

# The Economics of the Construction Sector of Trinidad and Tobago

**T.M. Lewis\***

*It is necessary to have an appreciation of the role that any industrial sector plays in the economy before appropriate policy can be developed for that sector. This is particularly important for a sector that is as large and important as that of construction. The place to start an examination of the sector is with the published national statistics for the economy and the sector. Unfortunately, this data is often flawed by being incomplete, inconsistent and out-of-date. The data available from the Central Statistical Office in Trinidad & Tobago (T&T) suffers from all of these problems. However, there is still sufficient information within that data for some conclusions to be drawn about a number of characteristics of the industry and its relationship with other elements of the economy. The industry appears generally to behave in a way that is consistent with the predictions of experience elsewhere.*

**Keywords:** Trinidad and Tobago, construction, economy, GDP, statistics.

## 1. Introduction

Trinidad & Tobago (T&T) is a two-island state (just over 5.1 million sq km in area - roughly the same size as Northern Ireland) in the Caribbean region. Its population in 2000 was around 1.3 million. The Gross National Income (GNI) in 2002 was US\$8,553 million (giving a GNI per capita of US\$6,580) and its growth rate was around 3.5% per annum in 2002. The World Bank refers to low- and middle-income economies as “*developing*”, and these groupings are defined by GNI<sup>1</sup> per capita, with low income, US\$735 or less; lower middle income, US\$736 - US2,935; upper middle income, US\$2,936-9,075; and high income, US\$9,076 or more. Trinidad & Tobago falls into the “*upper middle income*” category, and is classified as a Developing Country.

T&T is a small, stable economy that is undergoing the process of liberalisation. It is, perhaps over-dependent on its income from the petroleum sector, as it has in the past been over-dependent on its agriculture. Nowadays, slightly over 20% of its Gross Domestic Product (GDP) derives from the petroleum sector, and around 11.5% from construction. T&T has a typical unemployment rate of just less than 10% and its inflation rate is currently running at about 3.5% per annum. According to the World Bank’s Human Development Index, T&T is ranked 49 in the Medium Human Development grouping with a GDP per capita of US\$8,176 PPP<sup>2</sup> (UNDP, 2003).

In the discussion that follows, the values were obtained from the published national statistics from the Central Statistical Office (CSO)<sup>3</sup>, and the

\* Professor, Department of Civil & Environmental Engineering, Faculty of Engineering, The University of the West Indies (UWI), St. Augustine, Trinidad. E.mail: tmlewis@eng.uwi.tt or tmlewis@tstt.net.tt

<sup>1</sup> This is calculated using the World Bank Atlas method.

<sup>2</sup> PPP means Purchasing Power Parity and is the rate of currency conversion that equalises purchasing power of different currencies (Anand & Sen, 1994). It will be noted that the PPP GDP per capita is higher than the nominal GDP per capita in current dollar terms.

<sup>3</sup> Note that the absolute values have in some instances been adjusted so that the curves come together on a similar portion of the graph. The figures have not been distorted by this adjustment, only amplified vertically so that their shapes can be compared directly. The reason for this is that the focus of interest here is not the values themselves so much as the shape of the curves and their trends.

Central Bank of T&T. Other information has been obtained from the International Monetary Fund (IMF), the Caribbean Community Secretariat (Caricom) and the World Bank (WB)<sup>4</sup>. Unfortunately, not all of the streams of statistical data are complete, nor are the bases on which they were compiled or presented identical over time. An early attempt to construct an input-output table for the construction industry (Lewis, 1981), based on published data, highlighted problems of continuity and consistency<sup>5</sup>. Francis (1997), again writing about T&T, also notes, "...research on the Construction sector revealed the fragmented nature of the database", and called for modernisation and rationalisation of that database. There have been few changes since that time. Despite these shortcomings, it has been possible to assemble sufficient data to draw a picture of some characteristics of the construction sector and its relationship with other sectors of the economy.

The statistics on "construction" usually refer to what is known as the construction industry i.e., the consultants and contractors who are directly involved (at least 50% of their turnover) in construction work. It does not include the substantial informal sector or the many non-registered firms that undertake construction work. There are a few sources of statistics that refer to the wider construction sector which includes such things as the materials suppliers, quarry operations, the public utilities, etc. For this paper, it is the former, more restricted construction industry statistics that are used.

## 2. T&T and The Caribbean Community (CARICOM)

One of the most dynamic and responsive industrial sectors is that of construction. It is one of the most important providers of employment, its output (as capital formation) is very economically significant, it has strong backward and forward linkages with other industries (which result in high, economic multipliers and make it a particularly powerful tool for economic manipulation), and, in addition, its output is highly "visible", which gives it added political appeal. Given this profile, it is important for policy-makers to know how the construction sector responds to changes in

other aspects of the economy, particularly those that are relatively easy to regulate. Public sector demand lies in this category, and it often represents a very significant proportion of the total demand on the construction industry. The performance of the national economy depends upon the effectiveness of national economic policy. This in turn depends upon the ability to forecast what will happen as a result of various different prescriptions. The key issues tend to be those of employment and Gross Domestic Product (GDP), because these most directly affect the well-being of the average citizen.

