

Improving Logical Reasoning in the World Bank

This note relies very heavily on a logic textbook entitled, Introduction to Logic by I. M. Copi and C. Cohen. I used the first edition, then by Copi alone, in a college course over thirty years ago. For this note I used my daughter's copy, the eighth edition, which she used in her college logic course last year.

I INTRODUCTION

1. Correct or logical reasoning is a process of problem solving or reaching valid or correct conclusions, or solutions, by reasoning. It is testable in the sense that if the proposed solution derived from correct reasoning is implemented, the problem should be solved. Incorrect or illogical reasoning can occur for several reasons. A very frequent one in the Bank is that problem solving or reaching valid conclusions is not really the intent of the effort or discourse or report, even when it is presented in the form of logical reasoning. Another is poor definition of, or misuse of language during the process of reasoning. Vague or poorly defined language allows an appearance of logicity, but the conclusions reached are meaningless. The misuse of language leads to fallacious reasoning.

2. Logical reasoning is either deductive or inductive in nature. With deductive reasoning the conclusions or problem solutions are "deduced" from the premises. Much of Economics, such as demand and supply analysis, is based on deductive analysis. The way the problem is set up may not approximate any particular real life situation, but once you buy into the premises regarding the existence of a market and the definitions of demand and supply curves, the conclusions regarding price and quantity movements are foregone. Validating deductive conclusions or problem solutions involves examining the premises or prior assumptions (called "priors" in Economics) in order to insure that they are clearly defined, plausible and applicable. If they are OK, then one must make sure that fallacious reasoning was not used to reach the conclusions. Because it involves "thinking 'through'" problems and some abstraction from any particular real life occurrence, this analysis tends to be referred to as "theoretical" or "academic" analysis. These terms tend to be used prejudicially in the Bank to denote reasoning which is "other worldly" and not relevant to operations.

3. Inductive reasoning, frequently called "empirical" analysis involves establishing that there is a high probability that relationships will repeat themselves under similar circumstances. These similar circumstances, summed up in Economics by the phrase ceteris paribus, can occur cross sectionally or in series, through time. Unlike deductive reasoning, truth or certainty cannot be established by inductive logic. Instead, the relationship between the premises and the

conclusions are determined in terms of probabilities. It is difficult to understand or appreciate its usefulness and limitations without a clear and complete understanding of the meaning of probability, something that escapes most mortal beings.

4. Inductive reasoning is much in vogue in the Bank, perhaps because it seems so closely related to real life happenings and because, given computers and inductive analytical software, its application is so mechanical. However, neither type of reasoning is “better.” In fact, it is best to use both. In particular, it is good practice to subject the hypotheses formulated in inductive reasoning to deductive scrutiny, in order to insure that the probability results obtained inductively can be related to informed notions of how things are supposed to work.

II THE IMPORTANCE OF INTENT AND LANGUAGE

5. The primary ingredients for correct reasoning are intent to solve problems and the use of non-prejudicial language that is precise and easily understandable. Most of the problems of faulty reasoning in the Bank stem from a lack one or the other or both of these.

Bogus intent

6. Too often the intent of written and oral “reasoning” in the Bank is to claim empowerment or legitimacy. This is done to convince others that the Bank, or a sub-group within it, is working on all problems and, therefore, deserves a place in the problem-solving arena in spite of a current inability to provide solutions. Other bogus reasons for writing reports are to meet a report quota, to employ staff or consultants, or, simply, to write “about” something without intending to solve a problem. None of these requires correct or logical reasoning. Virtually all of the special reports on Africa seem to be devoid of problem solving intent and are, therefore, of the “bogus intent” variety. An opposite example, one exhibiting problem solving intent, is the paper by Daniel Kaufmann entitled, “The Forgotten Rationale for Policy Reform: The Productivity of Investment Projects.” This paper is important because it is the forerunner to a series of papers, of questionable validity, by David Dollar that “prove” that Bank structural adjustment lending can be effective.

