AN ANALYSIS OF THE MALAYSIAN CONSTRUCTION INDUSTRY- IT'S PROSPECT AND CHALLENGE

G. Khalid

Abstract

After recessionary period from 1984 to 1987, the Malaysian economy has recovered and grew consistently at very impressive rates. Since 1989 until now the growth in the GDP has never been lesser than 7.8% p.a. In 1994, the GDP has recorded a growth of 8.6%.

The national GDP growth of Malaysia has a significant influence on the construction GDP growth. The construction sector was never grown less than 11% since 1989 to 1994 and expected to grow at the average rate of 10% p.a. until the year 2010 in which the national GDP at that year is estimated to be in the region of US$ 180 billion.

The study is analysing the construction output of the country for the last 20 years and investigate the factors contributing to the success and failures of the economy and the construction sector and suggest the necessary actions that the government need to consider in order to sustain the growth of the economy and the construction sector.

Keyword: construction GDP, national GDP, Malaysia, analysis

Analiza građevinarstva Malezije - perspektive i izazovi

Sažetak


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Studija analizira građevinsku proizvodnju države zadnjih 20 godina i istražuje čimbenike koji doprinose uspješima ili padovima u privredi i građevinskom sektoru, te predlaže nužne radnje koje bi vlada trebala razmotriti kako bi održala rast privrede i građevinskog sektora.

Ključne riječi: građevinski BNP, BNP, Malezija, analiza

1.0 Malaysian economy
The GDP (Gross Domestic Product) growth of the Malaysian Economy is contributed by 8 primary sectors as follows:

- Agriculture, forestry and fishing;
- Mining;
- Manufacturing;
- Construction;
- Transportation;
- Wholesale and retail trade;
- Finance and insurance;
- Government services.

After recessionary period from 1984 to 1987, the Malaysian economy has recovered and grew consistently at very impressive growth rates. Since 1989 until now the growth in the GDP has never been less than 7.8% p.a. In 1994, the GDP has recorded a growth of 8.6% and according to the forecast made by the Malaysian Economic & Industrial Research Institute (MIER) the average rate of growth of Malaysian economy will be not less than 7% p.a. until the year 2010 where the government is targeting to achieve a developed nation status.

The major sectors contributed to the success of Malaysian economy are the manufacturing sector which currently constitutes about 30% of total GDP. The policy shift from agricultural based economy from 1965 - 1980 to manufacturing based economy after 1980 has started bearing fruit although with a slight hiccup during the period of recession. Figure 1 shows that between the period of 1965 - 1970 agriculture sector contributed 31.2% of the GDP and between 1991 - 1993 this sector only contributed 16.5% of the GDP, whereas the manufacturing sectors has grown from 12.3% between the period of 1965 - 70 to 29.0% between 1991 - 93.
FIGURE 1: SUMMARY OF THE PERCENTAGE OF CONSTRUCTION GDP IN THE NATIONAL GDP (1965 - 94) (According to Four Major Sectors)

<table>
<thead>
<tr>
<th>Period</th>
<th>Manufacturing</th>
<th>Agriculture</th>
<th>Construction</th>
<th>Mining</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965 - 1970</td>
<td>12.3%</td>
<td>31.2%</td>
<td>3.8%</td>
<td>7.3%</td>
</tr>
<tr>
<td>1971 - 1975</td>
<td>15.7%</td>
<td>28.5%</td>
<td>3.98%</td>
<td>4.2%</td>
</tr>
<tr>
<td>1976 - 1980</td>
<td>18.7%</td>
<td>25.06%</td>
<td>4.12%</td>
<td>8.2%</td>
</tr>
<tr>
<td>1981 - 1985</td>
<td>19.7%</td>
<td>21.34%</td>
<td>5.1%</td>
<td>9.8%</td>
</tr>
<tr>
<td>1986 - 1990</td>
<td>24.0%</td>
<td>20.6%</td>
<td>3.52%</td>
<td>10.4%</td>
</tr>
<tr>
<td>1991 - 1993</td>
<td>29.0%</td>
<td>16.5%</td>
<td>3.9%</td>
<td>8.7%</td>
</tr>
</tbody>
</table>

