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The Subtlety of Political Risk with Foreign Direct Investment: The Case of the Vietnamese Sugar Industry

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THE SUBTLETY OF POLITICAL RISK WITH FOREIGN DIRECT INVESTMENT: THE CASE OF THE VIETNAMESE SUGAR INDUSTRY

Tom Arnold, University of Richmond
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Janice Lo

Political risk entails more than a host country taking advantage of investment from foreign sources. A more subtle form of political risk is attributable to the host government's mismanagement of policies that may be intended to attract foreign direct investment, but may have unintended consequences. A perfect example is the "One Million Tonne Sugar Program" sponsored by the government of Vietnam during the mid-1990s. What appears to be a very lucrative investment for foreign investors becomes a financial disaster due to the inability of the government to allocate resources efficiently and police its borders from smugglers.

THE NATURE OF POLITICAL RISK

Foreign direct investment in any economy is a risky undertaking that is different from many other investments. Unlike the purchase of stocks and bonds where contractual obligations protect the rights of investors, a foreign government can potentially seize the investment for itself, extract additional money for infrastructure improvements not entirely related to the investment, solicit bribes, or create advantages for domestic participants in the industry. Clark (1997) provides a broad definition of "political risk" that captures all of these aspects of what can be problematic with foreign direct investment. Political risk is the probability of politically motivated changes (either explicit or ongoing change) that affect the outcome of foreign direct investment.

Consequently, in addition to the risk normally associated with the investment, the governmental structure and the existing legal system of the host country are a matter of concern. Many countries that desire foreign direct investment struggle with these specific issues. Further, it is not only an issue of making changes in the existing governmental/legal systems, but also an issue of determining whether the changes are credible. The "One Million Tonne Sugar Program" in Vietnam during the mid-1990s provides an instance in which a number of these factors can be examined concurrently[1].

The success/failure of the venture hinges on a government program to stop the importation of sugar into Vietnam and to make Vietnam a sugar exporter. The specific goal is to develop a sugar industry within Vietnam capable of producing one million tonnes of refined sugar by the year 2000. To make sugar production efficient, large mills are needed with nearby lands dedicated to the growing of sugarcane. Although the production of one million tonnes is met by 2000, the sugar industry was far from efficient or profitable.

SUGAR PRODUCTION AND THE ONE MILLION TONNE SUGAR PROGRAM [2]

To produce sugar efficiently requires economies of scale. The sugar mills must be large (crushing capacity of 350,000 tonnes of sugarcane) and the sugarcane must be "crushed" with as little delay as possible after being harvested to prevent sugar content loss. The solution for the latter issue is to simply have the sugarcane grown in an area very close to the mill. This prevents sugar content loss and reduces transportation costs. As to building large sugar mills, a licensure procedure that prevents the building of small inefficient mills insures the best use of resources.

The intention of the One Million Tonne Sugar Program was to build large mills throughout the country in economically poor areas. The government would provide infrastructure improvements and seek contracts from farmers to grow the sugarcane for specific mills. While the industry developed, protective import tariffs (as high as 70% above the world price of sugar) and quotas were imposed to create a domestic market for the new mills. Eventually, the mills would produce enough sugar to supply the country and allow for the export of sugar (about 20% to 25% of the output would sell on the world market, Saigon Times Daily 8/9/1999).

The mills were to be funded though loans indirectly from the government through state owned banks and through foreign direct investment. The benefit of the bank loans was that the state often forgave or refinanced loans in times of crisis. The disadvantage of bank loans was that government financing required semi-annual inspections in which bribes were often solicited.[3] Consequently, a joint venture with the government or having all funding provided by a foreign source carry (possibly offsetting) advantages and disadvantages.

Preliminary feasibility proposals for building new sugar mills were to be evaluated by the Ministry of Agricultural and Rural Development (MARD). Mills requiring investments over 100 billion Vietnamese dong (approximately 9 million U. S. dollars) need further approval by the Ministry of Planning and Investment, the Ministry of Finance, and eventually by the Prime Minister. As a result, smaller mills had fewer requirements for approval creating an incentive to not build large mills.

Overall, the incentives for building a sugar mill in Vietnam during the late 1990s are very compelling:

- A contracted constant supply of sugarcane
- Extension programs (primarily performed by large mills) to increase the sugar content of the sugarcane
- Improved infra-structure for the transportation of sugarcane from the fields
- A restrictive tariff that makes domestic sugar prices inflated and quotas to restrict imported sugar
- Potential for loans from government backed banks

With all of the government initiatives in place, the main decision for an investor is to determine the size of the sugar mill to be built.