Table 1 shows the relationship of T&T with its local trading partners, CARICOM. It will be seen that T&T has consistently been responsible for around one-third of the Gross Domestic Product (GDP) of the region, with that proportion starting to increase in recent years. In per capita terms, the same pattern holds, with T&T's GDP per capita climbing above US\$5,000 while the region's GDP per capita still on average being below US\$3,000. The region includes Guyana which is relatively poor, but excludes Haiti which is even poorer.

The construction sector of T&T has grown relative to that of the region, so that by 1999, it represented nearly 50% of CARICOM's GDP, as opposed to around 40% a decade earlier. This is significantly higher than T&T's share of regional GDP, which is still below 40%. This is surprising given that T&T is a significant oil and gas exporter and these industries contribute a major proportion of the country's GDP. It might have been expected that construction would remain more or less in line with other sectors of the economy, as it had until around 1995-96. One possible reason for the increase in the size of the T&T construction sector relative to the region could have been the airport expansion project that cost in total some \$1.2 billion<sup>6</sup>, which was twice the total output of the industry in T&T when it started in 1997. The airport project took three years to complete, but even so, its annual contribution to the industry output was very significant, especially at a time when other territories in the region were experiencing something of a recession.

<sup>4</sup> The specific documents accessed from each source are referenced at the end of the paper.

<sup>5</sup> Where there are inconsistencies between published data for the same period, the latest (most current) value has been used.

<sup>6</sup> Unless otherwise stated, all values are expressed in Trinidad and Tobago dollars with an approximate exchange rate of TT\$6.3 = US\$1 as at March 2003.

**TABLE 1:** Comparison of Trinidad and Tobago (T&T) with CARICOM (Values in US\$)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>CARICOM Total GDP (Bn)</b>	<b>14.4</b>	<b>14.9</b>	<b>14.9</b>	<b>14.8</b>	<b>15.1</b>	<b>15.5</b>	<b>16.3</b>	<b>16.7</b>	<b>17.2</b>	<b>17.7</b>
T&T Total GDP (Bn)	5.1	5.2	5.1	5.0	5.2	5.4	5.6	5.8	6.1	6.6
T&T as % of CARICOM GDP	35	35	34	34	35	35	35	35	36	37
<b>CARICOM* Per Capita GDP<sup>1</sup></b>	<b>2530</b>	<b>2606</b>	<b>2594</b>	<b>2538</b>	<b>2574</b>	<b>2607</b>	<b>2710</b>	<b>2750</b>	<b>2818</b>	<b>2889</b>
T&T Per Capita GDP	4171	4248	4128	4045	4180	4310	4467	4582	4811	5118
TT as % of CARICOM/cap. GDP	165	163	159	159	162	165	165	167	171	177
<b>CARICOM Construction GDP</b>	<b>1215</b>	<b>1256</b>	<b>1227</b>	<b>1188</b>	<b>1205</b>	<b>1287</b>	<b>1299</b>	<b>1406</b>	<b>1492</b>	<b>1584</b>
T&T Construction GDP	440	492	467	447	507	541	560	654	711	768
TT as % of CARICOM Const. GDP	36	39	38	38	42	42	43	46	48	48
TT Const. as % of TT GDP	8.68	9.45	9.12	8.86	9.71	9.96	9.92	11.20	11.53	12.2

\* These figures only reflect the countries in the Caribbean Common Market.

<sup>1</sup> At constant 1990 prices.

**Turin (1964)** notes that “*as a general rule construction accounts for 3-5% of the GDP in most developing countries and 5-9% in most industrialised countries*”. As shown in **Table 1**, in T&T, this figure has been around 9% and has recently risen to over 11%, figures that are much higher than one would expect for a developing country, and that largely result from the airport project, the energy sector developments and public sector investments of oil and gas revenues.

### 3. Oil and Construction

Because the economy of T&T is largely underwritten by revenues received from its oil resources<sup>7</sup>, it is particularly susceptible to changes in the price of oil. The curve shown in **Figure 1**, taken from the oilnergy.com website, represents the price of oil in US\$ per barrel from 1920 right through to 2001.

