Investment in the Chinese equity market

China is becoming one of the world's largest economies. Nevertheless, only a negligible portion of the Petroleum Fund is invested in Chinese companies. One important reason for this is that the Chinese equity market is still relatively small, and that there are major restrictions on foreigners' rights to trade in equities on the two stock exchanges in mainland China: the Shenzhen and Shanghai stock exchanges. This article discusses the Petroleum Fund’s investments in the Chinese market. The article also considers China’s increasing importance for the growth of the global economy and world trade, and its effects on the various sectors of the equity market.

The Petroleum Fund’s investments in emerging markets

The Chinese equity market is one of a group of equity markets called emerging markets. Investments in these markets are generally associated with high risk, because emerging markets are typically small and illiquid and often have immature regulatory and governance systems. In practice this limits their accessibility to foreign investors.

The emerging markets in Brazil, Mexico, South Korea, Taiwan and South Africa are included in the Petroleum Fund’s benchmark index. The markets in Chile, Poland, the Czech Republic, Turkey, Hungary, Israel, the Philippines, India, China, Malaysia and Thailand are also included in the Fund’s investment universe. The differences between the markets in the benchmark index and the investment universe are size and liquidity. The same requirements with respect to settlement systems, regulation of securities markets and economic and political stability are made of all emerging markets.

The Petroleum Fund uses the FTSE All-World Index as a benchmark for investments in emerging markets. The five emerging equity markets in the benchmark index account for only 2.5 per cent of the FTSE All-World Index. The other 11 emerging markets in the investment universe only account for 1.8 per cent of this index. Overall, the emerging markets account for 5 per cent of the FTSE All-World Index.

The great paradox presented by the emerging equity markets is the difference between the countries’ minor importance for institutional investors, and their great importance for growth in the world economy and world trade. In recent years, these countries have contributed to a larger share of economic and trade growth than the G7 countries (the US, Japan, Germany, the UK, France, Italy and Canada). There are many indications that the countries’ importance for economic and trade growth will increase in the next few decades. Projections indicate that China may be the world’s largest economy, measured by purchasing power parity, in no more than ten to twenty years.

Opportunities for foreigners to invest in the Chinese equity market are in reality highly restricted. The Chinese equity market is somewhat smaller than the markets in Italy and France. Only about 9 per cent of the market is open to foreigners, and a number of the equities in which foreigners can invest are illiquid. Moreover, the regulatory conditions are still immature, particularly with respect to ownership rights. This chapter reviews the reasons why the Petroleum Fund has only made limited use of its opportunities to invest in the Chinese market.

Market capitalisation

The total market capitalisation of all Chinese equities available to the ordinary Chinese investor and listed on the stock exchanges in mainland China (the Shenzhen and Shanghai stock exchanges) was about USD 540 billion at end-2003. This portion of the market accounts for about 26 per cent of the total Chinese market, valued at USD 2000 billion. Foreigners have only limited access to the Chinese equity market through a special quota of equities called ‘B-shares’. B-shares account for about 5 per cent of the total equity market in mainland China. The bulk of the market values on the two mainland stock exchanges, about 70 per cent, are not available to ordinary domestic or foreign investors in China. The available portion of the equity market is somewhat larger than the equity markets in South Korea and Taiwan, but somewhat smaller than the equity markets in Italy and France.

The value of a country’s equity market provides little indication of the size and importance of the country’s economy, and the market value of a country’s public listed companies, measured in relation to GDP, varies considerably from country to country. The value of the companies in the world’s largest economy, the US, is equivalent to about 150 per cent of the country’s GDP. The value of the Chinese equity market is equivalent to about 40 per cent of China’s GDP. By way of comparison, the ratio for the UK is 140 per cent, for France 75 per cent and for Italy only 40 per cent. The total value of Taiwanese companies is 135 per cent of GDP, while the corresponding figure for South Korea is about 50 per cent. Chart 1 provides an overview of the total value of some equity markets, both absolute and in relation to the size of the country’s economy measured by GDP.

