INTERNATIONAL REAL ESTATE ADJUSTED PRESENT VALUE MODEL

A discounted cash flow model analyzes the risks associated with real estate development in foreign countries.

by G. Hayden Green and Musa Essayyad

Many factors are pushing towards the globalization of real estate markets including countries finding conduits for their economic surpluses; achieving the benefits of international portfolio diversification; the serious pursuit of the European Economic Community to create a single, less intergovernmentally restricted market by 1992; plus expanding existing markets and exploring new markets. Real estate globalization and international integration are being bolstered by the emergence of a more peaceful coexistence between the West and the East; dramatic growth of international tourism and the need to satisfy tourists' needs by creating foreign resorts and entertainment projects; advancement in information technology and the proliferation of private international organizations and intergovernmental organizations with the capacity to insure against international risk, guarantee repatriations and coordinate monetary and financial systems.

As the market for real estate becomes increasingly global in nature, the development of a more accurate investment model that captures international risk becomes more important. All existing real estate evaluation models lack this international focus and assess only domestic risk. A review of the literature has failed to identify a generic model that incorporates the impact of international risk in the valuation of foreign real estate development opportunities. This article attempts to bridge this research gap

by proposing a modified real estate investment model that captures the international risk elements in the global real estate development market.

The model presented focuses on the real estate development process, however it is adaptable to the capital or investment sector of the real estate industry. To accommodate the real estate development life cycle, the risk assessment process is distinguished between short-term, medium and long-term risk. The dimensions that constitute foreign risk have different time horizons and affect different stages of the development process. By identifying these factors, the overall risk and its time horizon can be incorporated in the proposed model.

Review Of Foreign Risk

Political Risk

Political risk encompasses a wide range of events that can have a temporary impact on a real estate project's cash flow or can lead to outright expropriation of assets. Measuring political risk is primarily a qualitative endeavor; however, several quantitative techniques have been developed.[1]

Some countries have policies for foreign developers that are not required of domestic developers. These policies

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can range from outright prohibition of foreign development to the restriction of foreign developers from engaging in certain types of projects. Some countries require foreign developers to obtain a domestic partner for certain types of projects, while many countries prohibit foreign investors from exceeding certain investment thresholds.[2] Other countries impose no control on foreign investment in real estate, although they do require foreign investors to register their projects, which is often a bureaucratic and time-consuming process.

Labor strikes are common in some countries, while in certain particularly undeveloped countries material and transportation shortages are frequent occurrences, and the quality of workmen is not always equal to the standards expected in developed countries. The attitude of the people in a country can change regarding foreign investment in real estate; there also appears to be an inherent fear in many countries that foreigners will buy up the country.[3]

The most extreme type of a political risk is expropriation, or the seizure of foreign assets by a country, which may be accomplished by a partial or total blockage of funds from leaving the country or the actual seizure of the asset. Expropriation may creep in through the gradual imposition of arbitrary regulations and taxation and restriction on remittances and transfer pricing. The extreme example of expropriation is confiscation of the assets which implies seizure without compensation.

An evaluation of the economy of the host country can help in the estimation of the risk that restrictions may be imposed on foreign development or that assets of foreign developers may be expropriated. Several lessons have been learned from the international debt crisis of the 1980s. Some countries are more susceptible to external shock than others. Sudden changes in international interest rates or commodity prices have less impact on countries with a diversified export structure than on countries with a comparable level of development but a lopsided export structure.[4]

The nature of a country's economic policy and the degree of its economic growth are indications of whether the country will be able to meet its foreign debt obligations. In countries overburdened by debt, social and political tensions often arise and result in political instability and changes in foreign real estate investment policy.

During the project planning stages, foreign developers must evaluate a country's propensity to impose restrictions on real estate projects and its past and present discriminatory and restrictive practices. In addition to analyzing a country's economic policies, it is advisable for foreign developers to look at those factors that relate to the current and future capacity of a country to provide net foreign exchange. This ability is reflected in the country's economic and structural strengths as measured by gross national product (GNP) growth, investment ratio and efficiency and inflation rate and export growth. The country's interest rate differential, inflation rate differential, relative income differential and international capital flow also are important factors to consider.

Layers Of Taxation

Profits generated from development projects in foreign countries are subject to taxation by both the project's host country and the developer's home country. The type of income to be remitted to the parent company also must be considered because dividends, loans repayment interest and management fees may be taxed differently.