An NPV analysis for a sugar mill that can crush 500,000 tonnes annually (based on industry standards from other sugar producing countries) is displayed in Exhibit 1.

Exhibit 1

NPV Analysis of Sugar Proposal[*]

DCF Analysis of Sugar Mill Project

Assumptions

Initial Capacity	3,000	TCD	Cost of Goods Sold	60%	
Expanded Capacity	4,000	TCD	Selling, General & Admin	10%	
Annual Output - Initial	55,890	tonnes	Value Added Tax (VAT)	10%	
			Tax Rate	25%	
Crushing Period	180	days	Discount Rate	10%	
Sugar Content	11.8%		Depreciable Life (years)	10	
Molasses Content	3.0%		Investment Outlay		
Mill Extraction Yield	90%		Initial ($ million)	30,000	
Mill Capacity Utilization	100%		Expansion ($ million)	10,000	
World Sugar Price (per ton)	$250		Financing		
Price of Molasses (per ton)	$40		Loan ($ million)	15,000	
			Interest Rate	10%	

($'000) Year →	1	2	3	4	5	6	7	8	9
Import Tariff	40%	40%	40%	40%	40%	40%	30%	20%	10%
Domestic Sugar Price ($/ton)	$350	$350	$350	$350	$350	$350	$325	$300	$275
Sales of Sugar	0	0	19,562	19,562	19,562	19,562	18,164	16,767	15,370
Sales of Molasses	0	0	972	972	972	972	972	972	972
Total Revenue	0	0	20,534	20,534	20,534	20,534	19,136	17,739	16,342
Cost of Goods Sold	0	0	12,320	12,320	12,320	12,320	11,482	10,643	9,805
Selling, General & Admin	0	0	2,053	2,053	2,053	2,053	1,914	1,774	1,634
Depreciation	0	0	3,000	3,000	3,000	3,000	3,000	3,000	3,000
EBIT	0	0	3,160	3,160	3,160	3,160	2,741	2,322	1,903
Value Added Tax	0	0	97	97	97	97	97	97	97
Interest Expense	0	750	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Tax	0	0	391	391	391	391	286	181	76
Profit After Tax	0	-750	1,172	1,172	1,172	1,172	858	543	229
Add Back Depreciation	0	0	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Free Cash Flow from Ops	0	-750	4,172	4,172	4,172	4,172	3,858	3,543	3,229
Continuation Value									31,641
Free Cash Flow	0	-750	4,172	4,172	4,172	4,172	3,858	3,543	34,870
Project Cost	30,000								
Net Free Cash Flow	-30,000	-750	4,172	4,172	4,172	4,172	3,858	3,543	34,870
NPV as of Year 1	1,458								

Notes

1. Initial project implementation is expected to take up to 2 years for completion.

2. Since Vietnam plans to eventually export sugar, import tariff is assumed to be gradually reduced: 10% reduction a year, starting from Year 7.

[*]Assumptions are based upon the sugar production standards in other sugar producing countries. The 10% discount rate is recommended by the International Financing Corporation. The 25% tax rate is drawn from the Economist Intelligence Unit and McKenzie and Pugh (1994). Note that in May 2003, the National Assembly unified the corporation income tax rate at 28%. Prior to 2003, it was 32% for domestic firms and 25% for foreign firms.

Exhibit 1

NPV Analysis of Sugar Proposal[*]

DCF Analysis of Sugar Mill Project

Assumptions

Initial Capacity	1,000 TCD		Cost of Goods Sold	60%
Expanded Capacity	4,000 TCD		Selling, General & Admin	10%
Annual Output - Initial	55,890 tonnes		Value Added Tax (VAT)	10%
			Tax Rate	25%
Crushing Period	180 days		Discount Rate	10%
Sugar Content	11.5%		Depreciable Life (years)	10
Molasses Content	6%		Investment Outlay	
Mill Extraction Yield	90%		Initial ($ million)	20,000
Mill Capacity Utilization	100%		Expansion ($ million)	10,000
World Sugar Price (per ton)	$250		Financing	
Price of Molasses (per ton)	$40		Loan ($ million)	15,000
			Interest Rate	10%

