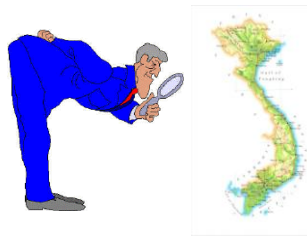


Development Policy

Lecture 14

Industrialization Strategy in Vietnam

James Riedel



Should Vietnam follow the Trail of the Tigers?

My first paper on VN's economy (published in 1993) asked the following question: Were the initial conditions in Vietnam in 1990 similar to those of other countries when they launched and succeeded with the Export-Oriented-Industrialization (EOI) Strategy?

Answer: Yes, the starting point in terms of per capita income was similar—all started from a low per capita income level.



Riedel, 1993, "Vietnam on the Trail of the Tigers," *World Economy*

Should Vietnam follow the Trail of the Tigers?

Was Vietnam's **human resource endowment** comparable to the other countries when they launched EOI?

Answer: Yes, VN's **human resource endowment** was as strong or stronger than the other countries

	<i>Taiwan 25–30 Years Ago</i>	<i>Thailand 15–20 Years Ago</i>	<i>China 15–20 Years Ago</i>	<i>Vietnam Most Recent</i>
Population mn.	11	41	916	66
Pop. Density pop./sq. km.	300	108	96	195
Population Growth Rate %	3.1	2.7	1.8	2.4
Age Dependency Ratio	0.92	0.92	0.78	0.79
Urban Pop. Growth Rate %	5.7	5.2	2.3	3.9
Rural Pop. Growth Rate %	1.5	2.2	–6.0	2.0

Source: IBRD, *Social and Economic Indicators*; Taiwan Statistical Data Book (1989).

Riedel, 1993, "Vietnam on the Trail of the Tigers," *World Economy*

Should Vietnam follow the Trail of the Tigers?

Were Vietnam's **human development indicators** comparable to other countries when they launched EOI?

Answer: Yes, VN's **human development indicators** were as strong or stronger than the other countries

	<i>Taiwan 25–30 Years Ago</i>	<i>Thailand 15–20 Years Ago</i>	<i>China 15–20 Years Ago</i>	<i>Vietnam Most Recent</i>
Infant Mortality Rate	—	55	46	42
Life Expectancy	63	60	65	67
Calories per capita	2390	2285	2070	2233
Enrollment Rate ^a				
Primary	97	83	135	102
Secondary	30	26	47	42
Tertiary	3	12	—	—
Illiteracy Rate ^b	30	7	27	16

Riedel, 1993, "Vietnam on the Trail of the Tigers," *World Economy*

Should Vietnam follow the Trail of the Tigers?

Was Vietnam's **natural resource endowment** comparable to other countries when they launched EOI?

Answer: Yes, like the other countries, VN's **natural resource endowment** was modest relative the size of its population

Indicators of Natural Resource Endowment

	<i>Taiwan</i> 25–30 <i>Years Ago</i>	<i>Thailand</i> 15–20 <i>Years Ago</i>	<i>China</i> 15–20 <i>Years Ago</i>	<i>Vietnam</i> <i>Most Recent</i>
Area thous. sq. km.	36	513	9561	332
Ag. Land/Total Area %	24	45	44	21
Ag. Pop. Density pop./sq. km.	629	240	219	934
Rice paddy yield kg./ha.	2495	3029	1910	3002
Forests thous. sq. km.	21	142	1389	98

Source: IBRD, *Social and Economic Indicators*; FAO, *Production Yearbook* (1990). Data for Thailand and China are for 1978–81 and for Vietnam are for 1990.

Growth of Rice Production, Yields and Area of Cultivation in Taiwan, Thailand and Vietnam

	<i>Production</i>	<i>Area under Cultivation</i>	<i>Yield</i>
Taiwan (1952–70)	2.5	–0.1	2.6
Thailand (1970–90)	1.7	1.7	0.0
Vietnam (1970–90)	3.1	0.9	2.2

Source: FAO *Yearbook*; Taiwan *Statistical Data Book* (1989).

Riedel, 1993, "Vietnam on the Trail of the Tigers," *World Economy*

Should Vietnam follow the Trail of the Tigers?

Was the structure of the economy in terms of **dependence on agriculture** similar to that of the other countries when they launched EOI?