Some countries have multiple layers of taxation that affect real estate projects, while others have modest tax policies including the granting of tax holidays for as many as five or ten years. Many countries have tax treaties with other countries that include nondiscrimination clauses.

An international real estate developer should always check to see if his country has a tax treaty with his project's host country.[5] Because real estate investments are typically analyzed on an after-tax basis, it is also necessary for the developer to determine when and what taxes must be paid on the foreign investment and the form that the remittance takes. The foreign country's income tax requirements, tax treaties and withholding tax and foreign tax credits all are relevant.

The Foreign Exchange Risk

A country's exchange rate may be fixed, floating, managed float or pegged to another currency/currencies. In foreign real estate development there is often considerable difference between the cash flow of the project and the cash flow accruing to the parent firm. Evaluating the development project on the basis of its cash flow eliminates the possibility of misforecasting the exchange rates over time. This evaluation also is essential when working with local joint venture partners.

Unless the developer plans to reinvest the money in the host country, the earnings from foreign development activity also must be evaluated on the basis of the net present value of funds which actually are converted to the currency of the parent firm. The foreign real estate project should be analyzed as if it were a separate venture and then the amount, timing and form of transfers to the parent company should be determined to assess the impact of the foreign project on the company's overall performance.

The cash flows to the developer should not always be lumped together. It may be advantageous for management fees and interest from funds loaned by the parent firm to be separated from the net after-tax operating cash flows generated from the investment in order to isolate the profit centers of the development project. A foreign real estate investment that produces a marginal competitive capital investment yield may still be an acceptable project when management fees and other profit centers are considered. These profit centers normally are treated as operating costs that reduce the cash flow from the project and often are distinguished from joint venture profits. Separating the profit centers from the operating cash flows generated by the project also may provide the parent firm with diversification benefits.

Additionally, the effect of inflation on the cash flow must be determined to measure the impact of the exchange rate. Subsequently, the foreign currency cash flows should be converted into the parent firm's home currency and then discounted by the desired rate of return in the home country.

Adjusting The Discounted Cash Flow Model

Given the diverse and complex nature of international investment risks, whether political or economic, investors should require a rate of return commensurate with the degree of risk they are assuming. Therefore, the investment's required rate of return should be increased, and the cash flows of the project should be adjusted to reflect the specific impact of a given risk. Furthermore, due to the complex nature and unpredictability of international risk, the length of time required to recoup the initial investment becomes critical to the decision making process. Consequently, a payback period analysis should be employed concurrently with the discounted cash flow model to evaluate real estate investment in foreign nations. Surveys have shown that U.S. multinational corporations use multiple evaluation techniques, but they often use the payback period as a measure of risk, particularly for overseas investment projects.[6]

Given the nature of international risk, a combination of the discounted cash flow and payback period approaches is suggested. The approach discussed in this article integrates the internationally adjusted discounted cash flow model as devised by Lessard[7] and the discounted payback period model as proposed by Rappaport[8] to form an international real estate adjusted discount cash flow model.

The widely employed criterion based on the discounted cash flow framework is the standard net present value (NPV). Considering the effect of foreign exchange and taxes, the base-case NPV is defined as follows:

$$NPV = \sum_{t=1}^{n} \frac{(CF_t)(F_t)(1-T)}{(1+k)^n} - CF_0(S_0)$$

where: CF_t = Estimated cash flow in period t
F_t = Forward exchange rate for the period t, expressed in local currency
T = Tax rate
k = Discount rate
CF_0 = Initial investment at time 0
S_0 = Spot exchange rate at time 0, expressed in local currency

The standard net present value approach does not take into account, however, the financing cost of acquiring or developing real estate in foreign countries. Also, it ignores other items that are unique to foreign real estate investment and development. A discounted cash flow technique that is better adapted to accommodate these elements employs the adjusted present value (APV) model as defined by Myers:[9]

$$APV = NPV + PVF$$

where: APV = Adjusted present value
NPV = Base-case net present value
PVF = Present value of financing cost and benefits such as: cost of issuing securities to finance the development project, the interest tax shield that would be realized if foreign debt financing was used, the subsidized financing that might be offered by most host governments to boost a local economy, etc.

