
ASPECTS OF CAPITAL BUDGETING DECISION-MAKING PROCESS OF EMERGING MARKETS TRANSNATIONAL CORPORATIONS

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Considers present-day aspects of capital budgeting decision-making in investment projects by transnational corporations (TNCs) in emerging markets. Discusses peculiarities of cash flows of TNC mother and project companies which influence the decision-making in project investment. A number of effective valuation techniques for multicurrency projects has been proposed, taking into account adjustments for various factors.

Key words: TNC, emerging markets, capital budgeting decision-making process, investment projects, multicurrency projects, APV model.

Transnational corporations (TNCs) sit at the intersection of production, international trade, and cross-border investment. A transnational corporation is “an enterprise that engages in foreign direct investment (FDI) and owns or controls value adding activities in more than one country” [1]. TNCs have two unique characteristics. First, they coordinate economic production horizontally and vertically among a number of various entities and internalize this coordination process within a single company structure. Second, a significant portion of the economic transactions connected with this coordinated activity takes place across national borders. These two features distinguish TNCs from other companies. While many firms control and coordinate the production of multiple enterprises, and while many other firms engage in economic transactions across borders, TNCs are the only ones that coordinate and internalize economic activity across national borders.

Whilst development of TNCs of developed countries started since XIX century, emerging market TNCs are relatively new players on the foreign investment landscape.

These are companies in developing or transition economies that have begun to internationalize through exports, foreign sourcing and direct investment. By 2008, the annual outward foreign direct investment (FDI) flows from emerging markets neared \$350 billion. While this was small compared to the \$1.51 billion outflow from developed countries, it was comparable to the amounts facilitated by private equity firms, which at its peak involved deals worth \$470 billion (2007) [2]. Among Hong Kong, China, India, Republic of Korea and other top-12 emerging economies, Russian Federation leapt from 2.35% share of world FDI outflows in 2000 to 20.10% share in 2009 with \$460.57 billions [3].

For all emerging market TNCs, like those originated from Russian Federation, the foreign investment decision-process and valuation of international projects is rather new exercise compared to TNCs of developed countries. Foreign investment decision-making process significantly differs from assessment of domestic projects. For international projects the required steps in addition to traditional analysis of investment projects would be: the assessment of the political climate and economy in the host country, examina-

tion of differences in tax systems and international taxation, restriction on remittance of funds, risk analysis, including foreign-exchange risk and business risks, and their accumulative effect on required rate of return.

In variety of different investment project and portfolios that TNC runs, it is offered different instruments of valuation and assessment of economic efficiency.

For single currency projects that do not engage in any foreign transactions the value of purely domestic firm is commonly specified as the present value of its expected cash flows,

$$V = \sum_{t=1}^n \frac{E(CF_{S,t})}{(1+k)^t}, \quad (1)$$

where $E(CF_{S,t})$ — expected cash flows to be received at the end of period t minus funds needed to pay initial investments or reinvestments, expenses and taxes; n — number of periods into the future in which cash flows are received; k — weighted average cost of capital (WACC), and also the required rate of return by investors and creditors who provide funds to the TNC.

However, due to the fact that a significant portion of the economic transactions connected with TNC activity takes place across national borders the expected cash flows generated by TNC parent based in Russian Federation may be coming from various countries and may, therefore, be denominated in different foreign currencies. Multicurrency cash flows occur not only as a result of different types of international business described earlier, but also due to exporting, licensing, marketing agreements. In addition, it may receive remitted earnings from its foreign subsidiaries.

In case of international project, the parent will denominate the foreign currency cash outflows and inflows which form expected cash flows to its local currency. Thus, the expected rouble cash flows to be received at the end of period t are equal to the sum of the products of cash flows denominated in each currency j times the expected exchange rate at which currency j could be converted into dollars by the TNC at the end of period t [4]:

$$E(CF_{S,t}) = \sum_{j=1}^m [E(CF_{j,t}) \cdot E(S_{j,t})], \quad (2)$$

where $E(CF_{S,t})$ — expected cash flows from multicurrency projects brought to local currency; $CF_{j,t}$ — the amount of cash flow denominated in a particular foreign currency j at the end of period t ; $S_{j,t}$ — the exchange rate at which the foreign currency can be converted to local currency at the end of period t .

Thus, the general formula for estimating the local currency cash flows to be received by TNC from multiple currencies in one period will be presented as portfolio of currency cash flows, one for each currency in which it conducts business [5]:

$$V = \sum_{t=1}^n \frac{\sum_{j=1}^m [E(CF_{j,t}) \cdot E(S_{j,t})]}{(1+k)^t}, \quad (3)$$

where $\sum_{j=1}^m [E(CF_{j,t}) \cdot E(S_{j,t})]$ — is purely expected cash flows from multicurrency projects brought to local currency, as described above; k — weighted average cost of capital for the TNC, including all of its subsidiaries across national borders and international projects.

The particular case of the generalized formula is a valuation method applied to TNC that does business in two currencies:

$$V = \sum_{t=1}^n \frac{E(CF_{j1,t}) \cdot E(S_{j1,t}) + E(CF_{j2,t}) \cdot E(S_{j2,t})}{(1+k)^t}, \quad (4)$$

where $j1$ — currency of first country; $j2$ — currency of second country.