($'000) Year →	1	2	3	4	5	6	7	8	9
Import Tariff	40%	40%	40%	40%	40%	40%	30%	20%	10%
Domestic Sugar Price ($/ton)	$350	$350	$350	$350	$350	$350	$335	$300	$275
Sales of Sugar	0	0	19,562	19,562	19,562	19,562	18,164	16,767	15,370
Sales of Molasses	0	0	972	972	972	972	972	972	972
Total Revenue	0	0	20,534	20,534	20,534	20,534	19,136	17,739	16,342
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Selling, General & Admin	0	0	2,053	2,053	2,053	2,053	1,914	1,774	1,634
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EBIT	0	0	3,160	3,160	3,160	3,160	2,741	2,322	1,903
Value Added Tax	0	0	97	97	97	97	97	97	97
Interest Expense	0	750	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Tax	0	0	391	391	391	391	286	181	76
Profit After Tax	0	-750	1,172	1,172	1,172	1,172	858	543	229
Add Back Depreciation	0	0	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Free Cash Flow from Ops	0	-750	4,172	4,172	4,172	4,172	3,858	3,543	3,229
Continuation Value									31,641
Free Cash Flow	0	-750	4,172	4,172	4,172	4,172	3,858	3,543	34,870
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Notes

1   Initial project implementation is expected to take up to 2 years for completion.

2   Since Vietnam plans to eventually export sugar, import tariff is assumed to be gradually reduced 10% reduction a year, starting from Year 7.

[*] Assumptions are based upon the sugar production standards in other sugar producing countries. The 10% discount rate is recommended by the International Financing Corporation. The 25% tax rate is drawn from the Economist Intelligence Unit and McKenzie and Pugh (1994). Note that in May 2003, the National Assembly unified the corporation income tax rate at 28%. Prior to 2003, it was 32% for domestic firms and 25% for foreign firms.

The analysis considers the eventual removal of the restrictive tariff. The discount rate of 10% produces an NPV that is positive with an internal rate of return of 10.93%. The funding of the project assumes no state sponsored funding despite its possible benefits. Based on the analysis, the project is deemed acceptable and this is the same conclusion that many foreign and domestic investors reached. Consequently, a number of new sugar mills were built during this period.

THE RESULTS OF THE ONE MILLION TONNE SUGAR PROGRAM

By 2000, the program meets the one million tonne production goal with the emergence of 33 new sugar mills throughout the country in a five year period (44 mills total). The growing area for sugarcane increases from 150,000 hectares to 350,000 hectares[4]. Although larger mills are preferred due to economies of scale, most of the new mills are small because the approval process is much quicker (28 of 44; crushing capacity of less than 150,000 tonnes annually). Nine medium size mills (crushing capacity of 150,000 to 350,000 tonnes annually) and six large mills (crushing capacity in excess of 350,000 tonnes. 3 joint ventures between foreign investors and local governments and 3 completely owned by foreign investors) comprise the rest of the industry. Except for the large mills, most of the mills are owned by local governments or the central government.

The first difficulty faced by the sugar industry in Vietnam was that sugar prices plunged (see Figure 1) in the late 1990s.

The high import tariff and the ability to smuggle sugar over Vietnam's large border (approximately 3,000 kilometers or 1,864 miles) created massive stockpiles of domestic sugar as smuggling commenced (Mai, the Vietnam Investment Review, 5/4/1999; see Exhibit 2 for smuggling estimates).

A cycle began to develop in which the high domestic sugar prices encouraged smuggling, creating stockpiles of domestic sugar (160,000 tonnes report by Asia Pulse 11/26/1999, 280,000 tonnes reported by The Vietnam Investment Review 4/29/2002; the local market consumes roughly 750,000 tonnes of sugar annually). With large stockpiles of sugar, mills reduced output leaving farmers with sugarcane that they could not sell (one report of 500,000 tonnes of unsold sugarcane appears in Asia Pulse 3/14/2000). Stockpiles also created enough of an incentive for farmers not to grow sugarcane for fear of not being able to sell the sugarcane in the future (a reduction of 30,000 hectares of farmland devoted to sugarcane is reported by The Vietnam Investment Review 3/5/2001 for the 2000-2001 growing season). The cycle completed with sugarcane shortages that allowed mills to only run at 70% capacity (The Vietnam Investment Review 4/1/2002).

Economic difficulties within an industry are risks assessed prior to investment and failure is certainly not necessarily the fault of the host government. However, poor implementation of the program exacerbates the economic difficulties. First, the approval of small to medium-size inefficient mills (roughly 60% of the overall production of sugar) funded by government sources hurts the larger mills. The inefficient mills extract valuable resources and have no incentive to be efficient because the government will more than likely forgive/restructure debt (see Centre for International Economics report prepared for the World Bank (2001)).