Chart 1: Size of equity markets
The differences in the value of the equity markets of various countries can be ascribed to a number of factors: differences in the role and responsibilities of the public sector, differences in the public sector’s ownership interests in business, differences in business sector profitability, differences in the business sector’s use of the equity market as a source of capital and the part played by global companies. The most important single cause of the differences in market capitalisation is the portion of global companies. A number of large international companies are domiciled in the US and listed on US stock exchanges. Examples are General Electric, Exxon, IBM, Microsoft, Johnson & Johnson, American International Group and Pfizer. Of the world’s 10 largest companies, measured by market capitalisation, seven are American and three are British.

China has in reality no global companies, and the structure of the Chinese business sector is very different from that in the US and other large industrial countries. The Chinese business sector is characterised by small manufacturers; for example, there are more than 1000 small enterprises in the steel industry. China is the world’s largest manufacturer of goods such as steel, clothing and footwear, but we still do not find Chinese companies among the world’s largest in these sectors.

The small enterprises are subsidised by their local or provincial governments, and have had an ample supply of credit through China’s four large state banks. Lending by these banks has been governed not by credit risk, but by political priorities. The supply of politically-controlled credit has reduced the need for the equity market as a source of capital; the possibility of creating large enterprises through acquisitions has been very limited, and corporate profitability is inhibited by overproduction and downward pressure on prices.

Market structure and liquidity
China has two domestic stock exchanges, the Shenzhen and the Shanghai. The domestic equity market is dominated by the Chinese state and state-owned companies and institutions, which together control 64 per cent of the market value of Chinese listed companies. Only 9 per cent of the total Chinese equity market is open to foreigners. The state also owns substantial shares of the companies in which foreigners can invest, and in practice only about 30 per cent of these equities are freely negotiable. The large government shares restrict the liquidity of the market, and parts of the domestic market that are open to foreigners are very illiquid.

Chart 2: Capital structure in the Chinese equity market (per cent of total equity capital, 2002)

Chart 2 provides an overview of the structure of the Chinese equity market. The market is divided into five groups, each with special restrictions on sales and ownership.

State shares are shares owned by the Chinese Ministry of Finance or government authorities at local or provincial level. State shares are not available to foreigners, and account for 37 per cent of the Chinese equity market.

LP shares, or Legal Person Shares, are shares owned by Chinese companies or institutions, mainly public sector. LP shares account for 26 per cent of the Chinese equity market.

A-shares are equities that can primarily be owned by Chinese private individuals. A-shares are traded in local currency and listed on the domestic Shanghai and Shenzhen stock exchanges. A-shares are the most liquid equities in the Chinese market; about 50 per cent of the shares are available in the market (free float). A-shares are gradually becoming available to foreigners through special quotas. Foreigners who buy these quotas have to lock in their investment for several years. The shares are priced high, and the quality is not commensurate with the price. As a result, institutional investors have shown only a limited interest in purchasing these quotas to date. A-shares account for about 26 per cent of the value of the Chinese equity market.

B-shares are quoted in US or Hong Kong dollars on the Shanghai and Shenzhen domestic stock exchanges. B-shares may be owned by foreigners and private individuals resident in China, but Chinese enterprises and institutions may not own B-shares. Foreigners may only own a limited portion of each company. Moreover, liquidity is reduced through large state holdings. The market for B-shares in Shanghai and Shenzhen is very illiquid. The shares are often issued by small, financially weak enterprises, and in practice B-shares are not a real option for institutional investors like the Petroleum Fund.

H-shares are issued by the largest state-owned Chinese companies, and the Chinese state has holdings of between 60 and 70 per cent in these companies. H-shares are issued by companies that are registered in China, and mainly listed on the Hong
Kong Stock Exchange. H-shares can be owned by foreigners, but foreigners may only own a limited holding in each company. The companies that have issued H-shares are active in international financial markets and are subject to international accounting standards.

In addition to the equity classes on the chart, there are so-called "Red Chip Shares" which are listed on the Hong Kong Stock Exchange. These are shares issued by companies that are domiciled in Hong Kong, and which are largely owned directly or indirectly by the Chinese state.

**Regulatory conditions in the Chinese equity market**

International accounting standards apply to only a limited portion of the Chinese equity market. With respect to other important investment parameters such as corporate governance, the Chinese market can be described as immature.

A-shares are subject to the PRC ASBE accounting standard. This is a local variant of international standards, and appears to maintain an acceptable quality. Companies that have issued H-shares and "Red Chips" are subject to the IFRS international accounting standards and/or US GAAP.