Answer: Yes, similar, but VN's **dependence on agriculture** was somewhat greater than the other countries.

The Share of Agriculture in Employment, GDP and Exports

	<i>Taiwan</i>		<i>Thailand</i>		<i>China</i>		<i>Vietnam</i>	
	1960	1970	1970	1980	1980	1990	1985	1990
Employment	50.2	36.1	77.8	71.1	74.0	—	72.3	71.5
Value Added	32.9	18.0	28.3	25.4	37.1	27.2	37.4	32.5
Exports	12.0	8.6	67.0	41.0	25.4	7.2	—	75.0
Processed Ag.	(55.7)	(12.8)						

Sources: Taiwan *Statistical Data Book* (1989); Vietnam GSO (1991); IBRD, World Tables (computer files).

Riedel, 1993, "Vietnam on the Trail of the Tigers," *World Economy*

Should Vietnam follow the Trail of the Tigers?

Was the **level of industrialization** in VN comparable to the other countries that succeeded with EOI?

Answer: No, measured in terms of per capita production, Vietnam's **manufacturing sector was much less developed**. *But this may have been an advantage since industrial development under ISI was generally inefficient. It certainly was no disadvantage since EIO is very foot loose.*

Per Capita Production of Selected Manufactured Goods

	<i>Vietnam 1990</i>	<i>Taiwan 1960</i>	<i>China 1980</i>
Steel (kg)	1.5	28.3	37.8
Machine tools (10^{-4} units)	11.1	210.8	136.6
Chemical fertilizer (kg)	4.9	34.4	125.6
Elect. motors (10^{-3} units)	0.1	1.5	na
Elect. Fans (10^{-3} units)	2.8	18.5	7.4
Paper (kg)	1.2	7.5	na
Cotton Fabrics (metres)	4.7	16.0	7.6

Sources: *Vietnam GSO* (p.20); *Taiwan Statistical Data Book* (1989); IBRD, China: *Country Economic Memorandum* (1989).

Riedel, 1993, "Vietnam on the Trail of the Tigers," *World Economy*

Should Vietnam follow the Trail of the Tigers?

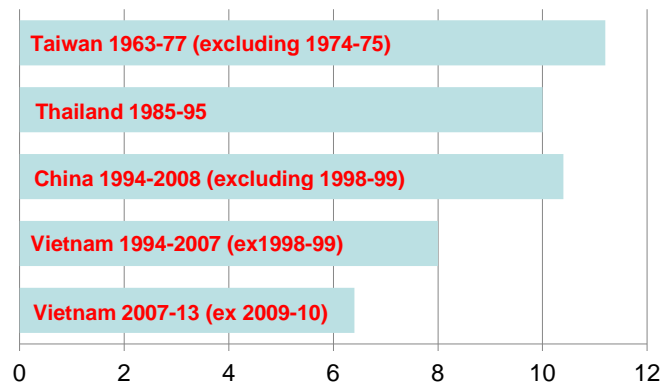
My conclusion in 1993:

1. Did Vietnam have initial conditions comparable to other countries that succeeded with EOI? Yes, at least as favorable or more favorable
2. Should Vietnam, in 1990, have taken the trail of the tigers? Yes, It leads to prosperity and there is no other known way that works better.
3. Did Vietnam subsequently follow the trail of the Tigers?
4. If so, did Vietnam enjoy comparable success?
5. If not, why not?

How did Vietnam do under EOI?

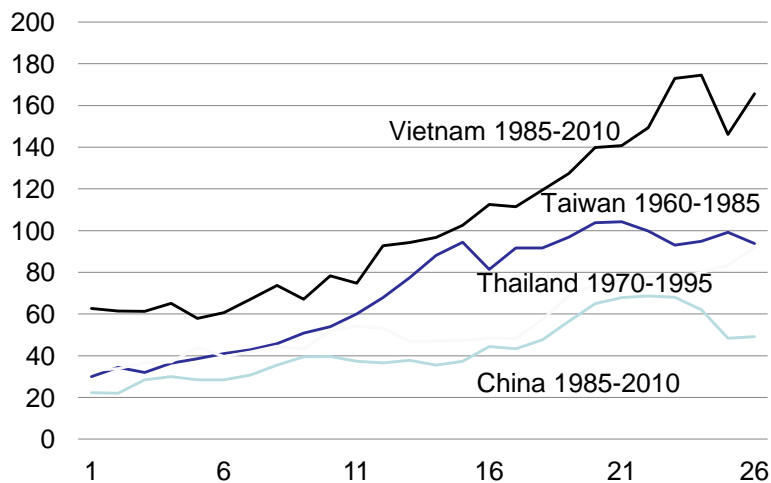
Growth: Vietnam's growth under EOI was strong, but fell short compared to other countries during the take-off period of EOI. All (except Vietnam) experienced double-digit growth for a period of time.