It will be seen that the first oil price ‘shock’ of 1974 was dramatic at the time, but not compared with the ‘shocks’ that followed. The oil price rises in 1981, 1987, 1990, 1996 and 2000 were accompanied by devaluations of the T&T dollar (TT\$) in December 1985 (from TT\$2.4 to TT\$3.6 for US\$1), 1988 (from TT\$3.6 to TT\$4.25 for US\$1), 1993 (from TT\$4.25 to TT\$5.6 for US\$1), and thereafter a steady drift until 1997 when the exchange rate stabilised at around TT\$6.2 to the US\$. The rise in the US dollar price of

oil and gas and the devaluations of the TT dollar together gave the Government significantly more money to play with, however, the fairly dramatic fluctuations in the price of oil made national budgeting difficult for the Government of T&T, and it was the construction sector and the Public Sector Investment Programme (PSIP) that were generally used to adjust estimates to eventualities.

The falling oil prices in the 1980s caused a contraction of the economy and an increase in unemployment. The currency was devalued in December 1985 in an attempt to correct these problems, but by 1987 the GDP had declined by 30% from its high in 1982, GDP/capita by 40% and unemployment had risen to 22%.

As can be seen from **Figure 2**, the PSIP began an upward trend in 1991, with significant increases after 1993. This followed a decrease of some 80% in the PSIP between 1984 and 1991 which occurred, despite large injections of capital into the system from oil price increases and devaluations during the late 1980s and early 1990s.

The construction sector responds quite directly to changes in public expenditure, and it can be seen to have a similar shape to the curve for the expenditure on the public sector investment programme (PSIP) except for the period between 1987 - 1991. Both showed a decline in the early 1980s until around 1987

<sup>7</sup> Just under a third of GDP is derived from petroleum and natural gas resources and products.

### U.S. First Purchaser's Crude Oil Price

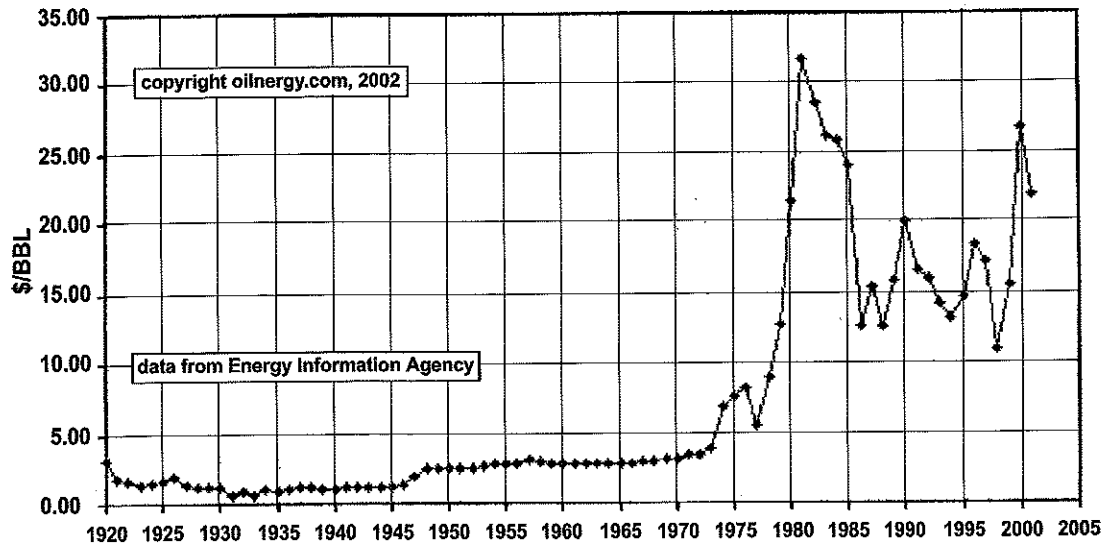


FIGURE 1: Oil Prices (source www.oilnergy.com)

when the construction industry started to stabilise, and this was slightly before the PSIP began to recover around 1991. Since then they have tended to grow together as the economic recovery has taken place. The problems that the economy faced during this period are discussed in the next section and they help to explain the difference between the construction sector and the PSIP performance during this period.

There appears to be a lag of around three to four years between the changes in the PSIP and construction GDP, with the PSIP lagging. This can probably be explained by the political response - being slow to cut back on the PSIP when a recession begins (and there are ongoing projects and financial commitments that have to be completed) and slow to initiate new projects when the recovery begins (partly because of the lead

time for planning and implementing new projects and partly the conservatism that comes from not knowing whether or not the recovery has really started).

#### 4. Indices of Wages and Prices

Figure 3 shows a comparison of the index of wages in the construction industry with that for all industries for the period 1975 to 2000. It will be seen from the curves that there was a period of sustained and significant growth in wages until around 1986, and thereafter a slowing down, and in some years a decline, in wages until the recovery in the mid 1990s. The boom period prior to 1986 resulted from the fact that T&T is an oil exporting country and the 'oil shocks' of the mid 1970s and early 1980s which caused a recession in most countries, provided a welcome boost to the T&T economy.