Vague Language

7. Too often, language used in the Bank is so vague and oblique that it can not be used in logical reasoning. That is, its meaning is subject to different interpretations, even by native English speakers in the Bank and by the majority of Bank clients who have different native tongues. This multi-lingual characteristic of the Bank requires use of very carefully and deliberately defined terms that are, as frequently as possible consistent with conventional usage. Unfortunately, the opposite is frequently the case. For instance the terms, “structural adjustment” and “social costs”, as used by the Bank, are so vague and non-conventional that it is difficult for most persons to relate them to the solutions to developmental problems. Before the Bank began

to use it, the term “structural adjustment” had a standard definition referring to changing the composition of GDP; e.g., between agricultural, industrial and service output. In the Bank, the term now means almost anything, including stabilization, trade reform, privatization, public administration reform, etc. In the Second Sal/Secal Review done by the Operations Evaluations Department (OED) there are seven very broad definitions of structural adjustment in the first paragraph of the Executive Summary, none related to the standard usage of the term. Similarly, “social costs” used to be defined as welfare or product possibilities foregone as a result of actions by individuals and/or governments. Thus, the social cost of unemployment would be the additional product that those additional workers could have produced had they been employed. In the Bank this meaning goes unnoticed in favor of vague references to the hardships suffered by those who lose benefits from shifts in the distribution of income and/or public expenditures.

Rules of Definition

8. Given the importance of carefully defining the terms used in logical reasoning, especially in the multi-lingual Bank, it is useful to set out some generally agreed upon Rules of Definition. Five, somewhat overlapping ones are as follows.

Rule 1: A definition should state only essential attributes but be limited by the context of the expected usage of a term.

Thus the context of the term “structural adjustment” in the Bank is economic development and the essential attribute is that it raises the productivity of capital/investment. The essential attribute of this term would be very different in the context of molecular biology or structural engineering.

Rule 2: A definition should not be circular or defined by reference to itself or to synonyms or antonyms (opposites).

As used in OED, the terms, “implementation” and “ownership” tend to be defined in circular ways. Poor implementation is equated with policies that are not “carried out” or implemented. The quality of ownership is defined in terms of the extent of conviction, will and receptiveness of those who are supposed to “own” the policy packages. In addition, both tend to be synonymous with the success or otherwise of an operation (i.e., unsuccessful operations must not have been well implemented or “owned”).

Rule 3: A definition must not be too broad or too narrow.

In general, definitions in the Bank are too broad, perhaps because of a desire for each Bank document to be everywhere relevant. Contrast the relatively “tight” definition of policy adjustment as that which raises the productivity of the capital stock with the seven characteristics in the OED, SAL/SEGAL Review, including stabilization, GDP growth and poverty alleviation, privatization, institutional development, etc. On the other hand, when policy adjustment is defined in terms of improving a country’s president’s welfare, it is too narrow.

Rule 4: A definition must not be expressed in ambiguous, obscure or figurative language.

In the introduction to Chapter 6 of the OED, SAL/SECAL Review, the introductory paragraph defining the “social impact of adjustment” introduces the ambiguity of the short vs. the long term (“When structural adjustment was initiated... it was expected to be a short-lived phenomenon. [but] ... increasing attention has been focused on the long-run impact of adjustment” It also makes obscure reference to the “...negative and positive impacts of adjustment among different social groups.” In the same paragraph, figurative language is used in referring to “the need to take conscious action to mitigate the costs of adjustment rather than waiting for growth to resume and take care of things.”

Rule 5: A definition should not be negative when it can be positive.

Defining what a term is not, is not the same as defining what the term or concept is. Thus, in the September 28, 1993 draft Annual Review, an attempt to define sustainability is bolstered by the following statement, “Equally, an operation dependent on the extraction of a scarce, non-replenishable resource, is, by definition, unsustainable” (page 16, para. 21).

Fallacious Reasoning

9. Fallacious reasoning is essentially due to problems of poor intent and language. It involves the use of irrelevance or ambiguity in the reasoning process. Its use can lead to fallacious reasoning, incorrect conclusions or non-solutions to problems. As with the Rules of Definitions above, it is difficult to separate types of fallacies into non-overlapping categories. Copi and Cohen enumerate 17 fallacies, but I will only write about the ones I consider to be the most blatant in the Bank.

