petrol.	2								4	25						25
24	Chemicals	96	184	150		326			660	135	428	134		326			888
25	Rubber, plastics	17								30							
26	Other mineral prod.	99	378	406	531	1,136	771		3,222	185	386	375	545	629	788		2,723
27	Basic metals	28	145	54		470			669	37	172	125		675			972
28	Fab. metal products	114	110	265					375	127	206	113					319
29	Machinery, equip.	82	204	248	363				815	133	274		106				380
30	Office equip., comp.	3								9							
31	Elect. Machinery	32	35	140					175	51	125						125
32	Radio, television	20	20						20	18	36						36
33	Medical, precision	86	56	90					146	55	25	59	111				195
34	Vehicles, trailers	4	40						40	12	40						40
35	Other transport equip									5							
36	Furniture, manuf n.e.s.	.417	343	170	114				627	333	289	221					510
37	Recycling	11	16						16	15	25						25
	All manufacturing	5,511	7,677	4,254	5,706	9,945	4,715	4,768	37,065	6,570	9,896	4,468	5,112	12,231	6,163	4,512	42,382
	% Share	**15**	**21**	**11**	**15**	**27**	**13**	**13**	**100**	**16**	**23**	**11**	**12**	**29**	**15**	**11**	**100**
40	Electricity, thermal	147	1,199	1,489	1,384	2,757	1,131	3,837	11,797	226	1,513	885	1,141	2,991	1,536	10,852	18,918
41	Water	43	366	294	420	963		1,060	3,103	43	366	459	613	809		1,170	3,417
	Total	5,701	9,242	6,037	7,510	13,665	5,846	9,665	51,965	6,839	11,775	5,812	6,866	16,031	7,699	16,534	64,717

ISIC	Industrial category	1998								2001							
		>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+	>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+
	Column Percent																
15	Food, beverages	40.1	35.8	21.7	25.9	21.7	23.9	48.8	29.1	37.9	37.8	23.2	22.0	19.8	25.7		23.4
16	Tobacco											1.2					0.1
17	Textiles	1.7	5.9	8.6	8.4	17.2	26.9	51.2	18.1	2.0	8.2	22.7	13.2	16.2	8.1	72.9	19.5
18	Wearing apparel	15.0	11.2	10.0	39.5	37.1	32.9		23.7	15.1	10.0	16.0	47.7	50.6	53.4	27.1	35.0
19	Tanning, leather	5.1	3.6	1.6	4.6	2.5			2.3	4.0	3.9	2.2	2.2				1.4
20	Wood & products	13.5	17.5	15.9	3.9				6.1	15.6	11.9	3.5					3.2
21	Paper & products		0.5						0.1	0.1	0.6						0.2
22	Publishing, printing	6.4	5.5	6.3		2.1			2.4	7.9	6.9	8.2					2.5
23	Coal, refined petrol.	0.0								0.1	0.3						0.1
24	Chemicals	1.7	2.4	3.5		3.3			1.8	2.1	4.3	3.0		2.7			2.1
25	Rubber, plastics	0.3								0.5							
26	Other mineral prod.	1.8	4.9	9.5	9.3	11.4	16.4		8.7	2.8	3.9	8.4	10.7	5.1	12.8		6.4
27	Basic metals	0.5	1.9	1.3		4.7			1.8	0.6	1.7	2.8		5.5			2.3
28	Fab. metal products	2.1	1.4	6.2					1.0	1.9	2.1	2.5					0.8
29	Machinery, equip.	1.5	2.7	5.8	6.4				2.2	2.0	2.8		2.1				0.9
30	Office equip., comp.	0.1								0.1							
31	Elect. Machinery	0.6	0.5	3.3					0.5	0.8	1.3						0.3
32	Radio, television	0.4	0.3						0.1	0.3	0.4						0.1
33	Medical, precision	1.6	0.7	2.1					0.4	0.8	0.3	1.3	2.2				0.5
34	Vehicles, trailers	0.1	0.5						0.1	0.2	0.4						0.1
35	Other transport equip									0.1							
36	Furniture, manuf n.e.s.	7.6	4.5	4.0	2.0				1.7	5.1	2.9	4.9					1.2
37	Recycling	0.2	0.2						0.0	0.2	0.3						0.1
	All manufacturing	100	100	100	100	100	100	100	100.0	100	100	100	100	100	100	100	100.0