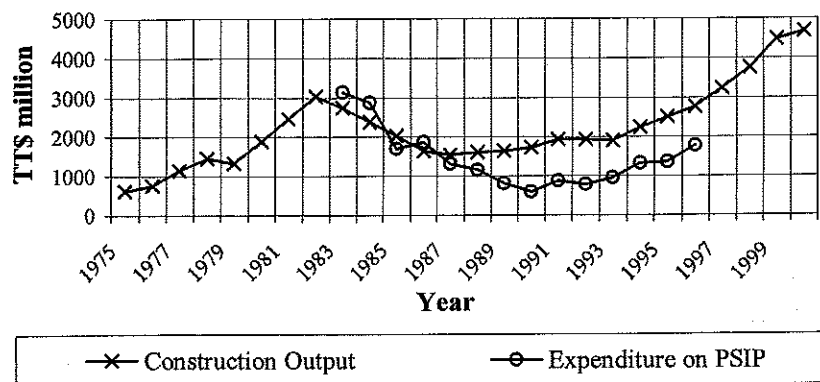


FIGURE 2: PSIP and Construction GDP (Current \$)

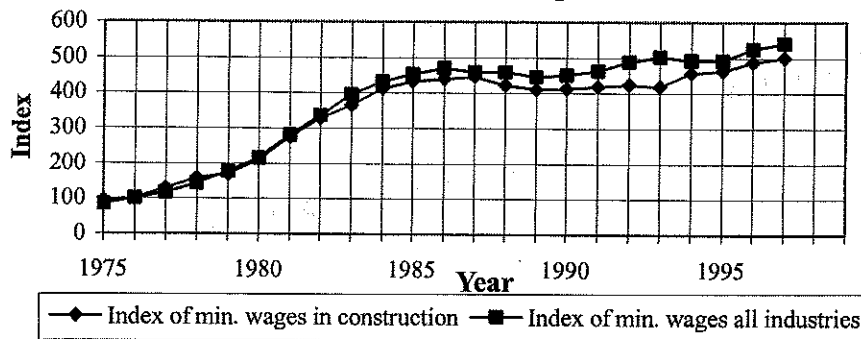


FIGURE 3: Indices of Wages

The period after 1986 was one of hardship in T&T, with the economy being dragged into recession as a result of the international downturn, as well as the overspending that the government had indulged in, in previous years<sup>8</sup>. The elections of December 1986 brought the National Association for Reconstruction (NAR) into Government and it made immediate changes to try to improve the economy. Budget cuts and tax cuts and incentives for the private sector were used to start the transfer of production out of the public sector. The recession and an accumulation of foreign debt forced the government to accept a 'structural adjustment' programme imposed by the IMF in 1987 in order to access additional international funding—largely to service its external debt. This programme involved the normal IMF medicine of a cut back in the public sector, privatisation of public assets, liberalisation of trade and floating the currency. As has so often been the case, this medicine was as bad, if not worse than the illness. Its implementation caused hardships that provoked social unrest that climaxed in an attempted coup by a group of disenchanted Muslims. After a period of violence, they were captured and the coup ended, but the harsh economic prescriptions of the IMF were blamed on the government and it was soundly beaten at the following election in 1991.

By the mid-1990s, there was a worldwide return of economic optimism, the prices of oil and gas rose and boosted the local economy and this was reflected in the rising levels of wages in the economy.

As will be seen in **Figure 3**, the index for the construction sector consistently falls below the all industry average for nearly all of the period under consideration. The new government in 1991 actually cut back on some of the construction projects initiated

by its predecessor, thus causing the industry to fall behind other industries that benefited from increased public sector support.

The curves in **Figure 3** suggest that wages in construction have lagged behind wages in other industries. Given that labour costs have consistently represented around 30% of the costs of construction (**Francis, 1997**), construction costs and presumably prices should have been rising more slowly than prices in the rest of the economy. The recent trend shows wages in construction catching up with those in the rest of the economy. **Turin (1964)** indicates that wages in construction in developing countries tend to be lower than manufacturing wages, but that this relationship is gradually reversed as the economy becomes more industrialised. In this regard, Trinidad is representative of a country in the process of developing.

**Figure 4** shows the indices for retail prices and for building materials. It will be seen that from around 1983 onwards the index of building materials prices has been below that of retail prices in general, particularly in more recent times. This suggests that the costs of the other major inputs to construction - the materials (which in T&T have accounted for between 30% and 50% of construction costs (**Francis, 1997**) over the relevant period) have risen less than the norm for other goods in the economy. During this period, the price of cement was controlled by government and as this represents quite a large proportion of construction costs, it had a depressing effect on the index for building materials. The other principal materials of construction locally are reinforcing steel (which also had a depressed price during this period), clay blocks (where a surplus of capacity caused prices to be very

<sup>8</sup> The Prime Minister became famous for his statement that "Money is not a problem".