Figure 1. Raw Sugar Prices

SUGAR(RAW) $/TONNE (1995-2003)
FROM 30/12/94 TO 4/9/03 WEEKLY
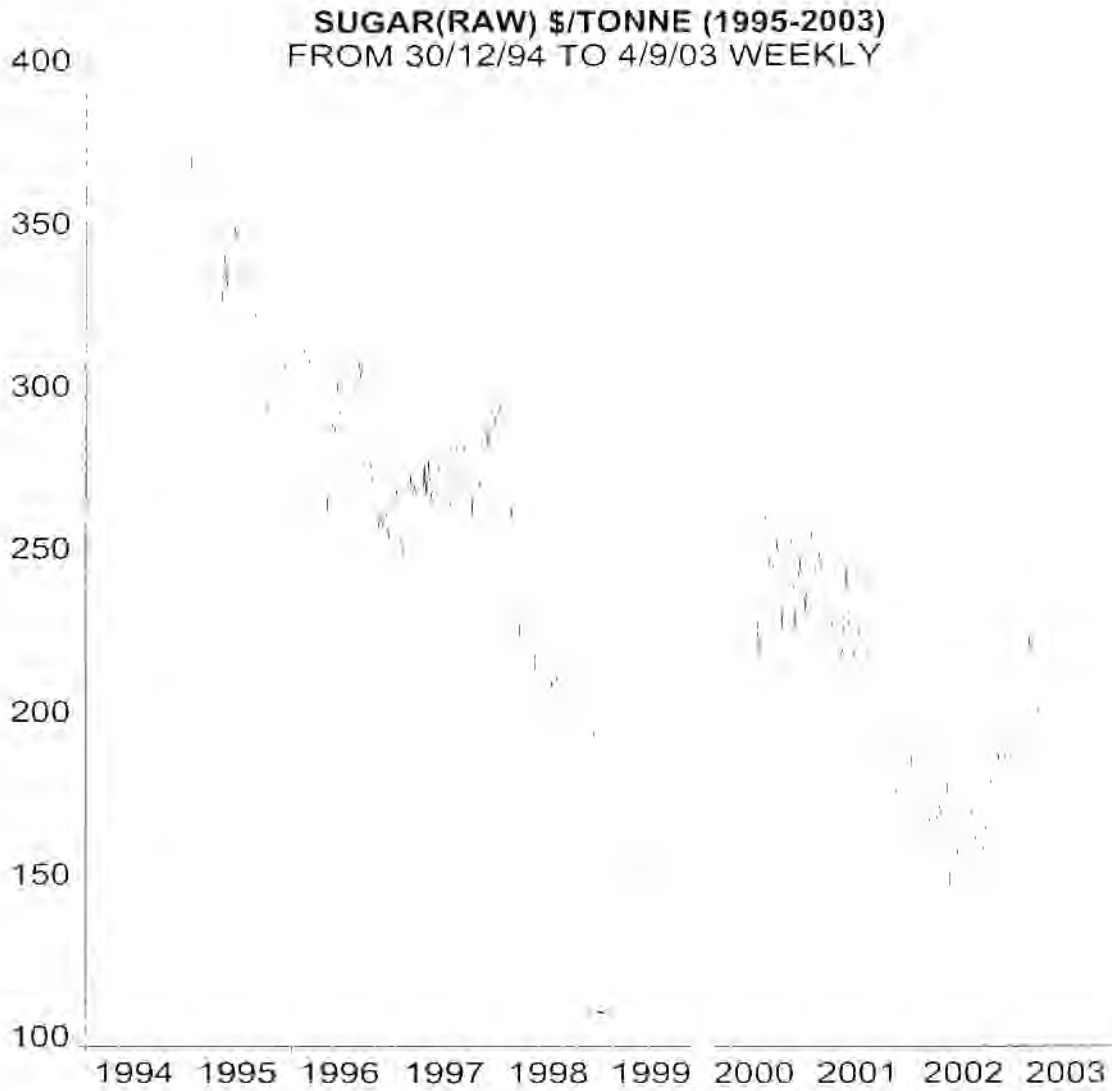
Source: DATASTREAM

Note: A tonne refers to a metric ton which is equivalent to 2,204.62 lbs.

Second, the government does not fulfill its obligations in regard to infrastructure improvements and contracting with farmers to grow sugarcane. Only 15% to 20% of the funds required for infrastructure improvements (primarily for building roads) are realized. Approximately 42% of the farmland designated for growing sugarcane is outside the original specified boundaries creating significantly higher transportation costs and more loss of sugar content within the harvested sugarcane. Furthermore, incidents of farmers selling sugarcane to a purchaser other than the designated mill occur (e.g. see Mai, The Vietnam Investment Review 7/15/2002).