Fallacies Involving Irrelevance

10. Use of Ignorance. This fallacy results when a proposition is deemed to be true because it hasn't been proven to be false or false because it hasn't been proven to be true. It relies on ignorance regarding what constitutes proof of truth or falsehood. Thus the statement “structural adjustment lending has been generally successful” may be deemed to be true solely because it has not been definitively proven that all such lending has been unsuccessful. However, a majority of such operations were probably immaterial, or neither successful or unsuccessful.

11. Appeal to Inappropriate Authority. This fallacy is committed when the supporting opinions of an authority or a majority are cited as proof of the correctness of a position, but when the authority or the majority have no legitimate claim to expertise regarding the matter. Citing a V.P.'s or a Director's opinion as a correct one may involve fallacious reasoning, even if theirs is the position adopted by the Bank. Similarly, a majority opinion, whether by consensus or vote, is not relevant to solving problems unless the population of voters are experts in the particular area or discipline relevant to the problem. The opinion of the majority of likely users of a highway bridge is not relevant to its structural design.

12. Use of Complex Questions/Statements. Complex questions or statements presuppose the answer or truth of some part of the question/statement. The question, “Shouldn’t we wait to approve this structural adjustment operation until after the new Government comes in?” is a question about the timing of approval, not whether to approve or not. Similarly, a hypothesis such as, “the success of SAL lending is due to the extraordinary amount of resources the Bank devotes to their preparation”, carries with it an assumption that SALs are successful.

13. Ad Hominem Reasoning or Arguments Against the “Man”. This involves establishing the correctness of one’s reasoning, or the incorrectness of others’ reasoning, by denigrating, abusing or disenfranchising those who hold opposite views. If of the abusive variety, the ad hominem approach involves denigration or character assassination. If of the circumstantial sort, opponents are saddled with socially or circumstantially undesirable characteristics or guilt by association. Use of this sort of argumentation involves shifting attention away from consideration of the correctness of a conclusion and toward an assessment of the character of the proponents or opponents of an argument. It can be quite subtle but effective. Thus, the statement, “don’t believe her, she’s a YP (or a secretary)”, is prejudicial but irrelevant to the correctness of most positions. In the Bank, labeling a conclusion or a person as “very academic” is damning praise. Use of the word “Mafia”, as in, “part of the Mafia” is nearly always a sign of an ad hominem argument. Labeling someone as a “bureaucratic loser” seems to make him or her unable to propound correct arguments, and everyone knows that “hard nosed economists” know nothing about social cost.

14. False Cause. This involves inventing or forcing causal relationships where none exist. It is most frequently faced in inductive reasoning. Its most obvious fallacious application is an intertemporal one involving arguing that one event, (B), is caused by another, (A), because the second, (B), followed the first, (A). This fallacy will be addressed in more detail in the discussion of inductive reasoning, below.

15. Appeals to Emotion. Pity. Force. Etc.-The Flimflam Fallacy. These are all closely related fallacies involving inserting “extraneous” considerations into the argument to improve its reception. Many a Bank staff member has advocated an illogical or incorrect position by appealing to emotion or pity, or because of threat of reprisals or promise of promotion. Glitzy presentation, or stressing the importance, seriousness or “crisis” nature of the problem and/or the massiveness of the resources devoted to the attempt to solve it are all “flimflam” techniques which can be used to gain acceptance for a position by attracting attention away from the reasoning used to derive it. Most Bank reports that go to the Board repeatedly use the word “crisis” because it has been observed that the Board uncritically approves any suggested crisis-relief measures. Spurious quantification is also continually used in the Bank to gain uncritical acceptance for positions, especially now that computers make it so easy. One example is the presentation of “financing gaps” to rationalize loans; such gaps are so vaguely defined that they can take on almost any numerical value. They used to be defined so as to equal the size of a proposed loan. Now, an “acceptable” discrepancy is frequently added to improve the reception of this nonsense notion. Spurious quantification or flimflam also involves the use of computerized

statistical packages to present very significant numbers about nonsense relationships. Much of the David Dollar, et al econometric work on aid and growth (e.g., see Dollar, D & Burnside, C. "Aid Policies and Growth;" mimeo, (1996) PRD, World Bank, Washington, DC.) represents the application of sophisticated econometric techniques to ill-defined or untestable relationships.