Capital budgeting analysis for a foreign project is considerably more complex than domestic case for a number of reasons including [6]:

- differences in parent and project cash flows;
- parent cash flows often depend on the form of financing — so that cash flows cannot be clearly separated from financing decisions as is done in a purely domestic capital budgeting,
- remittance of funds to parent is compounded by different tax systems, legal and political constraints on funds movement, financial markets and institutions. According to economic theory, the value of a project is determined by the net present value of future cash flows back to the investor. Therefore, parent company should value only those cash flows that can be repatriated net of any transfer costs,
- cash flows from affiliate to parent can be generated by an array of operational or financial or non-financial payments, e.g. fees, royalties, transfer pricing, etc;
- different rates of national inflation introduce changes in competitive position;
- unanticipated changes in foreign exchange rates have direct and indirect effects on costs, prices, and sales volume,
- transaction across segmented national markets may create opportunities for financial gains or lead to additional costs,
- availability of host government subsidized loans complicate capital structure decisions and appropriate WACC,
- political risks must be evaluated, and costs may be involved in the management of political risks,
- salvage value is more difficult to estimate, i.e., more uncertain salvage value.

All of these complexities associated with international project must be “quantified” as modifications to either expected cash flows $E(CF)$ or discount rate k .

The discount rate k presented in formulas (1), (3) and (4) is equal to WACC only in case when the financial structures and commercial risks are similar for all investments. As international projects might be financed through structures different from those of domestic projects (special concessionary loans, fees, royalties etc.), WACC has to be modified to reflect these deviations.

However, the complexities of international financial arrangements make the cost of capital technique, whereby all financing costs are embedded in a single weighted

average cost, too complicated to use. Therefore, classical economists [7] suggest using the Adjusted Present Value (APV) technique [8], which is a value additivity approach to capital budgeting. Each cash flow that is a source of value to the TNC is considered individually and discounted at a rate appropriate to the riskiness of the cash flow. The key idea is to separate operating cash flows from financing side effects and discount less-risky financing side effects by lower rates [9]:

$$APV = \sum_{t=1}^n \frac{X_t}{(1+k^*)^t} + \sum_{t=1}^n \frac{T_t}{(1+i_d)^t} + \sum_{t=1}^n \frac{S_t}{(1+i_d)^t} - I_0, \quad (5)$$

where X_t — the net cash after-tax cash flow in period t ; T_t — tax savings in year t due to debt financing; S_t — before-tax home currency value of interest rate subsidies (penalties); I_0 — the initial cash investment; k^* — the all-equity rate; i_d — before-tax cost of home currency debt.

In contrary to WACCk which is used to reflect debt and equity structure, the all-equity rate k^* in APV formula (5) above is applied if the project is financed entirely by equity. This rate is based solely on the riskiness of the project's anticipated cash flows and abstracts from the effects of financing. The all-equity rate is the required rate of return on a specific project, and equals to sum of risk-free rate k_{rfr} and risk premium.

According to the capital asset pricing model (CAPM), the market prices only systematic risks rather than total corporate risk.

$$k_x = k_{rfr} + \beta_x(k_m - k_{rfr}), \quad (6)$$

where k_x — cost of specific project x ; k_{rfr} — risk-free rate; β_x — a measure of the volatility, or systematic risk, of a project or a portfolio in comparison to the market as a whole [10]; k_m — expected market return.

Each project has its own required return and can be evaluated regardless of the firms other present or prospective investments, but accounting for specific risks. This is the primary advantage of the CAPM, especially in terms of value additivity concept which allows projects to be considered independently. So, k^* varies according to the risk of a specific project in a portfolio context.

To simplify international projects evaluation Alan Shapiro recommends a three-stage approach [11]:

- to compute project cash flows from the subsidiary's stand point;
- to shift to parent's perspective and evaluate the project to the parent;
- to account for indirect benefits and costs on the rest of the system.

In his research A. Shapiro also considers the valuation adjustments due to increased risks of the project. Economic and political risk adjustments include shortening minimum payback period, raising required rate of return and adjusting cash flows. Also, the valuation process should account for exchange rates and price changes by converting nominal foreign cash flows into home currency terms and discounting home currency flows at domestic required rate of return.

All of the described valuation methods give insight into complicated process of global economy and attempt to account for various assumptions and risks which TNC

may encounter. Due to their later origination it is crucial for the TNCs of emerging economies to use best world practice techniques in international capital budgeting decision-making process.

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ФАКТОРЫ ПРИНЯТИЯ ИНВЕСТИЦИОННЫХ РЕШЕНИЙ ТРАНСНАЦИОНАЛЬНЫХ КОРПОРАЦИЙ (ТНК) РАЗВИВАЮЩИХСЯ СТРАН

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Исследованы актуальные факторы принятия инвестиционных решений транснациональными корпорациями (ТНК) развивающихся стран. Рассмотрены особенности формирования денежных потоков для материнской и проектных компаний ТНК, которые влияют на принятие инвестиционных решений. Предложен ряд эффективных методик оценки мультивалютных проектов, включая корректировки на различные факторы.

Ключевые слова: ТНК, развивающиеся страны, принятие инвестиционных решений, оценка эффективности, мультивалютные проекты, скорректированная приведенная стоимость.