Acceptable accounting standards are not sufficient to safeguard the rights of institutional investors. The most important protection of owners’ rights is the development of legislation covering the area, a well functioning legal system, and supervision by regulatory authorities to ensure that rules are complied with, and action is taken in the event of infringements. In China there are also special challenges linked to the lack of tradition for private property and the absence of a constant focus by the media on enterprises’ transactions.

Chinese authorities are working on the development of legislation regarding private ownership in public listed companies. Up to the present, the authorities have adopted western models. China has ambitions of developing companies that can play in the same league as the largest international companies in the US, Japan and Europe, which requires international standards with respect to rules and practice of law.

**Further developments in the Chinese equity market**

Although the Chinese equity market is developing rapidly, it will be many years before its value attains the level of the large markets in the OECD countries. The emergence of global companies like Samsung in South Korea, Nokia in Finland or Toyota in Japan would be an important factor in increasing the value of the Chinese market. At present China has no really global companies. This situation will probably change over time, with the emergence of large entities in businesses such as petroleum and energy, steel, chemicals and metals, telecommunications and associated equipment, and consumer electronics, motor vehicles and automotive products.

An appreciation of the Chinese yuan against USD could also contribute to an increase in the market capitalisation of the Chinese equity market in USD. In all likelihood, the rights of foreign investors to invest in Chinese equities listed on the Shenzhen and Shanghai stock exchanges will be expanded.

The Chinese state owns, directly and indirectly, about 64 per cent of the equities in the Chinese market. State-owned shares are not traded in the market today, but the Chinese state has intended for some time to sell large portions of these equities to private individuals and enterprises. These equities will become A-shares after such a sale. The state has not sold these shares yet for fear that the A-market might collapse under the weight of such an offer. When the sale of A-shares takes place, the liquidity of the market for A-shares will improve further.

The Chinese authorities are also working on plans for more market-oriented channelling of credit to Chinese enterprises. China’s four large state banks have a number of bad loans in their portfolios, as a result of many years of politically controlled provision of credit. Chinese authorities have established a programme for using state resources to extract the bad loans from the large state banks, in parallel with a shift in the lending policy of the state banks in a more market-oriented direction. The authorities have also accepted that international banks may own holdings in the four large state banks, in return for contributing to development on the credit and system side. In addition, the banking market in China will gradually be opened to competition. These changes with respect to supply of credit will influence both the structure of the business sector and interest in the equity market as a source of capital.

The historical developments in Japan offer an interesting possible scenario for China. In Japan, major domestic players emerged in banking and insurance, parallel with the development of global giants in the auto industry, among others. As in China, growth in Japan was based on a shift from the manufacture of labour-intensive products, such as clothing and footwear, to more sophisticated products such as ships and motor vehicles. Strong export growth and a large surplus in relation to the US led to the Japanese yen strengthening considerably during a short period in the 1980s, and remaining at this strong level up to the present time. The possibility that the Chinese economy and currency may go through a similar process cannot be excluded.

**The Petroleum Fund’s exposure to the Chinese equity market**

The Petroleum Fund is exposed to the Chinese equity market through investments in Chinese companies listed on the Hong Kong Stock Exchange. The Fund owns both Red Chips, issued by Chinese companies domiciled in Hong Kong, and H-shares, issued by Chinese companies registered in China, and listed on the Hong Kong Stock Exchange.

The Petroleum Fund owns Red Chips for about NOK 507 million, consisting of shares in 21 of the in all 28 companies that are available to foreign investors. The largest investments are about NOK 238 million in the oil company CNOOC Ltd, and about NOK 157 million in the container company COSCO Pacific Ltd. The investments in these two companies account for over half of the Petroleum Fund’s Red Chips exposure.

In addition, the Petroleum Fund has a total holding of NOK 390 million in H-shares listed on the Hong Kong Stock Exchange. The Petroleum Fund’s investments in H-shares are distributed among 5 of the 38 H-shares that are listed in Hong Kong. The largest investments are about NOK 187 million in the telecommunications company China Telecom, and about NOK 134 million in the life insurance company Ping An Insurance Co. of China Ltd.

The Petroleum Fund's overall, direct exposure to Chinese equities is less than 0.25 per cent of its total equity portfolio. For a full overview of the Petroleum Fund’s direct investments in the Chinese equity market, please see the documentation portion of the Annual Report.