Fallacies of Ambiguity

16. Fallacies of ambiguity are committed when language or concepts are misused or misapplied. Here I look at four relatively distinct such fallacies, including equivocation, amphibole or grammatical misconstruction, accent or misplaced emphasis and fallacies of composition and division.

17. Equivocation. This fallacy relies on equivocation amongst several different meanings of a word or phrase. It is frequently committed when "relative" terms, such as "successful", "short (long) term, and "costly" are used. For instance, because "successful" is an ambiguous term, it could be said that all SAL. have been successful because without them things would have been worse, or that they were all unsuccessful because even after several, the countries receiving them still have economic problems. Or, consider the phrase, "adjusting is costly, but not as costly as not adjusting". This can be true or false depending on what "costs" one assigns to adjusting and not adjusting.

18. Amphibole or Ambiguous Grammatical Construction. This occurs when the sentence structure makes the meaning or conclusion of the argument ambiguous. Thus, consider the statement, "because program implementation is crucial, it is a major concern for the World Bank in developing countries". This can mean that implementation is a major concern for (responsibility of) the World Bank, or for the developing countries. This fallacy is particularly pernicious when stating and statistically testing hypotheses.

19. Accent or Misplaced Emphasis. This arises when the meaning or conclusion of a statement or argument can be changed by altering the stress or emphasis. It is most often committed either when an analysis of something, or part of it, is taken out of context to "prove" something else, or when a statement or argument is "selectively edited" to change its meaning or thrust. It is easy in OED to commit the first by reading into past audits things that aren't there. Thus, it may be possible to question the statistical validity of the Ownership Study by saying that many of the audits were interpreted to have analyzed ownership, because of certain "ownership sounding" statements, whereas, in fact the issue was not considered at all. Selective editing can dramatically change meanings. Thus, consider the statement, "The SALs were considered not successful because even though the deficit and inflation declined, their main aim, reform of the real sector, was not achieved." By omitting the words "not", "even though" and the whole last phrase beginning with "their main aim..." the meaning of the sentence can be reversed. This ploy is quite frequently resorted to in "editing" or "massaging" drafts of reports in order to make them conform to a Bank line.

20. These fallacies relate to assigning the attributes of the parts to the whole or of the whole to the parts. The rating of SALe as “satisfactory” or “unsatisfactory” can lead to commission of these fallacies, with seriously disrupting results. The tendency to rate as satisfactory an operation in which a majority of the conditions were fulfilled can constitute the commission of the fallacy of composition; the operation might have been poorly designed so that even if all of the conditions were carried out, the operation might have been irrelevant or worse. Since it is also possible that not all or even any of the conditions (parts) of a successful SAL (whole) were good and appropriate, it is very dangerous to use a “successful” rating on a SAL to defend the use of some of its conditions in other SALs. The tendency to commit mistakes of composition or division when giving or interpreting “global” ratings can be seriously exacerbated if the binary ratings are aggregated across a series of operations.

III DEDUCTIVE AND INDUCTIVE REASONING

21. Deductive reasoning draws conclusions from premises which are usually so carefully defined and constructed that the conclusions seem almost obvious once the premises are understood and appreciated. “Therefore” is a key word in this type of reasoning. The premises may be constructed to bear a resemblance to “reality” or everyday occurrences/motivations, etc., but they are abstractions from any particular occurrence/motivation. Much of “textbook” Economics is based on deductive reasoning. Ironically, in spite of its “other worldly” nature, only deductive reasoning can yield absolute truth or correctness. Because of its abstract and cerebral nature, this reasoning is frequently called “theoretical” or “academic” analysis, phrases which tend to be prejudicial in the Bank. This notwithstanding, one of the most compelling deductive arguments in Economics, the one for fRERR trade, has become a key ingredient in the Bank’s structural adjustment liturgy.