Exhibit 2

Sugar Smuggling Estimates

Media Source:	Date:	Estimate:
Dow Jones Newswires	11/24/1999	300,000 tonnes in 1999
Asia Pulse*	11/26/1999	150,000 tonnes annually
Vietnam Investment Review	4/29/2002	1,000 tonnes daily
Vietnam Investment Review	1/06/2003	200,000 tonnes in 2002
Vietnam Investment Review	2/10/2003	100,000 – 200,000 tonnes annually

*Number confirmed by the Ministry of Agriculture and Rural Development (MARD)

Third, a protective tariff without the ability to secure borders results in sugar smuggling into Vietnam. Even if the borders are secured, the tariff does not encourage mills to become efficient and competitive. Although the reduction of the tariff is considered in the NPV analysis seen earlier, the assumption of the mill achieving full capacity after two years is effectively thwarted by the inability to obtain sugarcane due to reasons discussed in the previous two paragraphs. By 2002, many foreign investors were attempting to liquidate their investments or leave joint ventures altogether (Mai, The Vietnam Investment Review 7/15/2002).

ASSESSING POLITICAL RISK

What emerges from this case study is that political risk is more than a host country taking advantage of investment from foreign sources. Certainly, the host country's government can enact legislation that is specifically detrimental to foreign investors, but that is not the case with the sugar program in Vietnam. The Vietnamese government is unable to commission sugar mills of the appropriate size, contract farmers to grow sugarcane in the pre-specified regions, and provide appropriate infrastructure improvements. These are failings of the government implementing the sugar program and not direct legislation to extort money from foreign investors.

A second layer of risk emerges by the creation of policies that allow inefficient non-competitive sugar mills to be built and maintained. Because the state owned banks consistently forgive loans or restructure loans, the incentive for mills to be efficient by design or to strive for efficiency is lost. This is compounded by the import tariff that also thwarts competitive incentives to become efficient. Even if the government approves inefficient sugar mills, if left unimpeded, market forces will force the inefficient mills to cease operations. Because policies prevent the market to dictate efficiency, the small to medium size mills extract valuable resources from mills that have the capacity to be efficient.

A third layer of risk is the inability of Vietnam's legal system to patrol and punish sugar smuggling. The restrictive tariff was intended to protect the domestic sugar industry until it became viable. Unfortunately, because the Vietnamese border is so expansive, the tariff created an incentive for smuggling on a large scale. Numerous attempts to catch smuggling or to punish the use of smuggled sugar failed.

CONCLUSION

It is difficult to determine whether or not the sugar program would have been profitable for foreign investors, assuming sugar prices had not crashed during the late 1990s. After the introduction of the 1987 Foreign Direct Investment Act, Vietnam had been more productive and by many standards looked attractive for foreign direct investment (see figures in Appendix One). Crashing sugar prices are part of the risk of investment no matter where sugar mills are located.