ISIC	Industrial category	1998								2001							
		>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+	>10	10-49	50-99	100-199	200-499	500-1000	1000+	All 10+
	Row Percent																
15	Food, beverages		26	9	14	20	10	22	100		38	10	11	24	16		100
16	Tobacco									0		100					100
17	Textiles		7	5	7	25	19	36	100	0	10	12	8	24	6	40	100
18	Wearing apparel		10	5	26	42	18		100	0	7	5	16	42	22	8	100
19	Tanning, leather		32	8	31	29			100	0	65	16	18				100
20	Wood & products		60	30	10				100	0	88	12					100
21	Paper & products		100						100	0	100						100
22	Publishing, printing		47	30		23			100	0	65	35					100
23	Coal, refined petrol.									0	100						100
24	Chemicals		28	23		49			100	0	48	15		37			100
25	Rubber, plastics																
26	Other mineral prod.		12	13	16	35	24		100	0	14	14	20	23	29		100
27	Basic metals		22	8		70			100	0	18	13		69			100
28	Fab. metal products		29	71					100	0	65	35					100
29	Machinery, equip.		25	30	45				100	0	72		28				100
30	Office equip., comp.																
31	Electrical machinery		20	80					100	0	100						100
32	Radio, television		100						100	0	100						100
33	Medical, precision		38	62					100	0	13	30	57				100
34	Vehicles, trailers		100						100	0	100						100
35	Other transport equip																
36	Furniture, manuf n.e.s.		55	27	18				100	0	57	43					100
37	Recycling		100						100		100						100
	All manufacturing		21	11	15	27	13	13	100	0	23	11	12	29	15	11	100

Source: National Statistical Office industrial database (special tabulations).

Table A.5. *Average Wages, Labour Productivity & Unit Labour Costs, 1992-1999*
(Average annual per cent change)

		Average Wages		Value-added/ Worker		Output/Worker		Wages/Output [a]		
		1992-94	1994-99	1992-94	1994-99	1992-94	1994-99	1992	1994	1999
	All manufacturing	-20.12	2.19	-40.84	0.89	-37.00	3.99	6.8	10.5	9.9
15	Food & beverages	-34.58	18.52	-59.13	8.23	-46.53	7.77	3.4	4.3	7.0
17	Textiles	-14.49	28.70	-7.56	29.74	-14.72	16.81	5.6	5.0	8.3
18	Garments	1.12	-2.27	-44.86	1.42	-34.46	-9.21	8.2	19.3	28.7
19	Leather, footwear	-5.49	31.99	-55.23	51.69	-62.98	29.33	5.8	9.3	23.9
20	Wood & products	-38.97	38.97	-36.77	23.47	-47.09	27.25	14.0	14.5	15.8
22	Publishing, printing	-31.35	20.40	-50.06	11.03	-15.81	27.41	14.4	15.8	11.1
24	Chemicals	15.29	24.82	20.14	-2.51	8.90	-1.50	8.1	8.6	13.0
26	Other mineral products	26.74	6.30	3.99	-6.90	-11.89	0.80	13.5	16.2	15.0
27	Basic metals	-5.29	77.34	31.16	-18.99	304.86	57.62	37.5	4.7	5.6
28	Fabricated metals	-8.44	23.19	123.39	-132.32	88.75	13.20	5.0	7.5	11.9
29	Machinery, equipment	-25.37	61.58	-48.61	28.90	-43.39	44.15	27.2	24.0	13.4
31	Electrical goods	1.48	2.86	57.83	-38.26	-0.30	-8.64	26.2	14.5	13.6
33	Precision equipment	7.32	30.85	-2.78	74.55	-15.48	95.40	15.2	22.0	10.6
34	Vehicles, trailers, parts	511.46	10.28	79.07		55.76	25.14	21.1	18.9	
35	Other transport equip.	-1.83	22.83	10.65	12.14	-0.94	13.94	18.7	15.7	21.2
36	Furniture, other manuf.	126.35	20.63	70.30	-27.27	122.42	-23.48	14.2	19.9	16.4

Source: *International Yearbook of Statistics 2001*, UNIDO.
Note: [a] Ratio of wages over gross output (unit labour cost).