The NPV and PVF in the model also need to be modified to take into account the change in risk-adjusted discount rate (k*) over time. In real estate development each risk, whether domestic or international, has different time horizons, and different risks occur in different stages of the real estate development life cycle. It is during the strategic planning stage of the project that risk analysis initially takes place along with the conceptualization of the project, market and feasibility analysis, architectural design, capital and site optioning, permitting, etc. During the facilitation stage the land is bought, the structure is constructed and initial absorption has taken place. In the operational stage the property cash inflow matures. In the terminal stage the parent company liquidates the property at an appreciated or depreciated value.

Cash outflows or inflows associated with the different stages of the development life style are surrounded by risk, and uncertainties are generated from their own time horizons. Host government regulations on taxes, remittances, transfer pricing, rental control and exchange arrangements change with time, especially in the less developed countries of the Third World. Uncertainties are even more pronounced during the terminal stage of development when the fair market value of a project may be unrealizable due to the attitude of the host government.

Based on the assumption of perpetual cash-flow streams and permanent debt, Modigiliani and Miller in 1963 proposed the following formula to adjust the discount rate:

$$k^* = k(1-T^*L)$$

where: k = Opportunity cost of capital
k^* = Adjusted discount rate
T^* = Tax savings from debt
L = Proportional contribution made by the real estate project to corporate borrowing power

Miles and Ezzell in 1980 developed another formula:

$$k^* = k - Lk_DT^*[(1+k)/1+k_D)]$$

where: k_D = Cost of debt

Whether the Modigiliani and Miller or Miles and Ezzell model is employed in computing the adjusted discount rate k*, the arbitrage pricing theory is the preferred method of calculating the discount rate k. The arbitrage pricing theory is preferable to the capital asset pricing model in the real estate context because it eliminates many needless, restrictive assumptions, including the availability of a market portfolio which is irrelevant to real

estate investment.[10] The arbitrage pricing theory, in its *ex post* form, is expressed mathematically as follows:

$$k_j = E(k_j) + \sum_{i=1}^{n} \beta_{ji} [\varnothing_{ji} - E(\varnothing_i)]$$

where: k_j = Rate of return or the discount rate of jth property
$E(k_j)$ = Expected return on jth property
β_{ji} = Relationship between the i_{th} factor and the return of the j^{th} property
n = Systemic factors affecting the rate of return
$\varnothing_{ji}$ = Effect of i^{th} factor on return

The basic assumption underlying the arbitrage pricing theory is that the rate of return (discount rate) of a property is equal to the risk-free return plus a risk premium that is measured by the difference between the expected effect of economic factors and the unexpected effect of the same factors.

International Real Estate Adjusted Present Value Model

Capitalizing on the adjusted present value approach as developed by Myers, Lessard in 1979 extended the standard domestic version of the APV approach to foreign investments in the following format:

$$-CF_0 + \sum_{t=1}^{n} CF_t/(1+k^*)^t + \sum_{t=1}^{n} T_t/(1+i_d)t + \sum_{t=1}^{n} S_t/[1+i_d(1-tx)]^t$$

where: T_t = Tax savings in year t due to the specific financing package
S_t = Before-tax dollar value of interest subsidies (or penalties) in year t due to property-specific financing
i_d = Discount rate of the parent company
tx = Company's marginal tax rate

During the facilitation stage of the property development cycle, the calculation of the initial cash flow (CF_0) must be adjusted to account for specific country risk. To stimulate economic activities and attract real estate investors, some countries offer special concessions such as free land for the site of, say, tourist resorts. These benefits are treated as a reduction in CF_0. Here, in the calculation of CF_0 the initial property cash outflow consists of the estimated value of land and construction costs, including labor, materials and overhead. Interim financing cost and working capital also should be included in calculating CF_0. Working capital in the form of additional cash or non-real property assets needed in the construction of the property should be treated as a cash outflow at the time it occurs. At the operational or preferably at the terminal stage, however, the working capital investment presumably is recaptured and consequently is considered cash inflow. The net CF_0 should be expressed in terms of the parent company's local currency including any forward exchange rate impact on the conversion from interim financing to long-term financing.