22. Inductive reasoning relies on the probability that roughly similar events will repeat themselves under roughly similar circumstances. Arguments or hypotheses are not “proved” to be true or false. Instead, there is presumed to be a probability that the event (the dependent or right hand side (RHS) variable] will occur when the precipitating or contributing events (the independent or left hand side (LRS) variables] are in place. Inductive reasoning, in the form of statistical analysis, is the rage in the Bank; almost as if statistical analysis makes it more likely to be correct. Other forms of inductive reasoning, including informed observation and even anecdotal evidence can be respectably accurate and are very significant in forming people’s intuition. They are significant in the Bank in spite of a tendency by pedants to denigrate them. In truth, given the nature of probability, they have as good a chance of being correct as much of the statistical analyses done in the Bank.

Assessing Deductive Reasoning- the World Bank’s Trade Reform Proposals.

23. Trade reform proposals, omnipresent in the Bank's policy packages, were, like so many economic policy proposals, adopted using deductive reasoning. Judging their appropriateness provides a good exercise in assessing deductive logic. The deductive argument for trade reform is essentially an application of demand and supply analysis. Assessing its applicability in a particular situation consists of understanding this argument and then checking the premises or "priors" to see if they are applicable in the situation encountered. It is this last step which is so frequently missing in the Bank.

24. The basic free trade argument is that liberalizing trade, (i) increases imports and, (ii) lowers domestic prices of tradable items, thus moving down demand curves or, providing a country's consumers with more of a good at a lower price. This represents an unambiguous and prolonged increase in welfare as long as, (iii) demand for the affected goods is not depressed in the future by declines in income due to net out-payments for the increased imports. This income reduction would not happen, for instance, if the increase in imports is, (iv) offset by an expansion of exports. The rise in exports could occur with lower domestic prices for tradables if the reduction in production of import competing goods releases resources that are, (v) re-employed to expand production of export goods.

25. This argument is "deduced" from the premises that economists have constructed for demand and supply analysis. The question is, how can we determine a priori, or, ex anti if liberalizing trade will accomplish the above outcome? The process involves checking to see if all of the "priors" (i.e., i-v above) will be met if trade is liberalized. Thus, first, can imports rise and prices of tradable fall after trade liberalization? If so, how will these occurrences affect production of import competing and export goods? Are resources mobile, so that they can move into and stimulate expansion of exports? Or, is it possible that producers of import competing goods can increase efficiency or productivity so that they can produce more (not less) at the new, lower price, thus replacing the new imports with their own, increased output. All of these, including this last or increasing efficiency one, represented by shifting the supply curve down and out are, priors for successful trade liberalization, although either of the latter two is sufficient. Furthermore, they can all be tested empirically, ex post.

Assessing Inductive Reasoning-Dani Kauffman's Paper

26. Dani Kaufmann's paper entitled, "The Forgotten Rationale for Policy Reform: The Productivity of Investment Projects", is presented as an indicative or empirical study. As such it is quite weak. In spite of this, the paper is probably the best paper written in the Bank on the impact of adjustment-related policy changes. This is because of its clearly defined terminology and its excellent use of deductive reasoning. Given these merits, it provides a good example of how to assess inductive reasoning.

27. Dani's basic, deductively arrived at hypothesis is that "good" policy changes will usually raise the productivity of capital/investment in an adjusting country. Restated in an inductive mode, this hypothesis is that policy changes to improve the values of five independent variables,

when continually repeated in “similar outside circumstances”, will with a high probability lead to an improvement in the productivity of capital/investment. “Similar outside circumstances” are expected to hold both, across all countries and within each country, across time periods. This “similar circumstances” assumption might be called the “pooled ceteris paribus” assumption.

28. Dani’s five independent variables can be thought of as covering trade, price, fiscal, exchange and interest rate reform. Three, the Helevi/Thomas trade restrictiveness (TRI) index, the parallel or black market premiums (BMP) indices and the price distortion index for tradable goods (PDI) are designed to trace the impact of reforms primarily on the prices of tradable output prices. The two others, real interest rates (RIR) and fiscal deficits as a percentage of GDP (FDI/GDP) are more “global” measures of macro stability. To the extent that these five indices measure what they say they do, their coverage may be said to be quite extensive.