Table A.6. *Export Value and Composition, 1992 - 2001*

		% Manufactured exports					Export Value ($ million)				
		1992	1995	1999	2000	2001	1992	1995	1999	2000	2001
	Agricultural products						38.5	15.1	21.9	23.3	22.0
	Live animals & products						22.1	10.4	21.9	23.3	21.2
	Vegetable origin products						16.3	4.7			0.8
	Mineral products						195.0	310.0	146.9	188.8	170.3
	All manufacturing	100.0	100.0	100.0	100.0	100.0	155.0	148.1	189.5	254.0	193.4
15	Food & beverages	3.3	1.6	1.3	0.4	0.2	5.0	2.4	2.5	0.9	0.4
17/18	Textiles, garments	53.6	54.6	67.1	75.8	71.5	83.1	80.9	127.2	192.5	138.3
19	Leather, footwear	22.3	16.0	15.9	16.7	21.7	34.6	23.7	30.1	42.4	42.0
20	Wood & products	8.5	3.2	2.8	0.4		13.2	4.7	5.4	0.9	
21	Paper & products	0.3					0.4				
22	Publishing, printing										
24	Chemicals	1.8	1.0	0.2		1.6	2.7	1.4	0.4		3.1
25	Plastic, rubber products	0.3			0.6	0.2	0.4			1.4	0.4
26	Other mineral products	1.0	0.3		0.6		1.6	0.5		1.4	
27	Basic metals	7.8	11.5	4.3	2.4	2.4	12.0	17.0	8.2	6.1	4.6
28	Fab. metals										
29	Machinery, equipment	0.3	1.0	3.6	0.6	0.8	0.4	1.4	6.8	1.4	1.5
31	Electrical goods										
32	Radio, television										
33	Precision equipment		0.3	0.2	0.2			0.5	0.4	0.5	
34	Vehicles, trailers										
35	Other transport equipment	0.5	8.9	1.9	0.2	0.8	0.8	13.3	3.6	0.5	1.5
36	Furniture, other manuf.		1.6	0.9		0.4		2.4	1.8		0.8
	Precious metal, jewellery	0.5		1.7	2.4	0.4	0.8		3.2	6.1	0.8
	Total exports						388.4	473.3	358.3	466.1	385.2

Source: Statistical Yearbook, various years, National Statistical Office.

Table A.7. *Import Value and Composition, 1992 - 2001*

	% Manufactured imports					Import Value ($ million)				
	1992	1995	1999	2000	2001	1992	1995	1999	2000	2001
Agricultural products						14.2	19.1	24.6	54.7	38.3
Live animals & products						1.3	1.2	1.0	1.8	3.9
Vegetable origin products						12.1	15.4	17.9	46.7	29.4
Animal, veg fat & oil						0.8	2.5	5.6	6.1	5.0
Mineral products						98.3	83.1	85.1	120.4	131.5
All manufacturing	100.0	100.0	100.0	100.0	100.0	305.8	313.1	403.1	439.4	385.0
Food & beverages	4.2	6.0	8.9	10.8	11.2	13.0	18.7	35.9	47.3	43.3
Textiles	15.6	9.0	11.5	18.2	14.8	47.7	28.2	46.2	79.9	57.1
Garments										
Leather, footwear	0.8	3.1	0.4	0.4	0.6	2.5	9.6	1.5	1.8	2.2
Wood & products	0.1	0.4	0.3	0.4	0.4	0.4	1.2	1.0	1.8	1.7
Paper & products	1.1	3.8	1.5	2.0	2.3	3.3	12.0	6.2	8.6	8.9
Publishing, printing										
Chemicals	15.2	11.5	5.0	6.4	7.9	46.4	36.1	20.0	28.3	30.5
Rubber, plastic products	3.0	2.1	3.2	3.1	3.3	9.2	6.6	12.8	13.5	12.8
Other mineral products	1.4	1.7	1.1	1.3	2.3	4.2	5.4	4.6	5.5	8.9
Basic metals	3.4	11.1	4.8	5.2	7.1	10.5	34.9	19.5	22.7	27.2
Fab. metals										
Machinery, equipment	36.8	27.2	43.9	30.3	26.5	112.5	85.1	176.9	133.3	102.1
Electrical goods										
Radio, television										
Precision equipment	0.8	1.9	4.3	4.8	4.2	2.5	5.8	17.4	20.9	16.1
Vehicles, trailers										
Other transport equipment	14.8	20.2	13.5	15.2	17.0	45.2	63.1	54.4	67.0	65.5
Furniture, other manuf.	2.7	2.0	1.7	2.0	2.3	8.4	6.2	6.7	8.6	8.9
Jewellery										
Total imports						418.3	415.3	512.8	614.5	554.8

