World markets in construction: I. A regional analysis

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The role of marketing has seldom been extolled in construction, let alone international contracting. Even where marketing has been endorsed in the process, it has been taken for granted and regarded at a passive, self-adjusting and self-generating level. This paper demonstrates that this need not be so and that the function of marketing research can be exploited and employed gainfully in the context of international construction to find out where the markets are in the world. Absolute measures (volume) and relative measures (growth) can be used in the main for this purpose. The results of a marketing research project are presented in the form of graphically distorted world maps at both the regional and national levels.

While Part I of this paper deals with the results of 19 global regions, Part II concerns itself with the construction industries of 180 different countries and territories. It is hoped that international construction marketing opportunities may be identified in the process.

Keywords: Marketing research, international construction, economic development.

Introduction

Following the downturn of the market in the once vibrant Middle East, international construction activities appear to have now taken a momentary backseat. None the less, interests and opportunities in overseas projects remain unabated for many firms in search of work outside saturated or less profitable domestic markets. It is therefore timely to review the size and growth trends of each potential market during this current period of lull for future marketing purposes. The aim of this paper is to provide a succinct summary of the world construction markets in the past and, in the process, furnish a useful source of international marketing information for firms contemplating or expanding foreign ventures at some later date. The paper is divided into two parts. Part I highlights the information disaggregated at regional levels and a further disaggregation to country levels will be dealt with in Part II.

Information sourcing

In building up the marketing information system for the analysis of worldwide construction markets, the following procedural steps were taken:

1. By consulting various United Nations (UN) and other official publications, 180

territories were identified where statistical data relating to their respective construction industries were obtainable. Information sources for the analysis that follows were collated from the UN Office in London, the Statistical and Market Intelligence Library of the Department of Trade and Industry, and the London Business School. (Note that 'countries and territories' will be referred to as 'countries' hereafter.)

2. From these sources, the value-added by construction in current market prices for each country between 1970 and 1984 inclusive were extracted. Where necessary, values in local currencies were converted to US dollar equivalents using annual average exchange rates published by the International Monetary Fund (IMF). This approach may not in itself be viewed in a favourable light but, given the circumstances, seems to be the best and only option open to resolve the main problematic issues of exchange rate parities. Following this procedure, a basis for comparison was thus established.

3. The world value-added by construction for each year is then estimated by summing together the contributions from all the 180 countries. These are similarly expressed in US$ millions for the 15-year period considered.

4. Each country's percentage share of the world value-added by construction for each year is then computed in turn by dividing its respective value-added in construction by the global figure calculated in step 3. This was carried out for all the countries for each year over the 15-year period.

5. In effect, two sets of data are now available for all the countries: (a) each country's annual value-added by construction expressed in US$ millions over the 15-year period from 1970 to 1984 and (b) each country's annual percentage share of the world value-added by construction over the same period.

6. The data culled is then disaggregated further into 19 global regions, covering the entire 180 countries considered. Here, categorization is based on the 'Standard Country or Area Codes for Statistical Use' adopted by the UN.

7. At both the country and regional levels, their respective annual percentage growth of value-added by construction over the preceding year are each computed in turn to cover the entire period between 1970 and 1984. These series are subsequently averaged to obtain the mean figures for each country and region.

The results obtained from the preceding computations form the underlying basis for this paper. Although one is likely to question the inherent limitations of adopting this statistical approach to analyse world markets in construction, taken in the context of the immense complications one is likely to encounter in any global analysis, certain deficiencies are undoubtedly inevitable and, therefore, optimistically speaking, should be acceptable within reasonable confines. As Whitelaw (1969) has argued in his treatise on market screening using economic indicators, 'it is better to have a less-than-perfect standard, the shortcomings of which are known, than to have no standards at all'. With this background qualification, the following sets out the findings of this research exercise on a regional basis.