**China’s increasing importance for the growth of the global economy and world trade**

In the period 2000 – 2005, China has made as large a contribution to the growth of the global economy as the US. China’s
overall influence on the global economy generally and financial markets in particular is complex. This section provides a review of the main features of China’s importance to economic developments.

Chart 3 illustrates the combined contribution of China and India to the growth of the world economy up to the present, and projections up to 2040. Today China and India contribute just under a third of the growth in the world economy, and their contribution is expected to increase substantially in the years up to 2040. China’s influence is considerably larger than India’s.

Chart 3: Contributions global economic growth 1981 - 2040

Source: Goldman Sachs

China is the world's second largest exporter of goods to the US, surpassed only by Canada. Exports from China to the US rose by around 20 per cent in 2004. The value of China’s exports to Europe is approximately as large as the value of its exports to the US, and the growth of China’s exports to Europe has also matched the growth of its exports to the US. Exports from China are concentrated on a few product groups such as consumer electronics, electrical appliances for the consumer market, textiles, clothing and footwear, furniture and other household items.

Growth impulses from China

China’s imports consist primarily of commodities such as ore and metals, crude oil and petroleum products, food and industrial equipment and transport equipment such as trains and aircraft. Demand for crude oil has increased sharply in Asia in recent years, with China as the most important factor. China accounted for about 30 per cent of the increased demand for crude oil in 2004, and Asia as a whole for 50 per cent. China’s oil imports are an important reason for the rise in the crude oil price.

The countries surrounding China have experienced the strongest direct economic impulses from the growth in China. South Korea, Taiwan and Japan have recorded a substantial increase in exports to China, and this increase has had a number of ripple effects. Japanese enterprises, for example, have stepped up their investment in order to satisfy the strong demand for exports. China’s large and increasing imports of coal and iron, copper and aluminium ores have been of particular benefit to countries such as Brazil, South Africa, Chile, Russia and Australia.

Chart 4 Contribution of Chinese demand for commodities to growth in exports. Annual rate 2003-2004

Source: Union Bank of Switzerland

Chart 4 shows the growth impulse from China to selected markets in 2004 compared with 2003. For example, over half of Taiwan’s export growth of 22 per cent was due to Chinese demand.

Further developments

So far, the total effect of trade with China has been positive for the majority of consumers and companies in industrialised countries, despite a certain loss of jobs in industries that compete with China. Whether the effects will be equally positive in the future is uncertain.

Low interest rates and an expansionary fiscal policy in the US, coupled with strong Asian demand for commodities and capital goods, have led to a shortage of metals, oil, coal, some food products, maritime transport and rail transport. Market players are substantially increasing their production capacity for these types of product at present. Despite large investments, it normally takes several years to increase capacity in traditional industries. It remains to be seen whether all the capacity being developed will find enough buyers, or whether we will enter a new period of overproduction and price falls such as we have seen before. Chart 5 shows Chinese consumption relative to the global production of various commodities.

Chart 5: China’s consumption of selected commodities as a share of world consumption
To date, a number of western companies have benefited from developments in China through higher commodity prices and increased demand for manufactured products. China has imported not just sophisticated industrial machinery, but also a number of intermediate products, such as steel, glass, building supplies and chemicals.

At the same time, Chinese manufacturing is moving forward in a number of areas. China has become a full member of the World Trade Organisation, and is therefore encountering fewer obstacles to its exports. When it comes to clothing, for example, projections indicate that China will be manufacturing close to 70 per cent of the world’s clothing in a few years. China has a programme to increase its shipbuilding capacity, and in the course of a few years may become the world’s largest shipbuilding nation. China’s car industry produces about 5 million cars annually, and China is the world’s third largest market for cars. On the basis of current and adopted projects, the production of private cars alone will increase from about 3 million in 2004 to 6 million in 2006. The Chinese authorities estimate that the country’s exports of car parts will rise from USD 8 billion in 2003 to USD 15-20 billion in 2005, and to USD 70-100 billion in 2010. The electronics industry is another area of investment in China, as indicated by the country’s imports of machinery for the semi-conductor industry, which increased from 1 per cent of total sales in 2000 to 12.5 per cent in 2004. With as many as 335 million users, China is already the world’s largest market for mobile phones. Chinese telecommunications manufacturers, spearheaded by Huawei, are also exhibiting strong growth internationally, and are positioned to secure at least 50 per cent of the contracts for development of third-generation mobile phone networks in China.