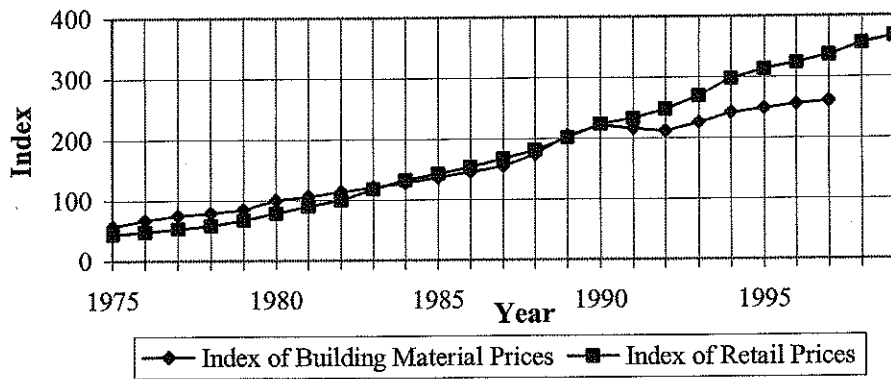


FIGURE 4: Indices of Prices

competitive), plywood and lumber and galvanised, corrugated iron sheeting.

The lower than average wages and material prices working together should mean that the value for money that the client was getting from a dollar spent on construction improved relative to a dollar spent on other consumer goods, provided that construction productivity levels were being maintained. This can be examined at the macro-level by looking at the total output of a construction worker as compared with a worker in the average of all other industries.

### 5. Money Supply, GDP/Capita and Construction Output/Capita (Current Dollar)

Figure 5 shows the variations of the money supply, GDP and the construction industry output in current dollar terms. It will be apparent how closely the GDP matches the shape of the money supply curve indicating

clearly the correlation between the two. Construction output follows much the same path, tending to exaggerate the highs and lows of the GDP. There is no apparent, consistent lag between the peaks and troughs in construction output and those of the economy at large, as compared with a fairly consistent nine-month lag in Turkey (Birgonul and Ozdogan, 1999) and average of between six and nine months in Australia (De Valence, 1999). When the national economy is doing well, the construction industry does well, and when the economy slumps, so does construction.

It seems likely that the levels of output of the construction sector are directly related to those of industry in general - as they face the same economic environment - and this is substantiated by the similarity in the shape of the curves in Figure 5. The same applies to the money supply, but it is likely that the money supply is a causal factor in determining the shapes of the other two curves. The role of the money supply in moderating demand for construction has