Regional percentage shares of world construction volume

The regional analyses have to be read in conjunction with both Figs 1 and 2 where the computed results are plotted. Graphically distorted world maps are used here to create the requisite effects for impact. Figure 1 models the average percentage shares of world value-

added by construction between 1970 and 1984 for 19 global regions where the domineering size of the markets in North America, Europe, the USSR and East Asia is clearly noticeable. The apparent disparity between regions in the north and those in the south is also significant. This lends support to the well-known economic assertion that distinguishes between the richer north and its relatively poorer cousins in the southern hemisphere. The north–south divide in Fig. 1 shows distinctly the regions in the north that overshadow their much smaller counterparts in the south. Because most of the developed and industrialized countries are located in the northern hemisphere, Fig. 1 seems to suggest a strong relationship between global economic development and the volume of construction.
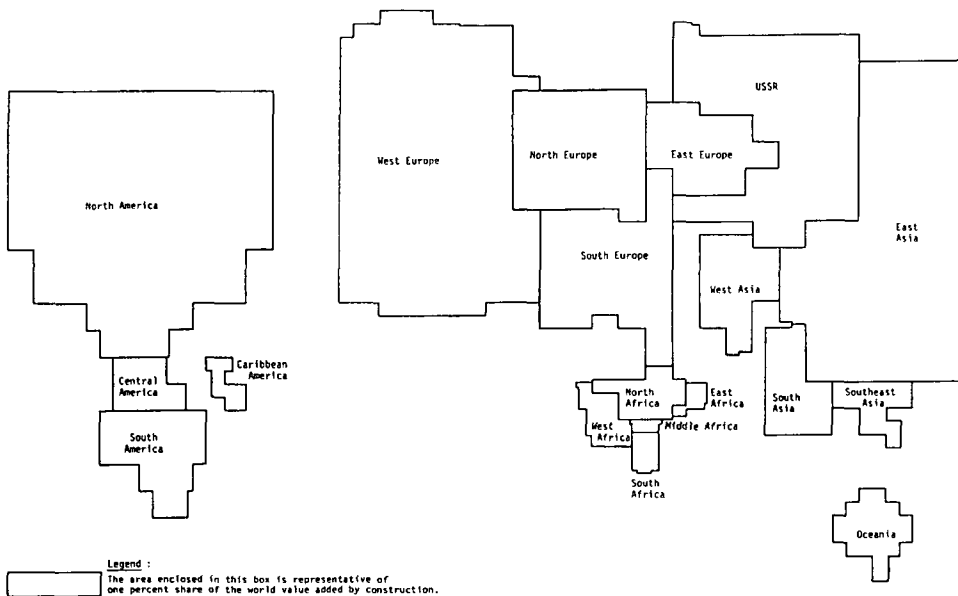

Fig. 1. Average percentage shares of world value-added by construction between 1970 and 1984 for 19 global regions.

In contrast, Fig. 2, which depicts the average annual percentage growth of value-added by construction over the preceding year between 1970 and 1984 for the same 19 global regions, shows a reversal of this domination. Here, the regions in the south now command much larger attention than those in the north. Read together, both Figs 1 and 2 illuminate the global relationship between absolute size and growth trends at regional levels. A notable example can be derived from the African continent. Hence, while the entire African share of the world value-added by construction in Fig. 1 is miserably small in contrast to its mammoth land mass, its corresponding growth trends shown in Fig. 2 are considerably significant. This again invokes the north–south phenomenon where Fig. 2 indicates clearly a greater concentration of regions with higher growth trends in the southern hemisphere. This observation seems to suggest the determined efforts put in by the predominately developing countries in the south to generate economic development through a policy of rapid investment in construction programmes over a short-term period.