29. The dependent variable, the recalculated economic rate of return (RERR) is supposed to represent the productivity of Bank investment projects in the countries. The RERR is calculated by OED after the completion of operations to represent an “economic” rather than “financial” rate of return. It is similar to, but not the same as the discounted profit or revenue-minus-cost stream of a Bank project.

30. How should Dani’s inductive reasoning be assessed? One possibility would be to question the correctness of the statistical computations. That is, were the regressions, Tobit, Probit etc. calculations done correctly? However, this is not likely to be useful; Dani used computer software packages that are unlikely to contain computational errors. Instead, assessing Dani’s inductive reasoning involves the following: (i) assessing the extent to which the RERR accurately represents the productivity of capital/investment; (ii) assessing the extent to which the five independent variables accurately measure or represent adjustment; and (iii) questioning whether Dani’s particular choice of a pooled, ceteris paribus assumption is appropriate. Each of these will be examined in turn.

Does the RERR Accurately Represent Productivity?

31. The strengths of Dani’s paper are its deductively derived thesis that the success of adjustment should be measured by its impact on productivity and its use of actually calculated rate of return data to test the thesis. However, there are two problems with the use of the RERR as the dependent variable. The first is that the RERR is already “corrected”, by means of use of “shadow” conversion factors, for most of the distortions that are represented by the independent indices or variables. As a result, the robustness of the empirical analysis will be biased by the intercorrelation between the independent and dependent variables. Consider for instance a situation where an RERR is raised by a “shadow” exchange rate. If subsequent to this correction the country adjusts its exchange rate toward the black market rate, thus lowering the premium, it will appear that the RERR is higher because of the policy change, whereas it will in fact be higher because of the “shadow” correction.

32. A second problem concerning use of the RERR stems from the fact that rates of return accrue to different recipients, raising a question regarding which is the appropriate rate of return to be used. In particular, is adjustment supposed to raise the social or the private rate of return, and, if the latter or private, does the RERR accurately represent this rate? In general, Dani's deductive reasoning suggests that it is distortions to private incentives which are to be removed by adjustment and, therefore, that a "private" rate should be used as the dependent variable. Unfortunately, the RERR, both conceptually and as calculated by OED, is a "social" rate. In light of this, and because of the intercorrelation problem raised above, it would probably be better to use the recalculated financial rate of return to test Dani's thesis. To the extent that this rate represents a discount factor for "private" profits, it would be the best indicator of the productivity of capital/investment and, therefore, of adjustment success.

Are the Independent Variables Good Measures of Adjustment?

33. Dani's five indices are relatively poor "measures" of policy change; they are indirect and vague indicators of actual policy changes and they can be expected to affect productivity in ambiguous ways. An "improvement" in the trade restrictiveness index (TRI) will only insure that domestic tradable prices move close to their border equivalents if imports of tradables rise above their previous, real levels, something that rarely happens. Furthermore, as a general rule, "improving" the TRI would normally lower output prices, something that would reduce productivity unless tradable input prices fall enormously, thus lowering costs by more than revenue. Parallel or black market premium indices (BMP) are notoriously "noisy" measures of the misalignment of the relative price of tradables. Furthermore, the impact of the increase in the domestic price of tradable on profits is ambiguous because it is not clear whether revenues or costs will be more greatly affected by a devaluation. The price distortion index (PDI) is the most direct and accurate measure of price distortions, but it is still very difficult to relate it, deductively at least, to productivity changes. Its relative impact on costs and revenues is ambiguous and it is not clear what sort of time period elapse, after a change in the index, is required before an impact on profits is to be noticed.