However, the creation and perpetuation of non-competitive sugar mills would still be a factor because their existence prevents resources from being allocated to larger more efficient mills. Further, the restrictive tariff may still have encouraged sugar smuggling due to the inability to patrol the border. Ultimately, the political risk of investing in the sugar industry in Vietnam is due to several factors: the inability of the government to implement the stated objectives of the One Million Tonne Sugar Program, a banking/political structure that implements and maintains inefficiency, and an inability to patrol a large border to prevent smuggling.
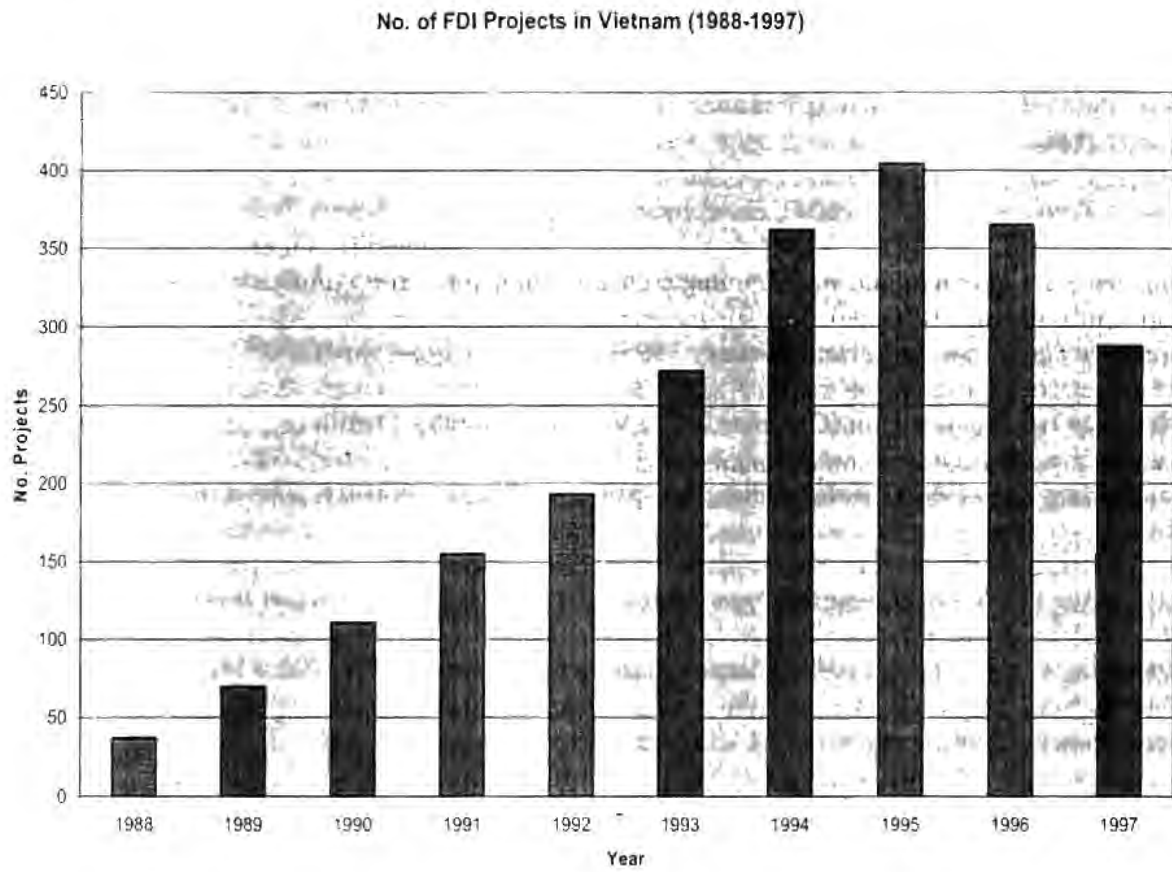
NOTES

1 A tonne refers to a metric ton which is equivalent to 2,204.62 pounds or 1.102 U.S. tons.

2 Except when otherwise specified, the background information provided for this paper is from a December, 2001 World Bank report by the Centre for International Economics entitled: *Vietnam Sugar Program, Where Next?*

3. See Economist Intelligence Unit Country Report on Vietnam for October, 2001, page 16.

4. A hectare is 2.47 acres

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APPENDIX
Foreign Direct Investment Statistics for Vietnam

Figure 1A. Number of Foreign Direct Investment Projects (1988 – 1997)

No. of FDI Projects in Vietnam (1988-1997)

Source: *Economic Development Review* (1998)

17

Figure 2A. Foreign Direct Investment Capital (1988 – 1997)