Summations over the 15-year period revealed North America as the largest regional
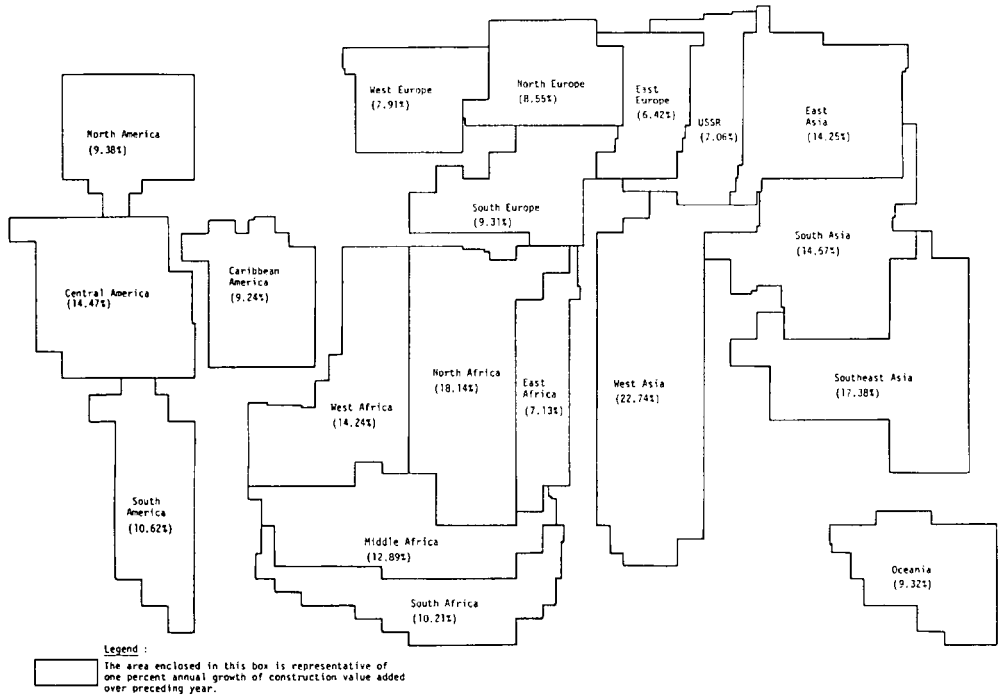
Fig. 2. Average annual percentage growth of value-added by construction over preceding year between
1970 and 1984 for 19 global regions.

market followed by Western Europe and East Asia, with estimated values of
US$1 736 718.83 million, US$1 348 541.15 million and US$1 151 011.12 million, respec-
tively. The massive market of the USA in North America, the congregation of advanced
industrialized countries in Western Europe and the significant presence of Japan in East Asia
appear to be plausible reasons that account for their respective positions as the top three in
the league table. After taking into account inflationary effects and conversions to 1980
constant prices, there appears to be a general increase in construction volume throughout all
the 19 regions over the time period considered. However, there are also signs of a downward
trend in volume terms for most regions after 1980 and beyond, indicating the macro
influences on construction of the global recession which set in at about this time.

From Fig. 1, a focus on the European continent shows Western Europe to be the largest
market with a clear lead over the USSR, Southern Europe, Northern Europe and Eastern
Europe in second, third, fourth and fifth positions, respectively. The results of the analysis
show that while there has been a decline in construction volumes in Western, Southern and
Northern Europe after 1980, the socialist bloc of Eastern Europe and the USSR seems to
have an unabated upward trend, apart from a slight dip in Eastern Europe between 1980 and
1981, following the onslaught of the recession in the early 1980s.

Turning now to the Asia and Pacific region, analysis reveals East Asia as the largest
market with Japan's significant presence in this region playing a major role. West Asia, which
consists of the oil-rich countries of the Middle East, takes second position, but nevertheless
appears to be on the path of a downward trend since 1982. South Asia, South East Asia and

Oceania take third, fourth and fifth positions respectively as of 1984. The recessionary effects of the early 1980s seem to have either a negligible or a lagged impact on the various regions within Asia and the Pacific.

The clear domination by the North American market in the American region is also clearly evident in Fig. 1. The strength of this market can be seen through both its absolute volume and its unreceding growth throughout the 15-year period considered. It is interesting to note its gradual ascent without a single occurrence of decline unlike the leading regions of all the other main regional classifications. The second largest market in the American region lies in South America which, as Fig. 1 indicates, is significantly very much smaller than its North American counterpart. Central America constitutes the third largest market, tailed closely by Caribbean America as the smallest construction market in the entire American region.