Source: Statistical Yearbook, various years, National Statistical Office.

Table A.8. Employment by Industry and Employment Status, 2000 Census of Population

Industry	Employee	Employer	Self employed	Member of cooperative	Household member (No payment)	Other	Total
Male/Female, Urban/Rural							
Agriculture, hunting, forestry	10,992	1,355	161,170	1,052	191,875	1,173	367,617
Fishery	2	2	95	-	7	2	108
Mining, quarrying	16,864	254	1,131	49	32	472	18,802
Manufacturing	39,757	1,743	12,571	702	1,079	735	56,587
Electricity, Water supply	15,368	187	236	50	5	94	15,940
Construction	11,277	558	1,483	183	45	188	13,734
Wholesale, retail trade	19,520	2,948	41,556	932	3,353	194	68,503
Hotel, restaurant	7,141	608	2,714	196	352	68	11,079
Transport, communications	27,950	560	12,975	181	384	61	42,111
Financial	4,168	82	168	25	8	13	4,464
Renting, business	8,557	422	1,078	85	36	37	10,215
Public administration	59,611	-	-	-	-	-	59,611
Education	50,409	441	514	52	18	53	51,487
Health, social work	29,255	376	821	59	40	41	30,592
Other community services	15,002	327	2,324	98	73	88	17,912
Private households	84	3	146	1	17	10	261
International organizations	627	-	-	-	-	-	627
Other	4,860	98	4,230	25	117	171	9,501
Total	321,444	9,964	243,212	3,690	197,441	3,400	779,151

Industry	Employee	Employer	Self employed	Member of cooperative	Household member (No payment)	Other	Total
Male							
Agriculture, hunting, forestry	7,942	1,155	136,901	661	57,145	1,014	204,818
Fishery	2	2	91	-	6	2	103
Mining, quarrying	12,369	226	1,018	40	14	442	14,109
Manufacturing	16,364	1,221	6,914	340	334	536	25,709
Electricity, Water supply	11,516	171	193	40	4	81	12,005
Construction	8,319	454	1,104	129	21	183	10,210
Wholesale, retail trade	9,415	2,028	20,380	452	942	73	33,290
Hotel, restaurant	2,013	326	715	51	81	35	3,221
Transport, communications	16,955	455	12,339	160	298	53	30,260
Financial	1,643	52	97	9	2	5	1,808
Renting, business	4,331	312	730	49	19	20	5,461
Public administration	43,061	-	-	-	-	-	43,061
Education	14,273	264	227	25	6	22	14,817
Health, social work	5,543	190	339	23	10	12	6,117
Other community services	8,452	219	1,115	37	29	60	9,912
Private households	26	2	48	1	5	-	82
International organizations	293	-	-	-	-	-	293
Other	2,603	66	2,342	16	43	80	5,150
Total	165,120	7,143	184,553	2,033	58,959	2,618	420,426
Female							
Agriculture, hunting, forestry	3,050	200	24,269	391	134,730	159	162,799
Fishery	-	-	4	-	1	-	5
Mining, quarrying	4,495	28	113	9	18	30	4,693
Manufacturing	23,393	522	5,657	362	745	199	30,878
Electricity, Water supply	3,852	16	43	10	1	13	3,935
Construction	2,958	104	379	54	24	5	3,524
Wholesale, retail trade	10,105	920	21,176	480	2,411	121	35,213
Hotel, restaurant	5,128	282	1,999	145	271	33	7,858
Transport, communications	10,995	105	636	21	86	8	11,851
Financial	2,525	30	71	16	6	8	2,656
Renting, business	4,226	110	348	36	17	17	4,754
Public administration	16,550	-	-	-	-	-	16,550
Education	36,136	177	287	27	12	31	36,670
Health, social work	23,712	186	482	36	30	29	24,475
Other community services	6,550	108	1,209	61	44	28	8,000
Private households	58	1	98	-	12	10	179
International organizations	334	-	-	-	-	-	334
Other	2,257	32	1,888	9	74	91	4,351
Total	156,324	2,821	58,659	1,657	138,482	782	358,725