Net cash inflows in the operational stage are estimated by preparing a pro forma income statement. Annual gross revenue is estimated with sensitivity analysis based on multiple scenarios of different vacancy rates for the property under consideration, its estimated credit losses, operating expenses, debt services and net tax liability (tax liability − tax savings). Concessionary benefits granted by the host country should be discounted here. These benefits include obtaining loans at concessionary terms. Based on judgmental forecasting of the direction of political and economic risks of the host country, certainty equivalents may be assigned to the estimated net cash inflows. These inflows, as well as foreign taxes and the parent company's local taxes, should be expressed in the parent company's local currency.

The following model takes into account most of the possible remittable cash flows to the parent company:

$$\begin{aligned}
IREAPV = &- CF_0(S_0) + \sum_{t=1}^{n} \frac{[CF_t(F_t)][1-tx_t]}{(1+k^*_t)^t} \\
&+ \sum_{t=1}^{n} \frac{[T_t(F_t)]}{(1+i_{dt})^t} + \sum_{t=1}^{n} \frac{S_t(F_t)}{[1+i_{dt}(1-tx)^t]} \\
&+ \sum_{t=2}^{n} \frac{WC_t(F_t)}{(1+k^*_t)^t} + \sum_{t=1}^{n} \frac{(USL_t - CL_t)(F_t)}{(1+k^*t)_t} \\
&- \sum_{t=1}^{n} \frac{BLF_t(F_t)}{(1+k^*_t)^t} - \sum_{t=1}^{n} \frac{(TRPH_t - TRPL_t)(F_t)}{(1+k^*_t)^t} \\
&+ \frac{[(TV_n - BV_n)(F_n)][1-txcgn]}{(1+k^*_n)^n}
\end{aligned}$$

where: IREAPV = International real estate adjusted present value
S_0 = Spot exchange rate of the foreign currency in terms of local currency
T_t = Net tax liability
F_t = Forward exchange rate at time t
S_t = Before-tax dollar value of interest subsidies (or penalties)
k^*_t = Discount rate which is adjusted for that particular kind of risk at time t
WC_t = Working capital that is recaptured during period t
USL_t = U.S. lending rate at time t
CL_t = Concessionary lending rate at the host country at time t
$USL_t - CL_t$ = Difference between the high U.S. lending rate and the host country's concessionary rate, the difference being an indirect benefit
BLF_t = Funds blocked from being remitted out of the host country at time t
$TRPH_t$ = Transfer pricing at the country imposing the high tax rate at time t

$TRPL_t$ = Transfer pricing at the country imposing low tax rate

$TRPH_t - TRPL_t$ = Transfer pricing advantage that the parent company would lose because the host government is imposing restrictions on transfer pricing

TV_n = Property's realizable market

BV_n = Book values of the property

^{tx}cgn = Capital gains tax rate

The last term in the IREAPV equation accounts for the discounted value of the future realization market value of the property at the terminal stage of development. This value should be estimated considering the estimated selling price, selling cost, taxes on sales and balance due on mortgage loan(s). Cash flows from working capital that will be recaptured also can be discounted here. However, the probability of expropriation or confiscation by the host government should be estimated prior to this stage.

Internationally Adjusted Discounted Payback Period

Many U.S. and other multinational firms use multiple techniques in addition to or in lieu of the discounted cash flow model to evaluate the feasibility of foreign investment. In fact, the majority of Japanese firms do not utilize the discounted cash flow model; rather, they assess a project's profitability based on cash flow projections that include imputed interest charges on the investment in that project. The payback period also is used often by numerous multinational firms as a reasonably reliable means of reducing the unpredictable risks in foreign nations.

A combined IREAPV-PBP is used by the authors of this article to yield an internationally adjusted discounted payback period model (IADPBP). The standard payback period is the period np which satisfies the following equality:

$$\sum_{t=1}^{np} CF_t = CF_0$$

The discounted payback period is defined as the period np which satisfies the following equality:

$$\sum_{t=1}^{np} CF_t / (1 + k)^t = CF_0$$

This last equation indicates that the discounted payback period is the period during which the cumulative NPV of a property is equal to zero. It is adjusted to take into account the need to capture the effect of the adjusted present value and the international real estate adjusted present value as follows:

$$\text{IREAPV-PBP} = \sum_{t=1}^{np} \frac{[CF_t (F_t)]\ [1 - tx_t]}{(1 + k^*_t)^t}$$

$$+ \sum_{t=1}^{np} \frac{[T_t (F_t)]}{(1 + i_{dt})^t} + \sum_{t=1}^{np} \frac{S_t (F_t)}{[1 + i_{dt}(1\text{-}tx)^t]}$$