Figure 1 also shows the African continent divided into five separate regions with North Africa surging ahead as the largest regional market in Africa. The presence of Algeria and Libya as two major oil-exporting countries, as well as Egypt, plays a decisive role in lifting North Africa ahead of all the other African regions. West Africa follows in second position with Nigeria as the only oil-producing country. Southern Africa takes third place with South Africa, as the only industrialized country in Africa, playing a major role for the region's performance. East Africa and Middle Africa are in fourth and fifth positions, respectively. Internal strifes (e.g. in Angola, Uganda, Chad, etc.) and natural catastrophes (e.g. in Ethiopia), which frequently occur within East and Middle Africa, probably account for the regions' lack of aggressive investments in construction-related activities.

Regional growth rates

Turning now to Fig. 2, which deals with regional average annual percentage growth rates, focus in Europe reveals Southern Europe with the highest average annual growth rate (9.31%) among the five European regions considered. The countries taken into account for computations in Southern Europe include Albania, Greece, Italy, Malta, Portugal, Spain and Yugoslavia. Apart from Italy and Yugoslavia, the other countries within this southern region appear to be less influential than their other European neighbours. The continuity of further developmental efforts in these countries may perhaps explain why the highest average annual growth rate in Europe was recorded in Southern Europe. Growth rates, in descending order, for Northern Europe, Western Europe, the USSR and Eastern Europe are 8.55, 7.91, 7.06 and 6.42%, respectively. At 6.42%, Eastern Europe, comprising Bulgaria, Czechoslovakia, East Germany, Hungary, Poland and Romania, has the lowest growth rate in relation to all other global regions of the world.

Considering the regions in Asia and the Pacific, analysis revealed average annual growth rates, in descending order, for West Asia, South East Asia, South Asia, East Asia and Oceania to be 22.74, 17.38, 14.67, 14.25 and 9.32%, respectively. At the top end of this scale, the large number of Middle Eastern oil-producing countries that go to make up West Asia, propelled the regional growth rate at a pace faster than any other region in the world. At 22.74%, West Asia leads the world in terms of contracting opportunities. This, undoubtedly, confirms the reports of many others who have documented the hive of construction activities in West Asian countries such as Bahrain, Iraq, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Syria and the United Arab Emirates in the 1970s. A comparison of regional values also indicates the above-average performance of South East Asia, South Asia and East Asia; all

with average annual growth rates above 14%. At the lower end of the Asia and Pacific continuum lies Oceania, an area comprising Australia, New Zealand, Melanesia, Micronesia and Polynesia. Apart from both Australia and New Zealand, which are developed nations, most other sovereignties within Oceania remain, at best, obscure entities spread over a large and generally inaccessible geographical area.

In the case of the American region, the average annual growth rates, ranked in descending order, for Central America, South America, North America and Caribbean America are 14.47, 10.62, 9.38 and 9.24%, respectively. The large number of diverse and predominately less-developed countries in the four regions considered, however, create considerable problems and hence preclude a meaningful analysis and interpretation of the growth values promulgated therein.

In conjunction with Fig. 2, analyses for the African continent revealed North Africa with an average annual growth rate of 18.14%, the highest in Africa and second highest among all the regions in the world. As noted earlier, intensive levels of construction activities in Algeria, Libya and Egypt perhaps account for this extraordinary performance despite a consideration of only six countries in this region's computations. West Africa, Middle Africa, South Africa and East Africa yield average annual growth rates of 14.24, 12.89, 10.21 and 7.13%, respectively.

Figure 3 summarizes each region's average annual growth rate in relation to the global average annual growth rate. From computations of current market prices between 1970 and 1984, the world average annual percentage growth rate was found to be approximately 9.75%. It can be seen from Fig. 3 that 10 regions have average annual growth rates greater than the global growth rate. In contrast, there are nine regions that have their average annual growth rates falling below the global growth rate. At both extremes, there are West Asia and Eastern Europe, whose average annual growth rates are 12.99% above and 3.33% below the global growth rate, respectively.

Regional contributions to the increase of global construction volume

From a marketing point of view, the absolute size and relative growth of each region are two important criteria that management must consider in adjudicating the attractiveness or otherwise of each regional market. However, in considering the global construction volume in its entirety, these criteria do not reflect the contributions made by each region towards the global volume increase over a specific time period. Because the world is made up of a sum of all the regions, it would therefore be of interest to proceed along these lines using the analogous technique of shift-share analysis adopted by some regional and urban economists.