Average Annual Real GDP Growth Rates



How did Vietnam do under EOI?

Openness: Measured as $(\text{exports} + \text{imports}) / \text{GDP}$ the data indicate that openness in Vietnam, as in the other countries, increased under the EOI, and is even higher in Vietnam. This measure suffers from failing to account for country size and the role of imported intermediate inputs.



How did Vietnam do under EOI?

Domestic v. Imported Value Added: I made an attempt to measure the domestic and foreign value in Vietnam manufactured exports using Vietnam's input-output tables. The direct and indirect domestic value added was computed to be 50% of the gross value of manufactured exports.

Direct domestic value added is value added at the final stage of production plus the value of domestic intermediate inputs

Total domestic value added is direct domestic value added minus the foreign input content of domestic intermediate inputs.

Direct and Total Value Added Shares in VN Manufactured Exports (2007) %

	Foreign value-added share		Domestic value-added share	
	Direct	Total	Direct	Total
Total exports	25.8	39.5	74.2	60.5
Manufactured exports	31.3	48.2	68.7	51.8

Source: Own calculations

How did Vietnam do under EOI?

Highly export-oriented firms and those foreign-owned rely relatively more on imported input than less export-oriented and domestic firms

	Number of firms sampled	As a percent of total sales			Ratio of Imported to Domestic Inputs
		Value-added	Domestic Intermediate Inputs	Imported Intermediate Inputs	
Exports as a percent of sales greater than 75%					
Textile	13	49.0	14.3	36.7	2.57
Garment	69	58.0	13.7	28.6	2.08
Plastic	9	39.3	19.3	41.3	2.14
Food process.	19	26.0	72.2	1.8	0.02
Exports as a percent of sales less than 25%					
Textile	4	49.6	46.2	4.2	0.09
Garment	11	65.7	18.6	15.7	0.84
Plastic	52	32.5	33.3	34.2	1.03
Food process.	5	32.5	67.5	0.0	0.00
100% Foreign-owned firms					
Textile	14	44.9	22.9	32.2	1.40
Garment	23	55.7	11.2	34.9	3.13
Plastic	7	39.4	11.8	48.8	4.14
Food process.	3	24.7	64.0	11.3	0.18
Domestically-owned firms					
Textile	15	53.5	26.2	18.1	0.69
Garment	71	61.7	15.7	22.4	1.43
Plastic	56	31.0	35.8	32.8	0.92
Food process.	28	28.0	71.6	0.4	0.01

Source: ILSSA survey conducted for USAID/STAR, 2008

How did Vietnam do under EOI?

Composition of Exports and Imports: Vietnam's revealed comparative advantage is labor-intensive light manufacturing. The VN-US BTA opened the US market and led to a big expansion of manufactured exports.

Figure 6: The Composition of Non-Oil
(% share in total)

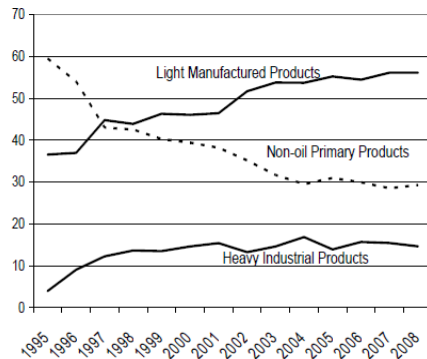
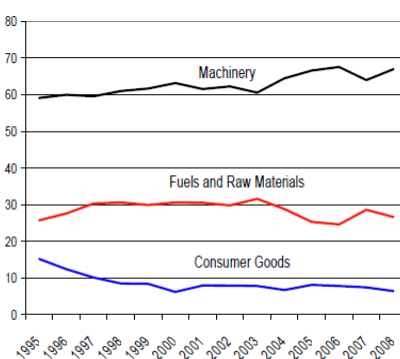