FIGURE 2: THE GDP'S GROWTH OF THE MAJOR SECTORS

% of growth

Source: MIER

Manufacturing sector is forecasted to be the major sector in the year 2020. GDP growth for this sector will be at 14% p.a. from 1990 - 2000 and increase to 16% p.a. in between the year 2000 - 2010. After the year 2010 the GDP of this sector will continue to decline until it reaches a rate of at 4% p.a. In the year 2020 this sector will contribute to 40% of the national GDP whereas the agriculture sector will be declining to as low as 5% p.a. as shown in Figure 2.

Other sectors have also shown tremendous growth since 1989 which have significant contribution to the GDP. The construction sector which contributed about 4% of the GDP has a rate of growths of 12% and 18% in 1989 and 1990 and since then the growth has never been less than 11.0% p.a. The other sector that has impressive growth is the mining sector contributed about 9% of GDP. This is mainly contributed by the oil and gas industry. This sector grew at the average rate of 8% between 1989 to 1994. Figure 2 shows that from 1988 onwards most major sectors have impressive record of growth.
FIGURE 3: ECONOMIC GROWTH
United Kingdom vs Malaysia

FIGURE 4: ECONOMIC GROWTH
America vs Malaysia
FIGURE 5: ECONOMIC GROWTH
Malaysia vs Japan

FIGURE 6: GROSS DOMESTIC PRODUCT
GDP's GROWTH

- Malaysia - Japan

- Construction GDP - National GDP
Figure 3 and 4 show that the performance of Malaysia economy in past 30 years (65 - 94) was always better than the U.K and U.S.A except from 1984 to 1987. Even the Malaysian economic growth has better performance when compared to Japan as shown in Figure 5. The above analysis supports the MIER's prediction that the Malaysia economy will continuously grow at the average of 7% p.a. for the next 15 years or so.

2.0 Malaysian construction industry

The study suggests that the national GDP growth has a significant influence on the Construction GDP. Figure 6 shows that since 1965 to 1994 whenever the nation economy is strong the growth of the construction GDP always performing better than the national GDP and likewise when the national economy was slowing down the Construction GDP declined significantly. Malaysian Construction Industry has impressive performance since 1988 - 1994. Figure 7 shows that Construction GDP which has never reached to RM$1 billion prior to 1978 has increased to as high as RM$4.5 billion in 1994. The GDP is forecasted to increase as high as RM$20 billion in the year 2020 (Khalid, 1975) as shown in the Figure 8. The strong growth in construction sector was mainly contributed by the large civil engineering projects such as the construction of Penang Bridge (US$200 million), North-South Highway (US$2 billion), National Stadium (US$600 million), Airports (US$2 billion), Water Supply (US$1 billion) and telecommunication and electrical projects (US$3 billion). There were also several mega building projects which contributed to the significant growth of the GDP such as KL Tower (US$400 million) and Petronas Twin-Tower (KLCC) (US$2 billion) and various large residential projects which worth not less than US$2 billion in the major cities of the country.

The growth of the construction sector was never been less than 11% since 1989 to 1994 and expected to grow at the average rate of 10% p.a. until the year 2010. Malaysia economy is expected to grow at the average of 7% p.a. until the year 2010 in which the national GDP at that year is estimated to be in the region of US$ 180 billion. From the year 2000 to 2010, the GDP will be at 8.2% p.a. with the GDP of US$ 150 billion. However, the GDP after the year 2010 will be declining and to continue at 4% p.a. in which the GDP will be touching a figure of US$ 250 million in year 2020.

