

<p>Active Learning Exercise (ALE_1a): An Econometrics “Time Capsule”</p>

Instructions:

1. Read the fictional account (appended) of what you might hope will be a quite atypical day in your first applied economics job. This day calls for econometric expertise and skills of the kind you will be developing through your work with this book: expertise and skills which you probably do not have at this time.
2. Fill out the simple survey form at the end of this fictional account, indicating to what degree you feel capable at the present time of dealing with the indicated challenge. Be forthright in your answer – no one but you will ever read it.
3. Put your completed form aside in a safe place or – if your instructor has so indicated – bring it to class. In the latter case, your instructor will supply an envelope in which you can seal your form, indicating only your name on the outside of the envelope. Your instructor will collect, store, and (on the last day of class) return your envelope.
4. You can view this exercise as a message from yourself now to yourself at the end of the term. After working with this exercise (and then reading the remainder of Chapter 1) I hope that you will see a substantial opportunity to use your encounter with the material presented in this book so as to increase your power to act in the world. And, on opening this “time capsule” several months from now, I hope that you will discover that your power to use sample data to meaningfully quantify economic relationships has indeed substantially increased.

Time: 5:30 p.m.
Date: January 16, 2009
Location: A cramped, but not windowless, cubicle somewhere in the World Bank building in Washington, D.C.

Scenario:

Three months into your first real job – as a junior analyst at the World Bank – you are (you think) reaching the end of a long day. You look up as your boss drifts distractedly into your cubicle and stares absently out the window at the not-very-distant burning buildings lighting up the darkening cityscape. She begins to speak,

“Well, the good news is that the bulk of the rioting is moving off to the north now and they’re pretty sure they can douse those fires before they reach here.”

After working for this woman three months, you are ready with the right response:

“And the bad news?”

“The bad news is that the three of us are stuck here until they can free up another helicopter to lift us over to Arlington.”

“The three of us?”

“Yeah. You, me, and the Director. It seems that you were too wrapped up in your project to pay any attention to the evacuation alarms. And I was stuck listening to the Director whine on and on about her obsession with how all this conflict and rioting is actually fueled by a resolvable misunderstanding about the facts of economic reality rather than by any essential difference in values between us and the folks out there kicking up the fuss.”

“Resolvable misunderstanding? Are you nuts? Those ‘folks’ you’re talking about are literally wreaking havoc all over the city!”

“Yeah, well, the whole dispute hinges on a belief by the rioters that the globalization and economic growth that we’ve been so busy promoting has actually made poor people poorer and increased income inequality all over the world – especially where it’s been most successful. But our Director is certain that this belief is factually incorrect. Her theory is that, if we could puncture the belief system by **showing** that reality is just the opposite, then the rioting would collapse.”

At this point you see a glint starting up in your boss’ eye and you know you’re in for trouble. Obviously, it was no accident that she has turned up here in your cubicle ... She goes on,

“In fact, the Director just gave me this url for a Web site with just the data needed to

make her point – figures on average per capita income and per capita income for the poorest 20% of the population in a bunch of countries. Why don't you go look at it? Maybe you can use it to show that per capita income for the poorest people in each country goes up right in pace with average per capita income!"

Suddenly, even a helicopter ride over a burning city is starting to sound attractive. But, before you can interrupt, she continues excitedly,

"You'll need to retrieve the data. That won't be so hard. But it won't be in the right format to get into Stata; you'll have to import it into Excel first. Then you can make a scatter diagram to look for a relationship, but that won't let you test the hypothesis that the coefficient in the relationship is really one. Hmm, and if you run a regression so you can estimate the coefficient and actually test whether it is really one, no one will believe you unless you've diagnostically checked your model. We'd better get this right the first time: if it turns out that your results are an artifact of an invalid statistical test, we'll be worse off than before ..."

At this point you break in,

"But what if the relationship is different for Third World countries than for developed ones or for countries that trade a lot versus countries that don't – won't that mess it all up?"

This stops her in her tracks for a minute, but she is not to be dissuaded,

"Oh, that's okay. You can control for the development issue with a dummy variable for whether the observation refers to a Third World country. And that Web site has each country's total exports and imports in it – you can use the ratio of the sum of those to GDP as a measure of how much the country trades. That means you'll have to rely on multiple regression, though – simple scatter diagrams won't allow you to control for those things. You couldn't get real inferences out of a scatter diagram anyway. Better still make them, though – they really help communicate what the relationships look like in a simple way."

"Wait a minute," you respond, "you mean I'm supposed to start on this *now*?"

"Right. **Now**. I need this analysis by 9:00. The Director is so sure that this will work out that she has scheduled an emergency meeting with the President for 9:30. We've got to be out of here by then anyway or else we're toast along with the building."

"I thought you said they thought they could control the fires before they reached here!"

"Well, I exaggerated that a bit; I thought it might distract you from listening to me ..."

Okay, so maybe your real life won't be quite that dramatic five years from now. And the President (much less the rioters) might not be all that willing to even look at your results. Nevertheless, **circle your response** (on the following scale from one to ten) to the following statement and then take a few minutes to write a brief paragraph on the following sheet describing your reaction to this assignment by your new boss.

Given what I know now (and plenty of time) I could do a reasonable job of handling this assignment as my boss has described it.

1 You're kidding. I have no idea how to do what she is suggesting. And what is this business about "dummy variables" and "diagnostically checking" a regression model to make sure my results are not an "artifact of an invalid statistical test"?

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10 All right – given what I now know, I basically see how to do this at the level she has set up the problem, but I will want a substantial salary raise afterward, especially if this saves the city.