Figure 7: The Composition of Imports
(% share in total)

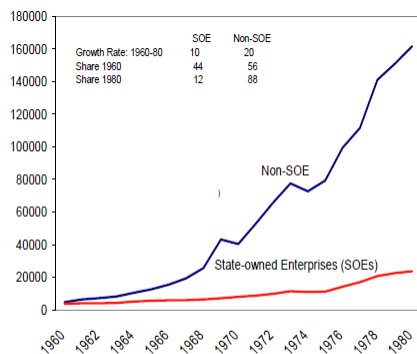


Source: Vietnam, GSO

How did Vietnam do under EOI?

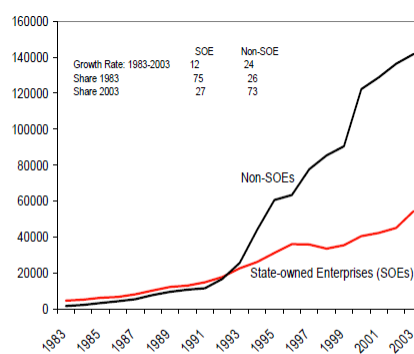
Recall the advantage of East Asian labor-surplus economies in the transition from a centrally-planned to a market economy. They could draw on surplus labor in the rural sector to build a new export-oriented industrial sector without having to tear down (or privatize) SOEs. **They could have it both ways!**

Figure 3: Taiwan: Industrial Output (NTD bn)



Source: Taiwan Statistical Data Book, 2008

Figure 4: China Industrial Output (RMB bn) 1983-03

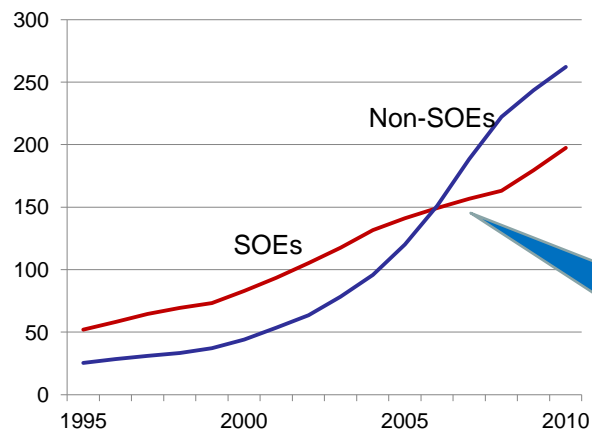


Source: China Statistical Yearbook, selected issues.

How did Vietnam do under EOI?

The transition to non-SOE industrial sector in Vietnam has not advanced as rapidly or as far as in those countries that preceded Vietnam

Industrial Output in Constant Prices (trillions of dong)



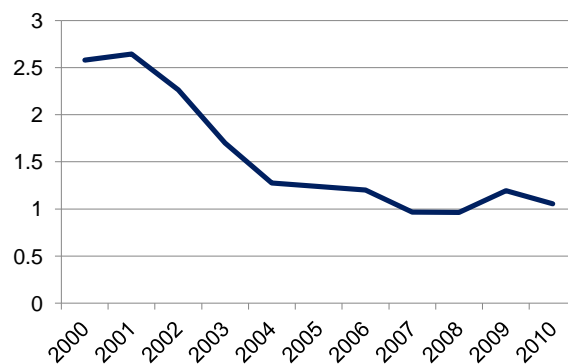
Note the change in trend after 2006

Why EOI has not worked (as well) in Vietnam?