$$+ \sum_{t=2}^{np} \frac{WC_t (F_t)}{(1 + k^*_t)^t} + \sum_{t=1}^{np} \frac{(USL_t - CL_t) (F_t)}{(1 + k^*_t)^t}$$

$$- \sum_{t=1}^{np} \frac{BLF_t(F_t)}{(1 + k^*_t)^t} - \sum_{t=1}^{np} \frac{(TRPH_t - TRPL_t) (F_t)}{(1 + k^*_t)^t}$$

$$+ \frac{[(TV_n - BV_n) (F_n)]\ [1 - {}^{tx}cgn]}{(1 + k^*_n)^n} - CF_0 (S_0)$$

A Case Example

The following case example illustrates the application of the proposed international real estate adjusted present value model. The example employs a step-by-step approach to present and discusses the individual terms of the model. The final step calculates the net present value of all the terms of the model and evaluates the feasibility of the foreign real estate project.

The Case

M.E. International, Inc. (MEI-USA), is a U.S. commercial real estate development company that has foreign direct investment in Beijing, People's Republic of China, and offshore investment in Hong Kong. MEI-USA is considering expansion of its real estate investment overseas, particularly in other cities of the People's Republic of China. Specifically, MEI-USA is seriously looking into the possibility of building a multipurpose commercial building in Shanghai. Based on office space analysis, the proposed building would be leased to multinational corporations having business dealings in Shanghai. Some Japanese, German and British companies already have expressed interest in long-term leases with MEI-USA.

In addition to the People's Republic of China's guarantee through the National Bank of China, the company would be using lease agreements as collateral to secure a $U.S. 30 million, five-year Eurodollar floating rate note (FRN) pegged to the Hong Kong Interbank Offer Rate (HKIBOR). The current HKIBOR on U.S. dollar FRNs is 8 percent plus 2 percent to account for default risks of MEI-USA, MEI-Beijing, and the Chinese sovereign risk. It is anticipated that with the Chinese government's guarantee of the FRN, 100 basis points would be saved in the annual coupon payment. To lower further MEI-USA's effective cost of borrowing, it is assumed that the interest on the FRN would be adjusted every year rather than every six months. The interest rate on U.S. dollars is expected to rise or decline by 25 basis points a year, leaving the average nominal interest rate on the FRN unchanged. It has been assumed that the principal would be paid back in five equal annual installments.

To make the FRN appealing to potential investors, the investment banker recommended that the five-year note be in a bearer form rather than a registered form.

According to forecasts obtained from foreign exchange consulting services, it is expected that, given the purchasing power parity of the U.S. dollar vis-a-vis the Chinese yuan, the U.S. dollar would be appreciating by an average of 7 percent. MEI-USA would pay $20,000 during the

first year in consulting fees to the foreign exchange consulting firm.

Given the size and the nature of the issue (fixed-income note versus equities) and the favorable climate of the Asian capital market, MEI-USA would capitalize on its Hong Kong networks by utilizing the expertise of a prominent investment banker at the Hong Kong off shore banking center to underwrite the issue for a total flotation cost of 1.1 percent of the issue. This figure includes 1 percent of the investment banker's underwriting spread and 0.1 percent for legal, accounting and printing expenses.

There is also a strong likelihood that the Chinese government would allow MEI to recover from its existing investments in Biejing a substantial amount of funds (50 million yuan) that had been blocked due to a past dispute over local labor policies.

According to the People's Republic of China's regulations, land cannot be owned; therefore, the land on which the proposed building would be erected would be leased from the government for 300 yuan/square meter or roughly about 30 yuan/square foot a year. However, the Chinese government would waive the land use fees for the first five years. It is anticipated that the site and building sizes would be 150,000 and 500,000 square feet, respectively.

Moreover, MEI-USA estimates that the initial construction cost of the multipurpose commercial building in Shanghai would be 300 yuans per square foot. The annual building operating expenses are estimated as follows: 60 percent at 40 yuans/square foot and 40 percent at 25 yuans/square foot. The company expects the net leasable area to be 455,000 square feet. Given the office space in Shanghai and the preliminary negotiation with the Japanese, German and British companies, MEI-USA forecasts that it would lease out 60 percent of the leasable area at 140 yuans/square foot and 40 percent at 90 yuans/square foot.