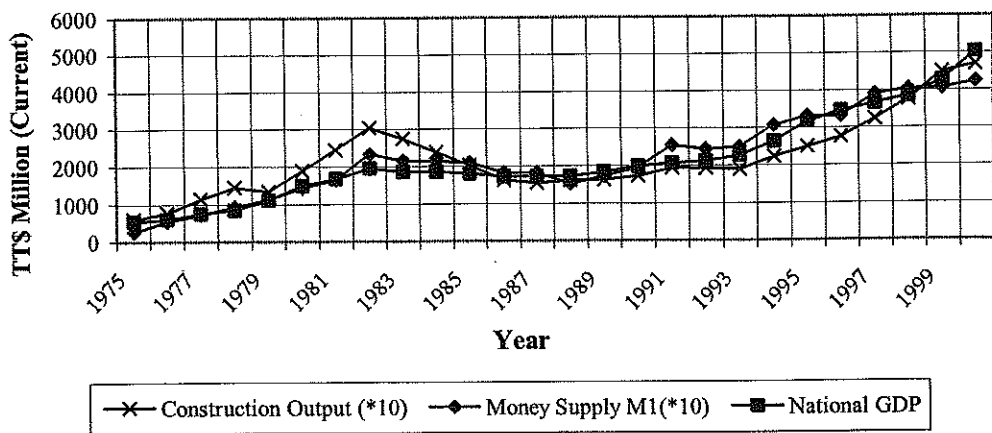


FIGURE 5: Indices of Prices, GDP, Construction Output and Money Supply

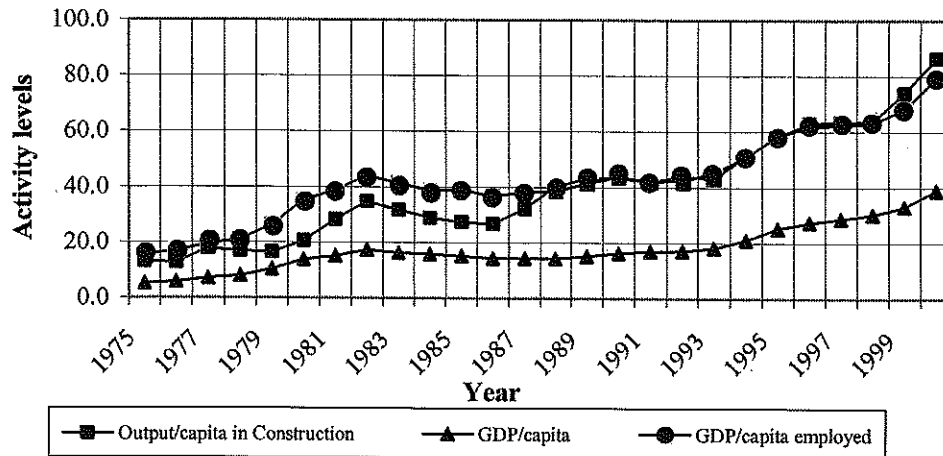


FIGURE 6: National and Construction GDP/Capita (Current Dollar)

been established by **Tse and Raftery (2001)**, who show that “*there is a specific and strong causal relationship between the construction activity and the broadly defined money supply  $M3$* ”. Although the money supply is normally the causal factor, the construction industry has also in the past been used to influence the performance of the economy, to ‘kick-start’ it, partly because of the construction sector's effect on income distribution (especially bringing the lower income group - with their high propensity to consume - into employment) and partly because of its strong forward and backward linkages (**Construction Industry Committee, 1992**).

Also shown in **Figure 5** is a curve for the money supply ( $M1$ ). Again, there are no apparently consistent lags between changes in the construction industry output and the money supply, suggesting that expenditure patterns on construction respond very quickly to the availability or otherwise of money; their movements are almost exact replicas of one another. Because the amount of money available in the economy directly affects demand, it can be expected to have a fairly direct impact on the construction industry with the lag in effect depending largely on consumers' attitudes towards risk, their ability to borrow funds and expectations regarding inflation. The dangers of inflation can be curbed by productive activities keeping pace with the money supply, as seems to have been the case in T&T.

The curves also support the Keynesian view that the engineering industries tend to exaggerate the fluctuations of the economy as a whole (through the multiplier effect), and as the graph shows, the

construction output curve follows the same shape as the GDP, but has higher peaks and lower troughs. This same pattern is demonstrated in other countries such as Turkey (**Birgonul and Ozdogan, 1999**) for example.

**Figure 6** shows output per capita in construction, as well as the GDP per capita of the population and per capita of those employed, in current dollar terms. The output per capita in construction is generally below the national level until around 1990. This suggests that construction workers were producing less value on average, than other workers in the economy. This is not surprising, considering that the increases in their wages over this period were lower than the average for other industries, so it may at least partially be a wage effect being passed on. The closing of the gap during the 1990s suggests that efficiency and productivity levels were equalising across the economy, and the recent growth of construction output per capita above the national norm suggests that construction productivity has now surpassed all of the other industries. This is in stark contrast with the performance of the industry in other parts of the world where productivity in construction has been stagnant or in decline.

The similarity in shape of the curves for construction and all industries is striking, which suggests that the labour market is working efficiently. Although it is entirely unregulated, it is clear that the employers and workers find one another effectively so that there is little or no apparent productivity gap on average between different groups of workers.

**Figure 6** also shows that in current dollar terms the output of the construction industry is increasing

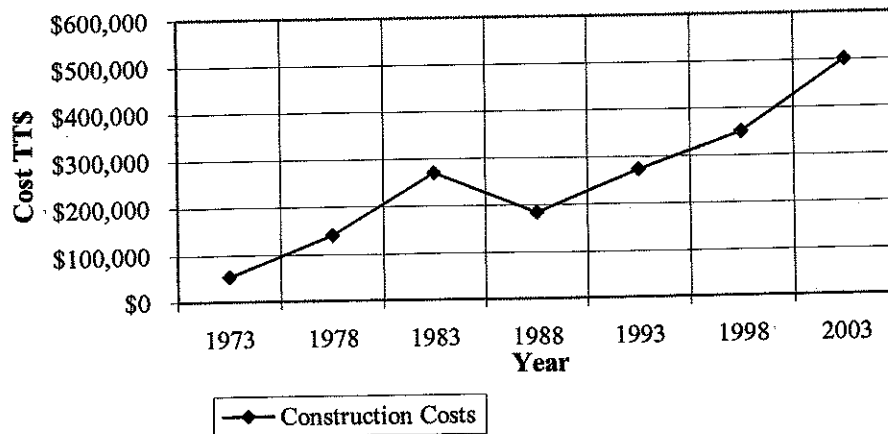


FIGURE 7: Cost of Construction of A Three-Bedroom House

annually over most of the study period. This does not necessarily mean that the physical output levels are increasing (i.e. this may not represent a greater floor area of completed structures) because the apparent increase could simply be caused by inflation in the prices of property. This can be tested by looking at the activity levels in constant dollar terms<sup>9</sup>, i.e. in terms of values that are corrected to account for inflation during the period in question.