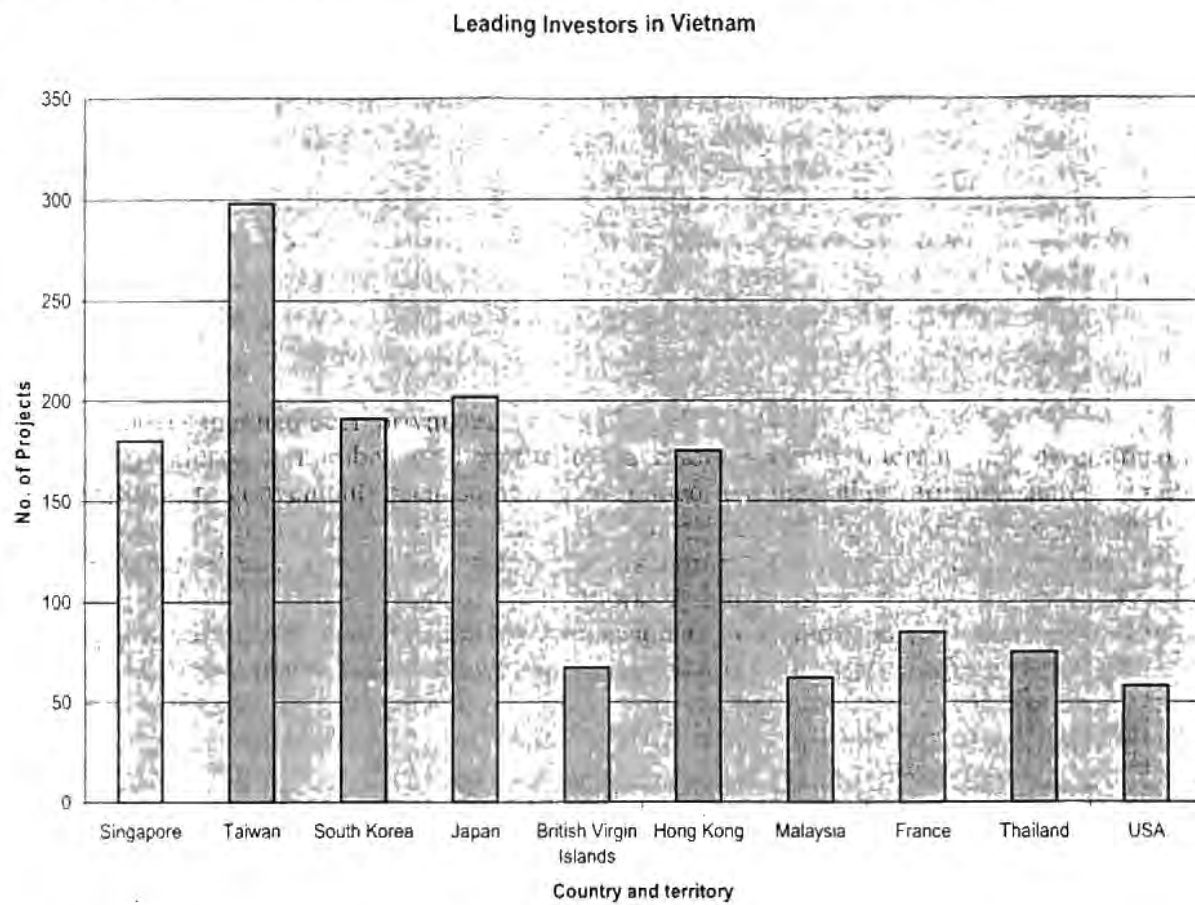FDI Capital in Vietnam (1988-1997)
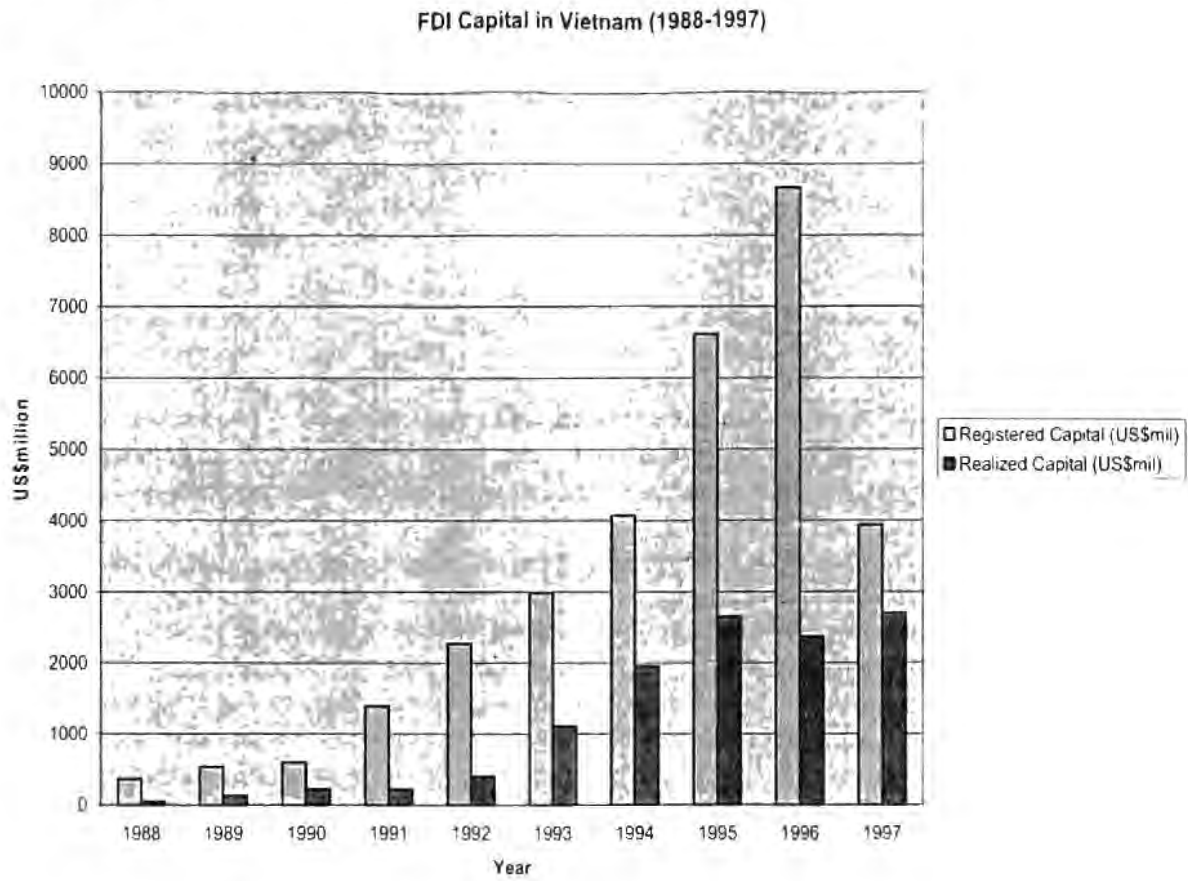
Source: *Economic Development Review* (1998)