Based on negotiations with the principal foreign lessees, a forecast of local demand for commercial building space and the past experience of its Beijing subsidiary, MEI-USA estimates vacancy allowance at only 7 percent.

The current income tax rate in the People's Republic of China is 30 percent, plus a local surcharge of 10 percent and another 10 percent on income remitted out of the country by foreign enterprises. Nevertheless, MEI-USA would be able to apply for exemption from the surcharge upon application to the local authorities. Furthermore, the company would be taking advantage of new laws that make the income tax rate 15 percent in special economic development zones. Therefore, the net tax rate applicable to the company's income would be only 25 percent. Of particular importance here is that, to avoid double taxation, the People's Republic of China has concluded a tax treaty with the United States.

Depreciation in China is allowable for fixed assets and is calculated on annual straight line basis, with a residual value generally fixed at 10 percent of the cost. The minimum depreciable life of houses and buildings is 20 years, and capital gains arising from the disposal of fixed assets are taxable at 20 percent. Given the magnitude of political and economic risks in China, MEI-USA feels that the payback period should not exceed five years. Therefore, the company expects to sell the building at the end of five years at an estimated market value of 30 million yuan.

Based on different degrees of certainties associated with the materialization of different cash inflows, various discount rates will be utilized, the least risky being the recouping of the blocked funds. However, those funds will be collected at the initial stage and therefore will be deducted from the initial investment. The discount rates applicable to cash flows range from 14% to 16%; so the average of 15% will be used.

EXHIBIT I

The Initial Investment

Initial construction cost 500,000 square feet @ 300 yuan/square foot	yuan 150,000,000
Working capital needs @ 5%	yuan 7,500,000
Less blocked funds	−50,000,000
CF_0 in yuan	107,500,000
CF_0 in U.S.$ (yuan = U.S.$ 0.2687)	$ 28,885,250

The Solution

Step 1: Calculate the initial investment, CF_0, at the facilitation stage, with the spot rate of yuan = U.S.$ 0.2687 (see Exhibit I).
Step 2: Calculate the five-year net annual cash inflows in the operational stage (see Exhibit II).
Step 3: Calculate the total remittable cash flows to MEI during the operational stage (see Exhibit III).
Step 4: Calculate the net revisionary value of the building at the terminal stage, given the market price and the capital gains tax. Also, capture the working capital (see Exhibit III).
Step 5: Convert cash inflows in Steps 3 and 4 into U.S. dollars at the expected exchange rate of yuan/dollar (see Exhibit III).
Step 6: Calculate the adjusted present value and the payback period (see Exhibit IV).
Step 7: Based on Steps 5 and 6, evaluate the profitability of the project by discounting the different cash flows according to the international real estate adjusted present value model, using the applicable discount rates.

Conclusion

According to Exhibit IV, the adjusted present value is positive, and the discounted payback period does not exceed the five-year target. Hence, building a multipurpose commercial building in Shanghai, China, is a feasible project, and MEI-USA should be able to recoup its investment in 4.1 years.

Summary

This article presents a discounted cash flow model for analyzing foreign real estate development projects. The model takes into account political risk and foreign exchange risk, and it captures special tax considerations. The model analyzes these risks in different time horizons corresponding to the real estate development lifecycle. The suggested model provides adjustments for the initial cash outflow, cash inflows, the discount rate and holding period which are international real estate-specific.

NOTES

1. Saini, Krishan G. and Bates, Philip S. "A Survey of the Quantitative Approaches to Country Risk Analysis," *Journal of Banking and Finance* (No. 3, 1984): 342-55.
2. Salisbury, Bob. "The Real Estate Market in Australia." Presentation at FIABCI Annual Congress, Melbourne, Australia (May 1988).
3. Hitchcock, Douglas. "Real Estate in New Zealand." Address to the FIABCI International Conference, Melbourne, Australia (May 1988).
4. Schwietert, Aloys. "Country Risk Assessment: Swiss Bank Corporation Approach," *Economic and Financial Prospects,* Swiss Bank Corporation, Supplement (Feb-Mar 1988).
5. Freud, Nickolas S. "A Primer of United States Tax Considerations for the Foreign Investor," *Hastings International and Comparative Law Review* (Vol. 10, No. 2, Winter 1987): 289-346.
6. Kim, S.K. and Farraghez, E.J. "Current Capital Budgeting Practices," *Management Accounting* (Jun 1981): 26-30.
7. Lessard, Donald R. "Evaluating Foreign Projects: An Adjusted Present Value Approach," in, Lessard, Donald R. (ed), *International Financial Management* (Boston: Warren, Gorham and Lamont, 1979).
8. Rappaport, Alfred. "The Discounted Payback Period," *Management Science* (Jul-Aug 1965): 30-6.
9. Myers, Steward. "Interactions of Corporate Financing and Investment Decision," *Journal of Finance* (Mar 1974): 1-26.
10. Draper, Dennis W. and Findlay, M. Chapman. "Capital Asset Pricing and Real Estate Valuation," *AREUEA Journal* (Vol. 10, No. 2, Summer 1982): 184.