A study of home ownership as an investment carried out by the Central Bank of Trinidad and Tobago (Francis, 1997) reported that between 1972 and 1993, the average cost of construction of a three-bedroom house followed the trend shown in Figure 7. Published figures have not been available since 1998, but the same 'typical' three-bedroom house would now (in 2003) cost around TT\$500,000 to build - as shown in the figure. As will be seen, during the boom years of the early 1980s costs and prices rose steeply, then fell with the recession of the late 1980s, before climbing again as the economy picked up in the early to mid-1990s. Since the mid-1990s, there has been a significant boom in demand for building work, to such an extent that most reputable contractors are overworked (Lewis and Mugishagwe, 1996). This has pushed up the prices they charge, as economic theory would predict and as is shown in Figure 7.

Table 2 shows an index of the house costs shown in Figure 7 deflated by the changes in the purchasing power of the TT dollar due to inflation. It will be seen that despite the apparently huge increases recently, since the mid-1980s, it has been

more affordable in real terms to build a house than it was throughout the 1970s and early 1980s.

## 6. GDP/Capita and Construction Output/Capita (Constant Dollars)

Figure 8 shows output per capita in construction against GDP per capita of the population and per capita of all employees, in constant 1985 dollar terms (as compared with Figure 6 which was in current dollar terms). The curve for construction again shows quite significant peaks in 1982, 1988 and 1996 followed by troughs in 1986, 1993 and 1998. Here, however, the similarity between the curves for construction and the rest of the economy is less clear. Again the curve for construction is significantly below the national level for all employees until around 1994, when real output per capita in construction starts to exceed the average for all industries.

It is worth noting that construction industry activity levels, in real terms, only in 2001 began to climb above the peak level established in 1982,

TABLE 2: Index of House Costs

Year	Index
1975	100
1978	174
1983	168
1988	72
1993	70
1998	75
2003	98

<sup>9</sup> In this case, all values are adjusted to 1985 dollar terms.



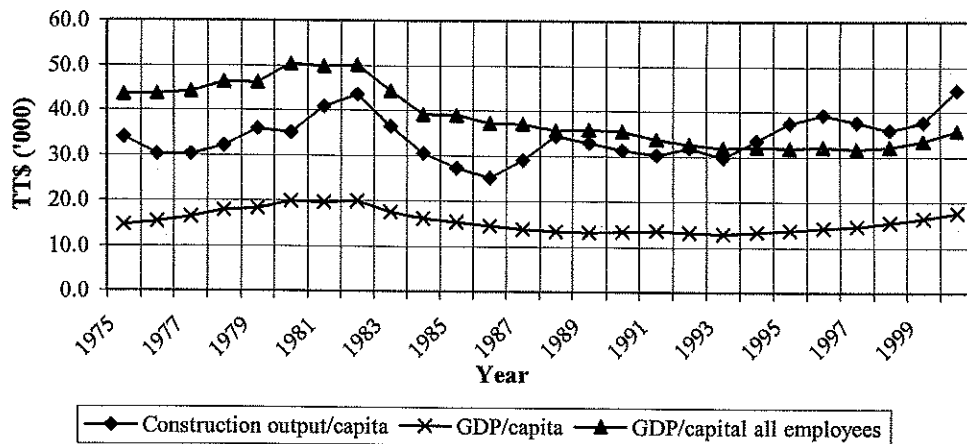


FIGURE 8: GDP per Capita (Constant Dollar)

while the national GDP is still below the peak of 1982 in real terms. The curves also demonstrate the volatility of the construction sector compared with the rest of the economy even in constant dollar terms. Construction is much more variable than industry in general, and this again is very much in accordance with the predictions of economic theory (Lewis and Imbert, 2002). The period around 1982/83 was one of significant prosperity and business optimism in T&T, the price of oil was high and there was political stability. It was, however, short-lived. Almost immediately, the price of oil dropped dramatically and this threw the national budget into disarray. Predicted surpluses suddenly changed into huge deficits and the servicing of public sector foreign currency debt became a major governmental expenditure. Thus the peaks of 1982 and the subsequent slump reflect the situation in the economy as a whole. It is also likely that the initiation of the very large airport redevelopment project that started in late 1997 had a significant impact on the increase in per capita output in the following three years while it was under way. In a relatively small economy, any big project can influence the shape of the output curves, especially where, as in this instance, the project is several times larger than the total annual output of the industry.