Industry	Employee	Employer	Self employed	Member of cooperative	Household member (No payment)	Other	Total
Urban							
Agriculture, hunting, forestry	2,639	432	12,825	149	11,325	630	28,000
Fishery	1	2	13	-	-	-	16
Mining, quarrying	13,686	240	1,054	47	11	249	15,287
Manufacturing	37,810	1,623	9,913	604	687	377	51,014
Electricity, Water supply	13,623	156	176	38	3	83	14,079
Construction	10,676	550	1,425	175	33	184	13,043
Wholesale, retail trade	17,375	2,685	35,729	580	2,334	163	58,866
Hotel, restaurant	6,798	579	2,101	171	139	57	9,845
Transport, communications	24,443	528	9,170	150	271	45	34,607
Financial	3,317	77	163	16	7	10	3,590
Renting, business	7,768	410	1,030	82	31	35	9,356
Public administration	43,574	-	-	-	-	-	43,574
Education	35,224	396	455	50	13	50	36,188
Health, social work	21,842	259	585	28	23	32	22,769
Other community services	13,083	311	2,116	92	57	77	15,736
Private households	68	2	121	-	8	3	202
International organizations	622	-	-	-	-	-	622
Other	4,780	94	4,134	16	60	166	9,250
Total	257,329	8,344	81,010	2,198	15,002	2,161	366,044
Urban/Male							
Agriculture, hunting, forestry	1,790	375	9,566	93	4,495	607	16,926
Fishery	1	2	11	-	-	-	14
Mining, quarrying	9,955	212	953	38	3	220	11,381
Manufacturing	15,175	1,121	5,496	272	238	194	22,496
Electricity, Water supply	10,031	141	142	29	3	71	10,417
Construction	7,872	446	1,056	124	18	180	9,696
Wholesale, retail trade	8,377	1,846	18,056	267	791	62	29,399
Hotel, restaurant	1,903	302	502	42	27	30	2,806
Transport, communications	14,842	429	8,598	130	200	38	24,237
Financial	1,334	51	94	6	2	4	1,491
Renting, business	4,007	301	696	46	17	19	5,086
Public administration	31,058	-	-	-	-	-	31,058
Education	9,745	237	206	23	4	22	10,237
Health, social work	3,658	112	189	5	6	8	3,978
Other community services	7,068	207	1,022	35	27	53	8,412
Private households	23	1	37	-	1	-	62
International organizations	290	-	-	-	-	-	290
Other	2,556	63	2,281	10	26	78	5,014
Total	129,685	5,846	48,905	1,120	5,858	1,586	193,000