EXHIBIT II

Projected Revenue, Operating Expenses and Net Revenue (in Yuans)

	Year 1	Year 2	Year 3	Year 4	Year 5
Annual gross revenue 455,000 square feet × .60 × 140 yuan 455,000 square feet × .40 × 90 yuan	54,600,000	54,600,000	54,600,000	54,600,000	54,600,000
Vacancy allowance @ 7%	3,822,000	3,822,000	3,822,000	3,822,000	3,822,000
Operating expenses 455,000 × .60 × 40 yuan 455,000 × .40 × 25 yuan	15,470,000	15,470,000	15,470,000	15,470,000	15,470,000
MEI-USA's management and service fee @15% of the annual gross revenue	8,190,000	8,190,000	8,190,000	8,190,000	8,190,000
Foreign exchange forecasting fee	74,432	—	—	—	—
Depreciation	499,995	499,995	499,995	499,995	499,995
Debt Service flotation cost [$30 m × 1.1%]/0.2687 interest expense @ 10% (see Exhibit V)	1,228,136 11,164,868	9,603,842	7,202,881	4,801,921	2,400,960
Net revenue	14,150,569	17,014,163	19,915,124	21,816,084	217,045
Income tax @ 25%	3,537,642	4,253,541	4,853,781	5,454,021	6,054,261
Net revenue after taxes	10,612,927	12,760,622	14,561,343	16,362,063	18,162,784

EXHIBIT III

Total Remittable Cash Flows to MEI-USA

	Year 1	Year 2	Year 3	Year 4	Year 5
Net income after taxes (from Exhibit II)	10,612,927	12,760,622	14,561,343	16,362,063	18,162,784
Add-back depreciation	499,995	499,995	499,995	499,995	499,995
Operating cash flows	14,225,001	13,260,617	15,061,338	16,862,058	18,662,779
MEI-USA's management and service fees	8,190,000	8,190,000	8,190,000	8,190,000	8,190,000
Net tax savings (U.S. rate − Chinese rate)	1,273,551	1,531,275	1,747,361	1,963,448	2,179,534
Interest rate savings (100 basis points)	1,116,487	960,384	720,288	480,192	240,096
Revisionary value (market value − book value) less capital gains tax	—	—	—	—	22,000,020
Total remittable cash flows (yuan)	35,917,961	37,202,893	26,233,543	44,357,756	69,935,020
U.S.$ exchange rate	$ .2687	$ .2499	$ .2499	$ .2499	$ .2499
Total remittable cash flows	$ 9,651,156	$ 9,297,003	$ 6,555,762	$11,085,003	$17,476,808

EXHIBIT IV

Calculation of the Adjusted Present Value and the Discounted Payback Period

$$APV = -\$28{,}885{,}250 + \frac{9{,}651{,}156}{1.15} + \frac{9{,}297{,}003}{1.15^2} + \frac{6{,}555{,}762}{1.15^3} + \frac{11{,}085{,}003}{1.15^4} + \frac{17{,}476{,}808}{1.15^5} + \frac{7{,}500{,}000 \text{ yuan } (\$.2499)^*}{1.15^5}$$

$$= \$6{,}806{,}232$$

Discounted payback period = 4.1 years

*Working capital is converted at an exchange rate of $.2499

EXHIBIT V

Loan Amortization Schedule (in Million U.S. Dollars)

Year	Loan Outstanding	Interest	Principal Payment	Total
1	$30	$3.0	$6	$9.0
2	24	2.4	6	8.4
3	18	1.8	6	7.8
4	12	1.2	6	7.2
5	6	.6	6	6.6