Possible explanations

1. Strategic shift back to SOEs after 2006 (See previous slide)
2. Restructuring in favor of export-oriented private firms was stopped

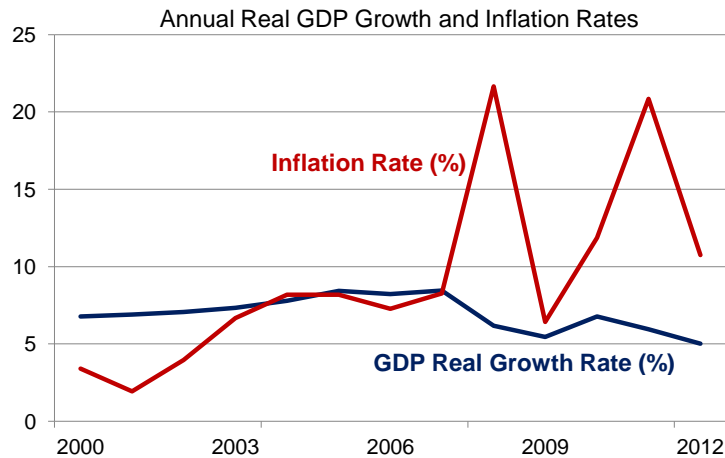
Ratio of State to Non-State Industrial Investment



Why EOI has not worked (as well) in Vietnam?

Possible explanations

3. WTO euphoria led to macro instability and asset bubble after 2006

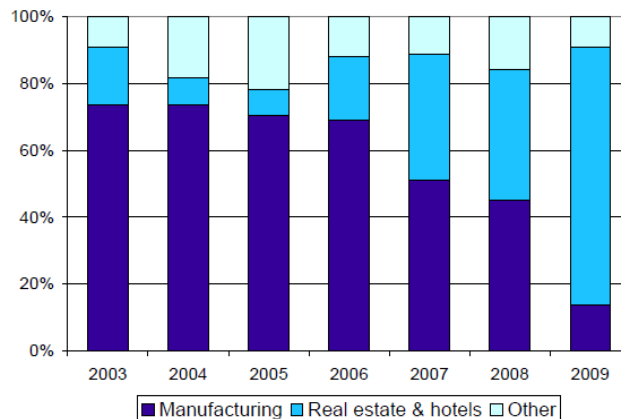


Why EOI has not worked (as well) in Vietnam?

Possible explanations

4. FDI shifted from manufacturing to property development

Figure 8: Registered FDI by Sector of Destination: 2003-2009



Where does Vietnam stand today?

- Rural sector is home to 70% of the population

- Agriculture employs 48% of the work force

- But, agriculture only accounts for 22% of GDP

- GDP per person in rural areas is 1/9 of that in urban areas

- GDP per worker in agriculture is 1/4 of that in industry

GDP (USD billions)		USD billions	Percent
Agriculture		25	22 ←
Industry		46	40
Services		43	38
Population		Pers. Millions	Percent
Rural		62	70 ←
Urban		26	30
Employment		Pers. Millions	Percent
Agriculture		25	48 ←
Industry		12	22
Service		15	30
GDP per capita		USD	VND millions
Ag GDP/Rural pop	→	409	9
Non-ag GDP/Urban pop	→	3,456	76
GDP per worker		USD	VND millions
Agriculture	→	1,029	23
Industry	→	4,028	89
Services		2,857	63

Where does Vietnam stand today?

To what extent has the manufacturing sector been restructured in favor of labor-intensive branches in which Vietnam presumably has a strong comparative advantage?

I tried to answer this question by computing the weighted average capital-labor ratio in manufacturing k_{MFG} using as weights the share of each manufacturing branch (i) in value-added (VA), capital stock (K) and employment (L), respectively for separate years (2000 and 2008)

$$k_{MFG} = \sum_i w_i \cdot k_i \text{ where } k_i \text{ is the capita/labor ratio in branch } i$$

and w_i is the share of sector i in alternatively VA, K, and L.

Weighted average capital-labor ratio (million dong per worker)

	2000	2008	Ratio 2008/2000
Value-added	215.4	206.1	0.96
Capital	230.9	230.2	1.00
Labor	168.8	155.1	0.92

Source: own calculations

This exercise suggest that the reallocation of labor and capital in favor of labor-intensive branches has been very modest so far.