Industry	Employee	Employer	Self employed	Member of cooperative	Household member (No payment)	Other	Total
Urban/Female							
Agriculture, hunting, forestry	849	57	3,259	56	6,830	23	11,074
Fishery	-	-	2	-	-	-	2
Mining, quarrying	3,731	28	101	9	8	29	3,906
Manufacturing	22,635	502	4,417	332	449	183	28,518
Electricity, Water supply	3,592	15	34	9	-	12	3,662
Construction	2,804	104	369	51	15	4	3,347
Wholesale, retail trade	8,998	839	17,673	313	1,543	101	29,467
Hotel, restaurant	4,895	277	1,599	129	112	27	7,039
Transport, communications	9,601	99	572	20	71	7	10,370
Financial	1,983	26	69	10	5	6	2,099
Renting, business	3,761	109	334	36	14	16	4,270
Public administration	12,516	-	-	-	-	-	12,516
Education	25,479	159	249	27	9	28	25,951
Health, social work	18,184	147	396	23	17	24	18,791
Other community services	6,015	104	1,094	57	30	24	7,324
Private households	45	1	84	-	7	3	140
International organizations	332	-	-	-	-	-	332
Other	2,224	31	1,853	6	34	88	4,236
Total	127,644	2,498	32,105	1,078	9,144	575	173,044
Rural							
Agriculture, hunting, forestry	8,353	923	148,345	903	180,550	543	339,617
Fishery	1	-	82	-	7	2	92
Mining, quarrying	3,178	14	77	2	21	223	3,515
Manufacturing	1,947	120	2,658	98	392	358	5,573
Electricity, Water supply	1,745	31	60	12	2	11	1,861
Construction	601	8	58	8	12	4	691
Wholesale, retail trade	2,145	263	5,827	352	1,019	31	9,637
Hotel, restaurant	343	29	613	25	213	11	1,234
Transport, communications	3,507	32	3,805	31	113	16	7,504
Financial	851	5	5	9	1	3	874
Renting, business	789	12	48	3	5	2	859
Public administration	16,037	-	-	-	-	-	16,037
Education	15,185	45	59	2	5	3	15,299
Health, social work	7,413	117	236	31	17	9	7,823
Other community services	1,919	16	208	6	16	11	2,176
Private households	16	1	25	1	9	7	59
International organizations	5	-	-	-	-	-	5
Other	80	4	96	9	57	5	251
Total	64,115	1,620	162,202	1,492	182,439	1,239	413,107

Industry	Employee	Employer	Self employed	Member of cooperative	Household member (No payment)	Other	Total
Rural/Male							
Agriculture, hunting, forestry	6,152	780	127,335	568	52,650	407	187,892
Fishery	1	-	80	-	6	2	89
Mining, quarrying	2,414	14	65	2	11	222	2,728
Manufacturing	1,189	100	1,418	68	96	342	3,213
Electricity, Water supply	1,485	30	51	11	1	10	1,588
Construction	447	8	48	5	3	3	514
Wholesale, retail trade	1,038	182	2,324	185	151	11	3,891
Hotel, restaurant	110	24	213	9	54	5	415
Transport, communications	2,113	26	3,741	30	98	15	6,023
Financial	309	1	3	3	-	1	317
Renting, business	324	11	34	3	2	1	375
Public administration	12,003	-	-	-	-	-	12,003
Education	4,528	27	21	2	2	-	4,580
Health, social work	1,885	78	150	18	4	4	2,139
Other community services	1,384	12	93	2	2	7	1,500
Private households	3	1	11	1	4	-	20
International organizations	3	-	-	-	-	-	3
Other	47	3	61	6	17	2	136
Total	35,435	1,297	135,648	913	53,101	1,032	227,426
Rural/Female							
Agriculture, hunting, forestry	2,201	143	21,010	335	127,900	136	151,725
Fishery	-	-	2	-	1	-	3
Mining, quarrying	764	-	12	-	10	1	787
Manufacturing	758	20	1,240	30	296	16	2,360
Electricity, Water supply	260	1	9	1	1	1	273
Construction	154	-	10	3	9	1	177
Wholesale, retail trade	1,107	81	3,503	167	868	20	5,746
Hotel, restaurant	233	5	400	16	159	6	819
Transport, communications	1,394	6	64	1	15	1	1,481
Financial	542	4	2	6	1	2	557
Renting, business	465	1	14	-	3	1	484
Public administration	4,034	-	-	-	-	-	4,034
Education	10,657	18	38	-	3	3	10,719
Health, social work	5,528	39	86	13	13	5	5,684
Other community services	535	4	115	4	14	4	676
Private households	13	-	14	-	5	7	39
International organizations	2	-	-	-	-	-	2
Other	33	1	35	3	40	3	115
Total	28,680	323	26,554	579	129,338	207	185,681

Source: Population Census 2002, National Statistical Office (special tabulations).