China’s further advance in the global economy may cause a continued rise in prices for the commodities that the country has to import. At the same time, China’s extensive investment in important industries will result in lower prices for a number of finished goods, and it may be assumed that China will become an ever stronger competitor of established manufacturing in the US, Europe and Japan.

**China’s importance for the Petroleum Fund’s equity and fixed income portfolios**

China’s sharp increase in exports has exerted downward pressure on prices for consumer goods and the interest rate level worldwide. Lower interest rates have had a short-term positive effect on the return on the Petroleum Fund’s fixed income portfolio. China’s economic growth is reflected positively in the equity portfolio in the sectors basic industries, commodities and general industrials. The China effect on the two largest sectors in the equity market, financial services and non-cyclical consumer goods, has been largely indirect.

**The return on the fixed income portfolio**

The return on the Petroleum Fund’s fixed income portfolio is affected by the level of international interest rates. A lower interest rate level has a short-term positive effect on the return on the fixed income portfolio through changes in the value of fixed income instruments.

Interest rates and inflation have fallen globally in the last five years. There are a number of reasons for the decline, but there are two key factors. One is the effects of cheap imports from Asia to the US and Europe. The other is the fact that Asian countries have invested substantial portions of their export surpluses in US government bonds, which has exerted downward pressure on long-term US bond yields, despite the country’s twin deficits, fiscal and current account.

Global market prices for the types of goods China exports have fallen sharply, contributing to lower inflation worldwide. So far, cheap goods from China and the rest of Asia have had a greater effect on inflation than the rise in prices for the commodities China has to import. The low inflation in the US has contributed to keeping interest rates low, despite the fact that the country has financed its growing budget deficit by issuing more and more government bonds.

The lowest curve in Chart 5 shows inflation imported to the US via goods from newly industrialised countries, including China.

**Chart 6 Consumer prices US**
The return on the equity portfolio

The importance of developments in China for the sales and earnings of the main products in each sector of the Fund’s equity portfolio has been used as a basis for assessing China’s importance for the Petroleum Fund’s equity portfolio as a whole.

In the two large sectors, financials and non-cyclical goods, the China effect is primarily indirect, in that developments in China influence purchasing power, inflation, and interest rates. The most manifestly positive China effects are to be found in the sectors, commodities, basic industries, and general industrials. Table 1 shows developments in the Petroleum Fund’s portfolio for the 10 equity sectors.

Table 1: Equity sectors Return and share in the benchmark index 2004. Per cent

<table>
<thead>
<tr>
<th>Sector</th>
<th>NOK return</th>
<th>Index Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Commodities</td>
<td>15.68</td>
<td>10.3</td>
</tr>
<tr>
<td>2 Basic industries</td>
<td>11.40</td>
<td>5.2</td>
</tr>
<tr>
<td>3 General industrials</td>
<td>7.85</td>
<td>7</td>
</tr>
<tr>
<td>4 Cyclical consumer goods</td>
<td>3.47</td>
<td>3.5</td>
</tr>
<tr>
<td>5 Non-cyclical consumer goods</td>
<td>-0.61</td>
<td>16.6</td>
</tr>
<tr>
<td>6 Cyclical services</td>
<td>5.33</td>
<td>10.8</td>
</tr>
<tr>
<td>7 Non-cyclical services</td>
<td>8.78</td>
<td>8</td>
</tr>
<tr>
<td>8 Utilities</td>
<td>18.28</td>
<td>4.3</td>
</tr>
<tr>
<td>9 Financial services</td>
<td>8.43</td>
<td>26.3</td>
</tr>
<tr>
<td>10 Information technology</td>
<td>-6.86</td>
<td>3</td>
</tr>
</tbody>
</table>

The return on the Petroleum Fund’s equity portfolio is arrived at by totalling the return in each sector multiplied by the sector’s weighting in the index. The sectors ‘financial services’ and ‘non-cyclical consumer goods’ are most important because these two groups combined account for 43 per cent of the index.

