

Midterm Examination

Revised: October 9, 2014

You have 90 minutes to complete this exam. Please answer each question in the space provided and show all of your work. You may consult one page of notes and a calculator, but devices capable of wireless transmission are prohibited.

I understand that the honor code applies: I will not lie, cheat, or steal to gain an academic advantage, or tolerate those who do.

(Name and Signature)

Year	Y/L	K/L
1990	2.489	2.396
2011	6.582	24.722

Table 1: Aggregate data for Vietnam. Y is real GDP, K is the stock of capital, and L is the number of people working. The numbers are thousands of 2005 US dollars. Source: Penn World Table, Version 8.0.

1. *Prospects for Vietnam (40 points)*. You have been asked to provide a short overview of Vietnam's economic prospects for a group of international business leaders who have come to Washington DC for the annual IMF meetings. To many in the United States, Vietnam brings up painful memories of war and Oliver Stone movies, but its economic performance over the past two decades has been extraordinary. GDP per capita remains low at about 3600 USD, but its GDP growth rate since 1990 has been over 7 percent per year.

In preparing your report, you start with some basic data from the Penn World Table, reported in Table 1. Then you turn to the Economist Intelligence Unit, where you find (quotes from reports, edited lightly for continuity, with additional data from other sources):

- The Communist Party remains the dominant political force. The government, the army, and the bureaucracy are subordinate to it.
- Vietnam's economic success over the last two decades followed the Party's 1986 commitment to "economic renovation." By the end of the 1980s economic reforms had become part of the new consensus.

- Regulatory conditions and market access for foreign investors have continued to improve in recent years, reflecting Vietnam's efforts to fulfil its commitments on accession to the World Trade Organisation (WTO) in January 2007.
 - The EIU democracy index puts Vietnam among the most authoritarian regimes in the world. In the functioning of government, however, Vietnam fares much better, and the public's confidence in the government and the party is high. Vietnam also scores well in the degree of societal consensus and cohesion. The judiciary is relatively weak and not independent of the Communist Party.
 - The World Bank's Doing Business now ranks Vietnam 99th (of 185) on overall ease of doing business, which is below China (91) and above India (132). The World Bank's Governance Indicators rank Vietnam in the 43rd percentile on overall government effectiveness and the 39th percentile on rule of law. The Heritage Foundation rates Vietnam 15 (of 100) on rule of law but 64 on business freedom and 79 on open markets.
 - A recent slowdown in growth coincided with growing evidence of corruption and rising prices gas, food, and utilities, which led the prime minister to make a public apology. The trouble stems in large part from the Communist Party's failure to discipline state-owned enterprises, which account for 40% of output, and to clean up bad debts lurking in state-owned banks. Some state-owned firms are reported to be so cash-strapped they have stopped paying workers.
 - There has been debate in the party between conservative hard-liners pushing for stability and reformist moderates who would like to see further liberalization, including privatization of state-owned firms. One Western diplomat says the question now isn't whether real reform will happen, but how fast.
- (a) Using the data in the table, compute the continuously-compounded annual growth rate of GDP per worker for the period 1990-2011. (5 points)
 - (b) Identify the sources of growth in Vietnam over the same period. (This is an indication that you should do the usual growth accounting calculations. Be sure to include calculations of productivity.) What is the primary source of growth? (15 points)
 - (c) Between 1990 and 2011, average years of schooling for adults rose from 5.3 to 6.3. By how much would you estimate this increased GDP? (5 points)
 - (d) Continued high performance in developing countries is often connected to continued improvement in institutions. Which institutions are important, in general? From what you've read above, how does Vietnam rate on them? Using the information presented, and your own good judgement, how attractive do you think Vietnam will be over the next ten years to international firms looking to do business there? (15 points)
2. *Zambeef looks for opportunities (20 points).* Zambeef, the Zambia-based meat distributor, is looking for new opportunities. The Economist reports: "Zambeef

Indicator	Zambia	Botswana	Tanzania
<i>General</i>			
GDP per capita (2005 USD)	1690	11,300	1250
Population (millions)	13.5	2.0	44.9
Doing Business overall (percentile)	49	68	27
World Economic Forum overall (percentile)	37	50	16
<i>Governance</i>			
Political stability (percentile)	66	88	48
Govt effectiveness (percentile)	38	68	28
Regulatory quality (percentile)	37	74	37
Rule of law (percentile)	42	75	34
Control of corruption (percentile)	46	79	22
<i>Labor</i>			
Minimum wage (USD per month)	76	92	52
Severance after 10 years (weeks of pay)	87	36	10
Labor market efficiency (percentile)	37	68	67
Literacy (percent of adults)	71	84	73
Years of school (adults)	6.7	9.6	5.8
<i>Infrastructure and trade</i>			
Infrastructure quality (percentile)	20	36	10
Import documents required (number)	8	5	6
Import delay (days)	56	37	31
Import cost (USD per container)	3600	3500	1600

Table 2: Economic and institutional indicators. Percentiles range from 0 (worst) to 100 (best). Sources: Penn World Table, World Economic Forum, World Bank, Doing Business.

operates meat counters at all 20 Shoprite stores across Zambia as well as its newer outlets in Ghana and Nigeria. Zambeef also has around 100 shops of its own. The CEO notes that with markets targeting both low and high-income consumers, they are able to sell ‘all of the animal.’ The firm is also vertically integrated; its ‘farm-to-fork’ model includes farms, retail outlets, and ‘cold chain logistics’ with its fleet of 78 refrigerated trucks. The downside of recent expansion, they say, is the demands on its managers.”

Zambeef is now looking to expand, either in Zambia or in nearby countries. As a consultant based in Johannesburg, you have been asked to advise Zambeef on the strengths and weaknesses of neighboring Botswana, Tanzania, and Zambia. You quickly summarize various measures of institutional quality in the three countries; see Table 2. You also turn to the World Economic Forum’s Global Competitiveness Report, which includes a survey of business leaders and tabulates

the most commonly reported problems. For the three countries, the most common complaints were

- Zambia: access to financing, corruption, and inadequate infrastructure.
 - Botswana: poor work ethic of labor force, inefficient government bureaucracy, and access to financing.
 - Tanzania: access to financing, corruption, and inadequate infrastructure.
- (a) Describe the features of an economy that are important to operating a business like Zambeef's. How do Botswana and Tanzania compare to Zambia on these features? (10 points)
- (b) What issues raise the most concern in each country? How might you deal with them? What location(s) would you recommend? (10 points)

3. *Short questions (50 points).*

- (a) In 1960, 41% of women aged 25-54 in the US were employed. In the most recent data, the number is 69%. What is the likely impact on US GDP growth over this period? What is the likely impact on the US employment rate? (10 points)
- (b) Suppose Apple's Irish assembly plant took 230 (millions of euros) in parts produced in Asia and hired workers for 80 to assemble products worth 320, which were then sold in the US. What is the value-added of the plant? Which of these transactions appears as an expenditure in the Irish national accounts? (10 points)
- (c) Describe, in Ricardo's model, how — and why — free trade affects productivity. (10 points)
- (d) Consider the statement: "When financial institutions fail, we should let them fail." Do you agree or disagree? Why? (10 points)
- (e) Consider the statement: "Germany's high investment rate is supported, in large part, by flows of capital from other countries." Do you agree or disagree? Why? (10 points)