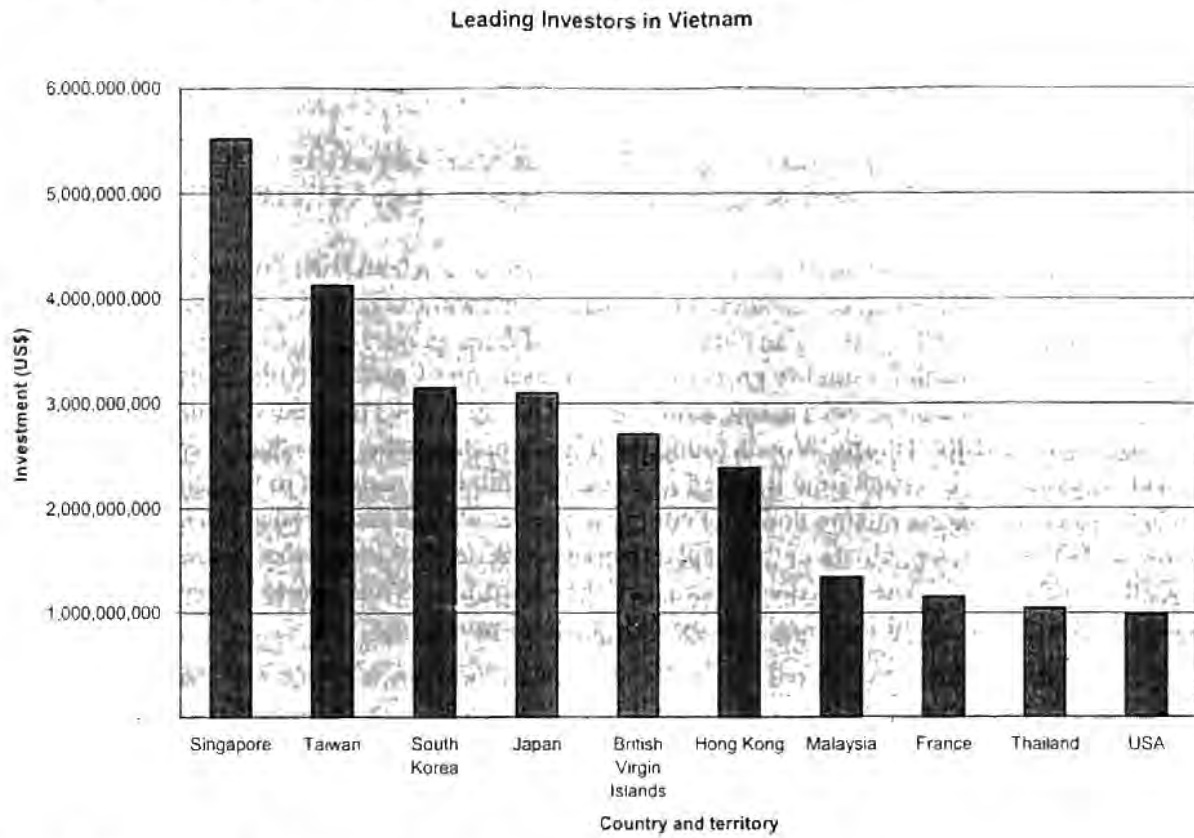Registered capital is the minimum value of committed capital nominated by foreign firms that receive a licence.

Realized capital is the amount foreign invested firms actually spend.

Figure 3A. Leading Investors (by Country) in Vietnam (Number of Projects)

Leading Investors in Vietnam

Source: *Economic Development Review* (1998)

Figure 4A. Leading Investors (by Country) in Vietnam (US$)

Leading Investors in Vietnam

Source: _Economic Development Review_ (1998)