3.0 The challenge ahead

3.1 Manpower

3.1.1 Construction Workers

Malaysian Construction Industry currently depends on about 70% from foreign construction workers. The great majority of them are from Indonesia and Bangladesh. It is estimated that in 1994, about 800,000 foreign construction workers available in the country as apposed to only about 400,000 Malaysian in the industry. Efforts have been made to produce more skilled workers locally and to promote the use of automation and robotics in the process of construction work. Construction Industry Development Board (CIDB) has been set up and given a responsibility to look into the implementation of the policy.
3.1.2 **Professionals and Sub-professionals**

It is estimated that the construction sector requires 200,000 professionals and 500,000 sub-professionals in order to carry out the construction works planned for the next ten years. However the country currently has only about 15,000 professionals and 50,000 sub-professionals in the construction line. Whereas annually, the local higher learning institutions would only be able to produce about 10,000 graduates in the construction related areas and about another 5,000 graduates are trained overseas. That means if the number of graduates is not increased in the next 10 years the country will still has a shortage of 45,000 professionals in this sector. For the sub-professionals, the country would only be able to produce about 25,000 graduates and 5,000 graduates are trained overseas. Similarly, if the number of graduates is not increased by then, the country will still has a shortage of about 100,000 sub-professionals in this sector. According to the Ministry of Human Resource, it is estimated that the country is currently has the shortage of 10,000 professionals and 30,000 sub-professionals.

3.2 **Building Materials**

Major building materials are produced locally but due to the sudden increased in the demand, some of the materials need to be imported. The shortage of cement is the most frequent event that caused delay in construction work. In many instances, the contractors have to buy the cement from the black market or import from the neighboring countries. Malaysia has a problem of getting the supply of clinkers to produce cement and at the moment the country depends mainly on the imported clinkers from Japan.

*Figure 9* shows that the supply of cement has increased in proportion to the increase of construction output. According to Cement Producers Association Malaysia, the production capacity of the cement factories has increased from 3361 million metric ton in 1988 to 10520 million metric ton in 1994 which is more than 3 times increase in years time or about 52% increase annually. Based on the current economic forecast, the construction GNP will increase at the average of 10% p.a. until the year 2010. Therefore, the cement demand will increase to almost 40 million ton annually, which require an increase of about 400% of the capacity of the existing factories otherwise 75% of the supply needs to be imported from other countries.

*Figure 10* shows that the supply of steel was quite sufficient for the past years but since last year the demand has surpassed the supply and in 1996 the supply is expected to be inadequate. The forecast as shown in *Figure 11* shows that in the year 2005 the demand is expected to be in the region of 3.7 million metric ton annually as apposed to the current annual production of 1.2 million metric ton. Assuming there will be a straight line increase in the demand until the year 2020, the country needs about 6.0 million metric ton of steel annually. That requires an increase of about 500% increase in the capacity or otherwise the industry has to rely on 80% imported steel.

The survey of construction work and materials from 1964 to 1992 suggests that the construction materials constitutes of about 60% of total construction cost. In the year 2020 the construction GDP is expected to be in the region of RM20 billion, therefore the amount of construction materials expected would be about RM12 billion annually.
3.3 Construction Site Injuries

The rapid increased in the volume of construction works for the past eight years, gives a good fortune to the contractors to get more projects to be carried out. As a result, the capability of many contractors was stretched to their limitation to provide a good and proper site safety. The rate of site injuries for the past seven years in this sector is quite alarming and considered as one of the highest rate of fatalities and injuries (Khalid, 1996) in comparison with other sectors.

FIGURE 10: THE SUPPLY & DEMAND OF STEEL.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>SUPPLY</th>
<th>DEMAND</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>373,772</td>
<td>407,495</td>
</tr>
<tr>
<td>1987</td>
<td>377,946</td>
<td>300,934</td>
</tr>
<tr>
<td>1988</td>
<td>434,448</td>
<td>347,332</td>
</tr>
<tr>
<td>1989</td>
<td>523,596</td>
<td>501,693</td>
</tr>
<tr>
<td>1990</td>
<td>686,250</td>
<td>699,196</td>
</tr>
<tr>
<td>1991</td>
<td>815,791</td>
<td>839,131</td>
</tr>
<tr>
<td>1992</td>
<td>909,271</td>
<td>949,964</td>
</tr>
<tr>
<td>1993</td>
<td>1,025,097</td>
<td>1,072,235</td>
</tr>
<tr>
<td>1994</td>
<td>1,160,161</td>
<td>1,226,540</td>
</tr>
<tr>
<td>1995</td>
<td>1,302,231</td>
<td>1,387,797</td>
</tr>
<tr>
<td>1996</td>
<td>1,455,650</td>
<td>1,561,936</td>
</tr>
</tbody>
</table>
3.4 Quality of Construction Works
The overall quality of construction works is declining due to the following factors:

3.4.1 Lack of skilled workers available in the market, therefore many projects employed unskilled workers to undertake works which require skills. As a result, the quality of the furnished works are sub-standard.

3.4.2 Low quality of work are either due to the contractor's fault of not following the standard specified for the projects or due to the manufacturer's fault in controlling the quality of materials for the projects. Lack of quality control in the construction works could be also due to the inability of the parties involved in contract to cope-up with the large number of projects.

3.4.3 Lack of research on tropical building materials and construction methods is another factor contributing to the lower quality construction works. Most designs and specifications are based on British or European standards which are not specifically drawn
to cater for the weather and climatic conditions of the tropical countries. Therefore, the quality of many buildings and its materials are not as good as its expected to be.

3.5 Technology Transfer and Acquisition

Most of mega projects are carried out by foreign contractors and consultants. The local contractors are generally inexperienced in carrying out projects which are worth more than US$ 500 millions and projects which are complexes in terms of design and construction method such as KLCC and Sepang Airport projects. This is due to their handicaps in management expertise, knowledge and experience in new technology in construction techniques, design, and using high-tech machines and equipment for large and complexes projects whereas the consultants are basically lack of manpower and experience in that kind of projects.

3.6 Trade Imbalance

Malaysia has experienced a trade deficit of more than US$ 15 billion in early 1995 mainly due to the massive imports of materials, machines and equipment and payments to foreign contractors and consultants of the construction projects. Therefore, if the trade imbalance is not to be managed and monitored closely, it will become a threat to the Malaysian economy. The use of local content construction materials and limited used of overseas machines and equipment should be encouraged. The foreign contractors and consultants should be given some forms of tax incentives for investing their money back in Malaysia.

4.0 Conclusions

The Malaysian construction sector has a very bright future. The steady economic growth of the country until the year 2010, will spin-off the construction activities at a greater rate. Malaysia as a developing country has massive infrastructural civil engineering and building works to be carried out. The country current competitive edges such as political stability, strategic location, rich of natural resources, good infrastructural facilities, conducive investment climate and efficient government administration will enhance and contribute to it's success in tendem with the aspiration of the nation to become a developed country in the year 2020.

The impressive growth of the construction sector of the country somehow may not be sustainable without appropriate strategies and policies on the construction industry. The following are some of the issues and problems that need to be addressed by the Malaysian government:

- Increase the number of technicians and graduates in the construction related areas by providing more opportunities to study, such as conducting part-time courses, distant learning and self-study method; encourage the setting up of new private universities and colleges; and possibly to shorten the duration of studies for certain courses;
- Set-up the skill training centres to produce carpenters, bricklayers, barbenders, plasters, etc. to increase the current supply of skilled workers;
• Improve the benefits and welfares of the construction workers in the country in order to attract the local youth to work as a construction skilled worker.
• Increase the number and capacity of factories of building materials such as cements, steels and bricks.
• Improve the quality of construction by imposing the international quality standards such as ISO 9002 to all contractors, developers and consultants and make it a mandatory for a contractor to employ only a certified skilled workers for their projects;
• Improve the construction site safety by imposing a heavy penalty to workers or contractors who violate the law pertaining to the international site safety;
• Speed up the acquisition and the transfer of advanced construction technology to equip the local contractors with the more sophisticated construction equipment and techniques;
• Increase the expenditure for R & D to encourage more research in construction automation such as robotics, concurrent engineering, knowledge based engineering and other computer based construction engineering.

Bibliography