34. The problems with the real interest rate (RIR), and the fiscal deficit as a percent of GDP (FD/GDP) concern their likely intercorrelation and ambiguous impact on profits. As a general rule, lowering "too high" fiscal deficits tends to be associated with a fall in inflation and a rise in RIRs, in the short run at least. In addition, raised RIRs are usually seen as raising costs, thus reducing, rather than increasing profits. The same sort of ambiguity applies to lowering government expenditures; many businesses would be hurt by it, again, at least in the short run.

35. Given these problems with accurate quantification, with ambiguity and with defining the "short run" in calendar rather than process time, the independent variables chosen by Dani to represent adjustment are weak. It would be much more direct to focus on cost indices, particularly non-tradable input or labor (wage and benefit) costs, as the independent variable.

Is the Pooled. Ceteris Paribus Assumption Valid?

36. Since repetition under similar circumstances is crucial to calculating probabilities and, therefore, to inductive reasoning, it is important to check Dani's assumption that the postulated adjustments occurred in similar "outside circumstances" no matter in which country and at which point in time they occurred. Questioning this constitutes testing the appropriateness of the pooled observation assumption. It is difficult to counter Dani's assumption logically, but it is equally hard to believe that it is true. One wants to believe that adjustment occurs first and then the RERR rises. Furthermore, it is easier to believe that the postulated policy adjustments will work in some countries and not in others at any particular point in time. However, the RERR is supposed to be "timeless" and we continually make the assumption that a country-is-a-country-no-matter-what. By pooling the observations, Dani gets a very large number of repetitions of the adjustment event, therefore raising the likelihood that the probabilities obtained by the analysis are accurate. But are they?

37. Determining their accuracy would probably require certifying that the results achieved by pooling the events are similar to the results achieved by subdividing the cases and performing cross section and time series analysis on the separate samples. This would have required an enormous amount of additional time and resources however, and would probably not have provided a definitive answer because the number of events in two different sets of analyses would be too small to enable confidence in the probability results achieved.

The Flaws are Not in the Paper but in The Bank's Study Process

38. The upshot of this investigation is that Dani's paper, though good deductive reasoning, is flawed because of measurement problems with respect to the independent and dependent variables and because of its use of pooled analysis. Together, these flaws mean that the paper doesn't help solve the development problem concerning what policy changes will raise the productivity of capital/investment, in what time frame. Does this mean that the study is useless? Absolutely not; instead, the study is incomplete or, as the author repeatedly says, preliminary. With more time and resources, the study stands a good chance of contributing to the development liturgy. Unfortunately, the paper is viewed as completed by Bank management primarily because it is seen as a defense of current Bank practices, rather than as an exercise in problem solving.

39. We thus return to the problem raised in para. 6 of this paper; the problem of bogus intent. Whatever Dani's motivation for writing the paper, it has essentially been treated as a defense of the status quo; that is, a defense of an illogical, but not random process of lending BOP support money. It thus adds empowerment and legitimacy to an institutional process or approach to structural adjustment that is essentially incoherent from a developmental perspective. The Bank's study process has led, as it almost always does, to the issuance of a study in an incomplete and unfinished form. This is only partly due to a lack of bureaucratic patience and resources. Another motivation is to "prove" that the Bank has performed successfully. Once the results of a study seem to satisfy the Bank's need for bureaucratic or institutional reassurance, it is considered to

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be complete, regardless of whether it is developmentally useful or not. Dani repeatedly warns about the preliminary and unfinished nature of the paper, but he and/or others have not been given the time or resources to refine the paper so that it becomes useful from a developmental viewpoint.

40. Is it fair that more time and money be devoted to improving this paper when most Bank sponsored studies are excessively expensive already? Yes. Most Bank studies defend current Bank practices. As such, they are enormously expensive given the quality of logical reasoning contained in them. This is true of Dani's paper too, if viewed as a defense of current Bank practices. If, however, it is viewed as an exercise in solving an adjustment problem, it could, with the expenditure of more time and resources, save Bank client countries millions if not billions of dollars, by setting out how they should adjust policies so as to successfully raise capital/investment productivity. If at least some Bank studies could convincingly demonstrate how to successfully adjust so as to raise capital/investment productivity, they would rationalize much if not all of the Bank's untargeted, BOP support lending.