As is normal in a developing country that is converting from a largely agricultural base to a more industrialised economy, unemployment is a continuing problem in T&T. The construction industry plays an important role in helping to absorb some of the surplus labour that has been displaced from its traditional agricultural pursuits.

## 7. Employment Effects

The construction labour force includes all those currently employed in construction as well as those who are out of work and describe themselves as being 'construction workers'. There is no unemployment register in T&T so the numbers are suspect, but they are likely to be consistently suspect. Figure 9 shows the size of the construction labour force and the level of employment of that labour force in construction as well as the GDP in both current and constant dollar terms. It can be seen that the size of the labour force and employment in construction vary significantly over time and that they tend to vary in the same way. When the economy is booming, the labour force grows and employment in the industry grows. As the business cycle takes a downward turn, the labour force reduces and employment in the industry reduces. There is no apparent lead or lag in these responses. These movements are exactly what logic would predict especially in an industry with high levels of temporary and part-time employment.

The difference between the labour force and those employed in construction is basically the unemployed workers. In more developed economies, one might expect the labour force to be relatively stable in size and for employment levels to vary with business cycles. The workers who consider themselves to belong to the construction industry would tend to continue to be identified with that industry even if temporarily unemployed. In T&T, however, as in many other developing countries, that link often ceases to exist when the workers are unemployed, as they quickly change to working in subsistence farming, driving taxi,

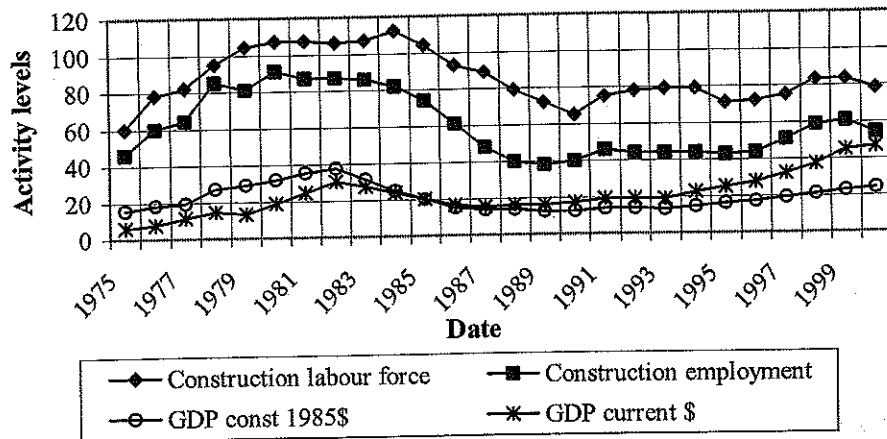


FIGURE 9: Employment and Economic Activity

or doing some other kind of temporary sales, delivery or security service work. This has been described as a “casualisation of the labour force” by Wells (2001) and Standing and Tokman (1991) for example. When unemployed in T & T, these workers are no longer part of the official ‘construction labour force’ which falls in size as a result; but these workers are almost immediately available for construction work once demand returns. This explains why the size of the total labour force varies so significantly so quickly (e.g., declining by over 40% between 1985 and 1990) - as workers move from one form of employment to another with changes in demand. The recent upturn in the performance of the economy (especially in current dollar terms) since around 1995 has not, however, been fully reflected in a matching growth in the labour force or employment in construction. There are a number of possible reasons for this, for example, it may be because of improved management (and thus productivity) in the industry, or increased capital intensity (men being replaced by machines), or increased efficiency of the workers themselves through additional training or use of power tools, or a reaction to a large increase in the statutory minimum wage in recent years. This issue is to be the subject of future research.

The general shape of the employment and labour force curves are a slightly better match for the GDP expressed in constant dollar terms than when expressed in current dollar terms. This suggests that demand for labour in the industry expands as the real demand changes, more than as the value of demand

in current dollar terms varies. This suggests that the industry is well aware of the real value, rather than the face value of the dollar.

It should also be noted that there seems, naturally, to be lower and upper bounds on both the labour force and employment in construction. These would seem to represent, at the lower level, the stable, relatively-skilled workforce that maintains its employment even during a fairly prolonged recession (e.g., between 1982 and around 1996), and at the upper end, all those who are easily and quickly drawn into the industry. This information should be useful for resource planning.

## 8. Conclusion

The statistics tend to support the conventional view of the relationship of the construction sector to the economy in general. The shortcomings of the statistics available mean that some of the conclusions drawn must be tentative. It is important in public policy terms that the responsiveness of the construction industry to other factors in the economy is known. The curves presented here suggest that there are direct relationships between the output of the construction industry and the national economy, and between construction industry employment and the economy. Further work is needed to establish more clearly, the nature of these relationships, in order to allow better understanding of the impacts of different forms of political intervention when there are periods of economic hardship or recession.

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