Between 1970 and 1984, at current market prices, the world value-added in construction has grown by approximately US$518 275.01 million. This increase can be attributed to the respective growth in each of the 19 regions over the same time period. In similar vein, the increase in construction volume between 1970 and 1984 for each of the 19 regions can be calculated. By dividing each regional growth in volume by the global increase in volume, the percentage contribution to the increase of world value-added in construction by each region can be obtained. The computed results for all the 19 regions are summarized in Fig. 4. If the increase in construction volume in a particular region contributes a larger percentage share to the overall growth of world construction volume over a time period, then that region can be said to offer a better market proposition for a global corporation. The percentage
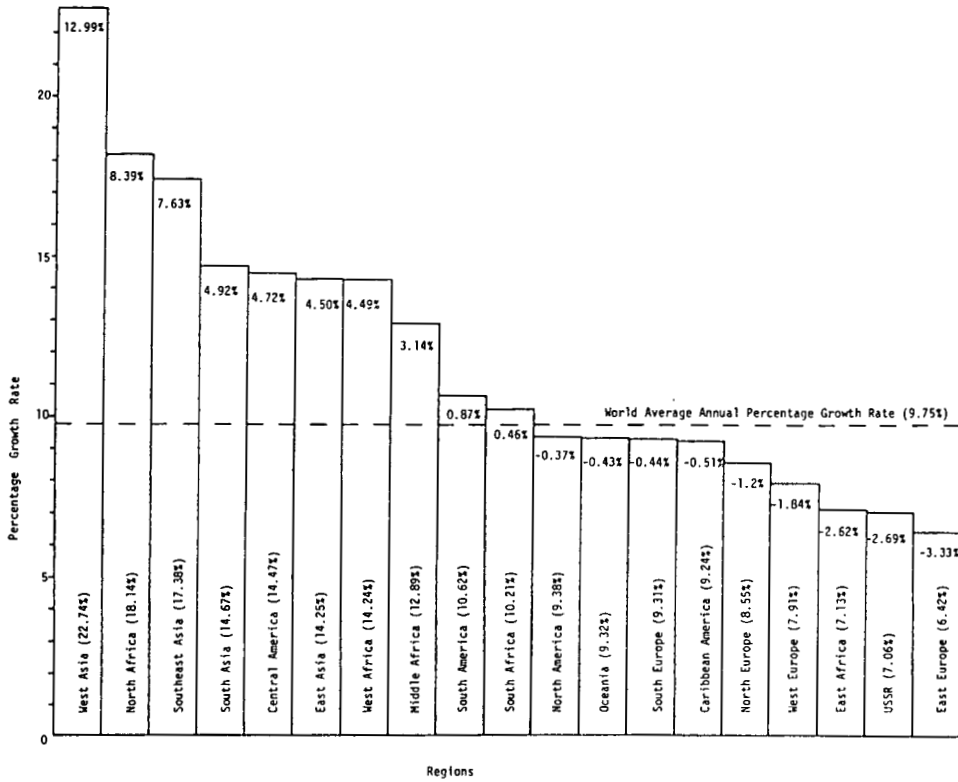
Fig. 3. Regional average annual percentage growth of value-added by construction over preceding year between 1970 and 1984. *Note*: The value at the top of each bar represents the excess or shortfall of that region's percentage growth rate over that of the global growth rate.

contributions to the increase of world construction volume mirror the surplus marketing opportunities attributed to one region relative to another.

From Fig. 4, it can be seen that North America provides the largest contribution to the increase of world construction volume between 1970 and 1984 (at 25.59%). This contrasts sharply with Middle Africa, which has the smallest contribution at 0.16%. Read together, both Figs 2 and 4 yield some very interesting results. For example, while the growth rate of North America (Fig. 2) is only 9.38% (which is below the world average annual percentage growth rate), its contribution to the increase of global construction volume over the same time period (Fig. 4) has been significant at 25.59%. On the other hand, while West Asia has the highest growth rate (22.74%: Fig. 2), its contribution to the increase of global construction volume is only 5.66% (Fig. 4).