Non-cyclical consumer goods

Non-cyclical consumer goods consist of companies in the fields of beverages and tobacco products, food, health products, and personal hygiene and household products. The profits in this sector are very stable, but depend generally on growth in global consumption. The sector’s sales and earnings from emerging markets, including China, have increased in recent years, but the effect is limited by the fact that purchasing power in these countries is still modest compared with the developed countries in North America, Asia and Western Europe.

Financial services

Financials have exhibited positive developments in recent years, because lending growth has been strong, particularly in the household sector, and because losses have been very small. At present, no banks in this sector have significant exposure to the domestic Chinese market. However, the Chinese banking market is opening to international competition, and it is therefore possible that this market will become more important for international banks in the future. Developments in China are important to the extent that China will contribute to lower inflation and interest rates in the future.

Commodities, basic industries, and general industrials

The clearest China effects are to be found in the three sectors, commodities, basic industries, and general industrials. Prices for the commodities and intermediate manufactured goods that China has to import have increased substantially in recent years, and prices are likely to continue rising in a number of areas. China has a substantial influence on both long-term and short-term demand for commodities such as oil, food, and metals. Fluctuations in supply and demand in China will lead to major changes in world market prices for these products, and will similarly influence companies that compete in these sectors.

Other sectors

The China effect on the other sectors in the equity market varies substantially from sector to sector. Some segments in the cyclical services sector have benefited considerably from cheap manufacturing in China. Hennes & Mauritz, for example, manufactures a large number of products in China. The possibility of producing quality products at low cost in China has made it easier to maintain higher sales margins.

A number of manufacturing and electronics companies have benefited by having their products assembled or partially produced in China. Electronics manufacturers with labour-intensive production benefit most.

Manufacturers like Nokia, VW, GM, and GE have increased their earnings through sales to the Chinese market. In 2003,
China was Nokia’s fourth largest market, measured by sales value, after the US, the UK and Germany. China was Nokia’s third largest market measured in number of employees, following Finland and the US. A large amount of product development still takes place in Finland and other developed countries, but it is increasingly being located in China.

**China’s importance for future returns in the equity market**

Competition from Chinese manufacturers will depend on how the Chinese business sector handles three major challenges. One is the structure of the business sector itself, with a large number of small businesses that are too small to compete individually in the world market. The second is investment in research and development. At present China spends only 0.6 per cent of GDP for such purposes, and Chinese enterprises are very largely dependent on joint ventures with international companies for acquiring expertise on large-scale industrial production. The third challenge is that a number of Chinese companies lack international distribution channels.

Up to the present, Chinese companies have addressed these challenges in very different ways. One example is Haier, which manufactures refrigerators, freezers and washing machines. In 2003, the company produced 5 million refrigerators – no less than 7 per cent of global production. Haier has developed its own technology, and initially catered for the domestic market in China before expanding to emerging markets. Income from this production is used to build up a distribution channel in the US and Europe.

Another example is TCL, which produces televisions, mobile telephones, computers and household appliances. The company has entered into a partnership with the French company Thomson for the production and international distribution of televisions. The company has entered into a similar alliance with Alcatel for the development, manufacture and sale of mobile telephones. Today TCL produces more than 20 million telephones, and has a market share of between 3 and 4 per cent globally.

A third example is Huawei, which manufactures telecommunications equipment for mobile and fixed telecommunications networks. The company collaborates with American 3Com, which gives Huawei access to 3Com’s distribution network, in return for access to Huawei’s products. Huawei’s sales increased by as much as 45 per cent, to USD 5.58 billion, last year, and exports doubled in the same period. Huawei concentrates on emerging markets, but has also supplied customers such as Telefonica in Spain and Singapore Telecommunications Ltd.

In parallel with the internationalisation of the Chinese business sector, foreign operators are concentrating on establishing activities in China, not only with cheap production for the world market in mind, but also in order to exploit China as a market. The market for consumer non-durables has been dominated by local Chinese enterprises, but at the same time foreign chains like Wall Mart, Carrefour and Metro have had relatively good experience of setting up business establishments in China. They have exploited the fact that China’s small regional and local shops lack economies of scale and capital for expansion.

Health and pharmaceuticals is another promising market for foreign manufacturers. The market doubled from USD 7 billion in 2000 to USD 15 billion in 2003, but still only 20 per cent of the Chinese people can afford to buy modern medicines. Chinese companies in this business are many, local and small, and not in a position to compete with international pharmaceutical companies.