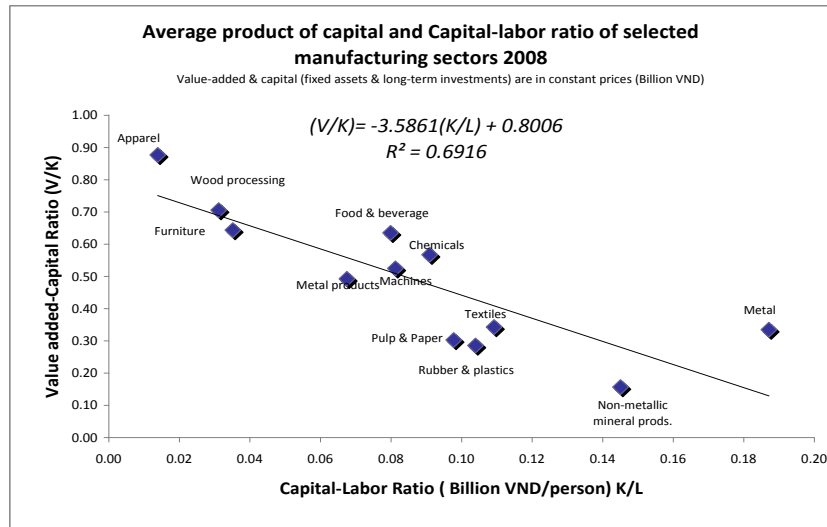
So what should Vietnam do?

1. Abandon EOI in favor of a new strategy
 - Adopt a strategy that will create industrial clusters and raise national competitiveness (CIEM, *Vietnam Competitiveness Report, 2010*)
 - Adopt a strategy to strengthen the “domestic value chain” and increase domestic value-added, especially in exports
 - Adopt a strategy favoring production of “high tech” products instead of low-tech labor intensive manufactures
 - Adopt a strategy that favors production of “high value goods”
 - Adopt a strategy that will transform Vietnam from a “factory economy” to a “knowledge economy”
2. Adopt reforms that will make EOI a more effective strategy

Quiz

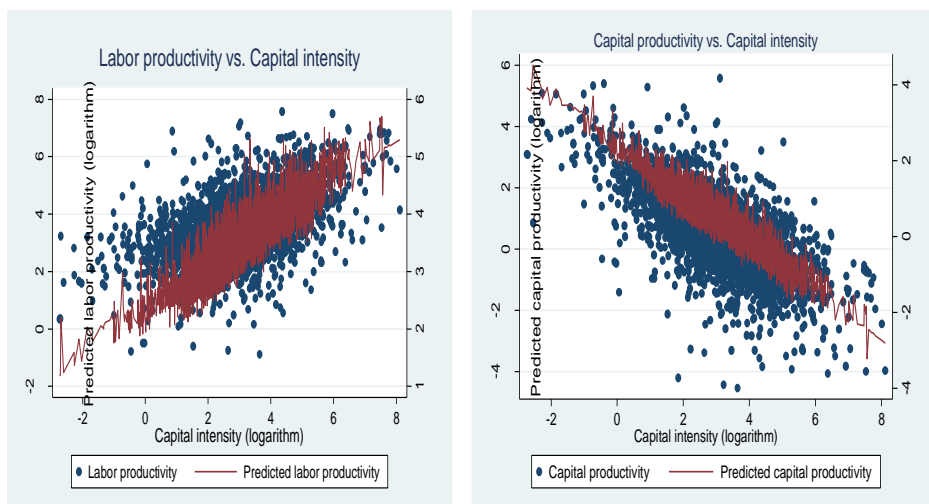
1. Low per capita income reflects the fact that labor productivity in Vietnam is low. So, should investment be directed to industries where labor productivity is relatively high?
2. Since the domestic value-added of exports is relatively low, should the nation invest more in intermediate input industries and less in producing final products for export?
3. If Vietnam needs a new growth model, then what should be the guiding principles of a new growth model?
4. If Vietnam should take measures to make EOI more effective, then what measures should be taken?

Some facts about relative productivity across industrial sectors



Source: Pham and Riedel, 2010

Some facts about relative productivity across 1200 Manufacturing Firms



Source: World Bank Enterprise Survey 2005

Which way for Vietnam?

New School

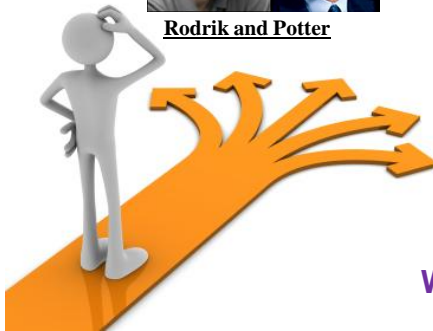


Rodrik and Potter

OLD SCHOOL



Lewis and Ricardo



What do you think?