A global summary of regional construction

The task remains to demonstrate the proportionality impact of each region's percentage share of global construction volume. This is shown in Fig. 1. As a result, the visual effects postulated clearly point to the vast differences between regions at both extreme ends of the
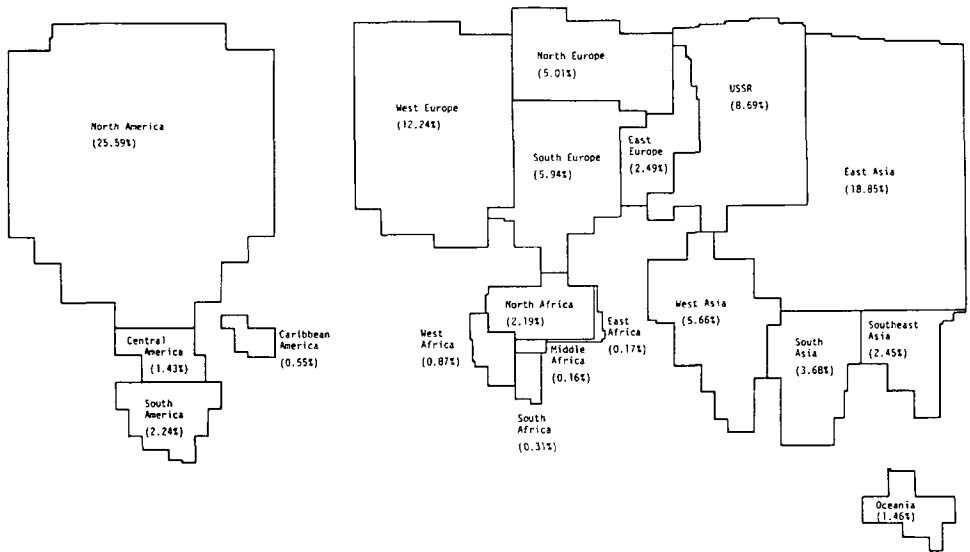
Fig. 4. Regional percentage contribution to increase of world value-added by construction between 1970 and 1984. *Note*: (1) Let the entire enclosed area of the map = 100 (i.e. world value-added growth between 1970 and 1984). (2) Let the area of each region represent its percentage share in the above, i.e.

$$\text{Percentage share} = \frac{\Delta R_x}{\Delta \sum_a^x R} \times 100\% = \frac{(\text{regional value in } 1984 - \text{regional value in } 1970)}{(\text{global value in } 1984 - \text{global value in } 1970)} \times 100\%$$

continuum. A distinctive contrast can be made between the North American region having the largest global percentage share and of Middle Africa having the smallest global percentage share.

The overall analysis at regional level highlights a further phenomenon. Naturally, a large market in construction value-added terms will logically yield a correspondingly high percentage share of the world construction volume for that market. However, as the analysis carried out here has revealed, this may not necessarily generate yet another corresponding high growth rate. Table 1 summarizes this clearly. Apart from North Africa, which has the highest percentage contribution to the increase of world value-added by construction, the highest average annual growth rate and the largest percentage share of global construction volume in Africa, all other main regional classifications project different tendencies. Hence, in the main regional classification of Asia and the Pacific, while East Asia has both the largest percentage contribution to the increase of world value-added by construction as well as the largest percentage share of global construction volume, it is West Asia that ultimately provides the highest average growth rate over the preceding year.

Acknowledgements

Table 1. A summary of the leading regions in each main regional classification according to levels of disaggregation

Levels of disaggregation	Main regional classification			
	Europe and USSR	Asia and Pacific	America	Africa
Percentage shares of world construction volume (see Fig. 1)	Western Europe	East Asia	North America	North Africa
Average annual growth rates over preceding year (see Figs 2 and 3)	Southern Europe	West Asia	Central America	North Africa
Percentage contribution to increase of world value-added by construction (see Fig. 4)	Western Europe	East Asia	North America	North Africa

exercise. None the less, any inconsistencies or possible oversights that remain, rest naturally with the author alone.

Reference

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