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United Nations Industrial Development Organization

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National Investment Criteria for
Industrial Project Analysis
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Comments
on the book:

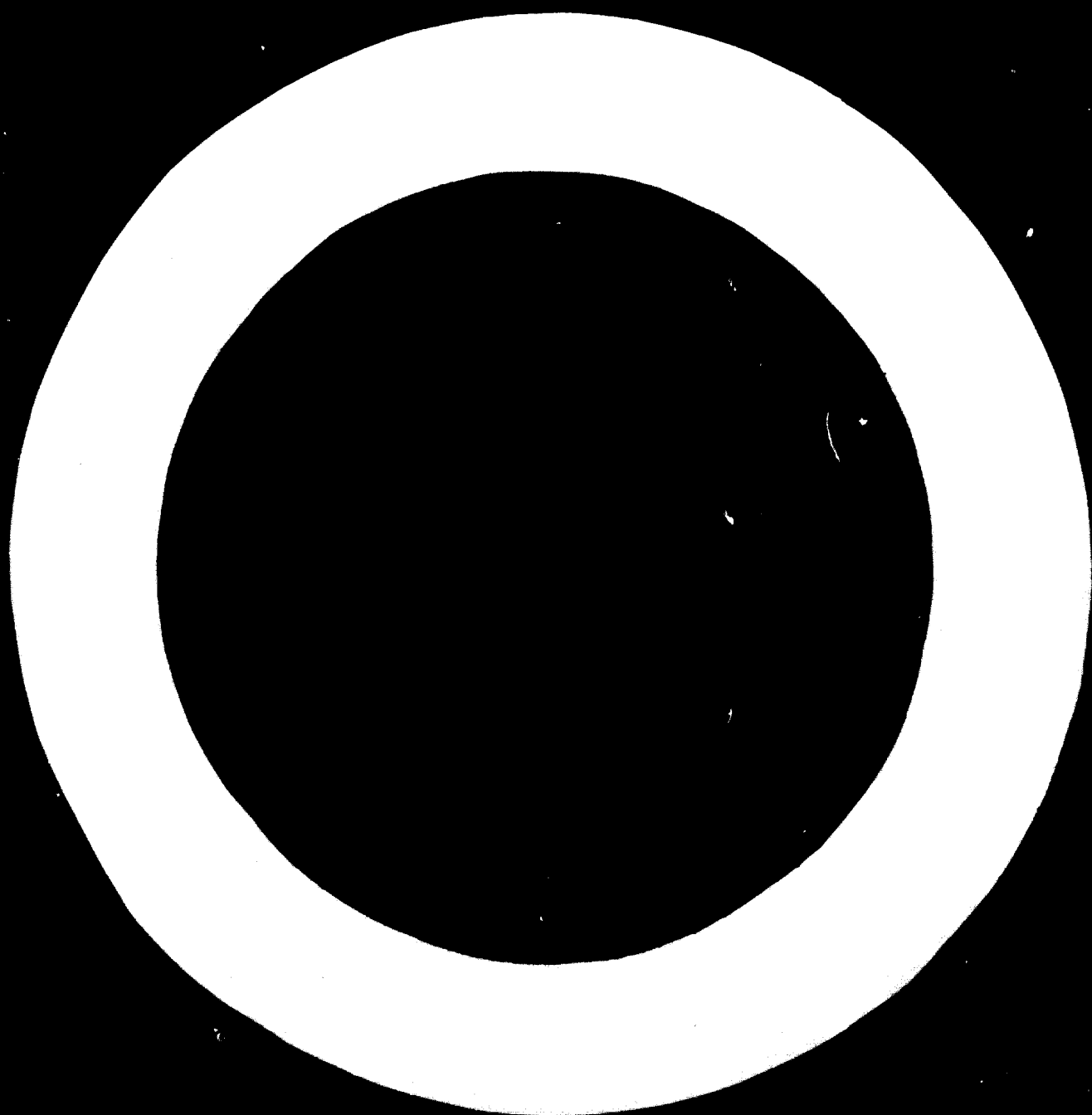Guidelines for Project Evaluation [1]

by

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[1] The views and opinions expressed in this document are those of the
author and do not necessarily reflect those of the secretariat of UNIDO.
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id. 73-1098

I fully enjoyed reading the Guidelines and I think that it will make a significant contribution to the improvement of industrial investment analysis in developing countries. I do plan to use the Guidelines in my courses both at Vargas Foundation and CENDEC (training and teaching branch of the Ministry of Planning here).

I had quite a few comments to make about the paper when I read it and since you requested suggestions, I thought I would share them with you. The comments are listed by page number.

p. 9 Profits are never defined adequately in this section. Why do you not at least refer once to "operational profits gross of depreciation" or something like that?

p. 13 Government taxes are not treated as causing differences between private and social profitability. Why not?

p. 18 The discussion of the social discount rate sounds very partial to a particular current of opinion; you could at least refer to the wide professional disagreement surrounding these matters.

p. 19 You are applying the second-best theory in a very biased way, it seems to me. In general (in the math sense), you cannot say that you are moving closer to economic efficiency, but very often you can. It all depends on the ways in which the sectors with imperfections relate to the rest of the economy. In more general terms, I find your discussion of the "limitations of commercial profitability" less convincing than other discussions on the topic in the literature (e.g.: Little and Mirrlees or Prest and Turvey).

p. 34   You refer to the fact that individuals frequently want to "kick themselves" for their own past decisions in order to substantiate a claim of consumers' irrationality. You seem to forget that individuals only do that after they have all the information which was not available to them at the time when the decisions were made

p. 39   This diagram and the next one have the letter "I" when the text refers to "J".

p. 59   You seem unable to decide on a recommendation to use supply price or demand price. The answer recently proposed by Harberger is: Use both of them! The additional rubber demand for the project will in part come from increased supply, at a price $\underline{c}$. The other part will come from reduced demand elsewhere at a price $\underline{p}$. Then, the average price of the rubber for the project is $ac + (1 - a)p$, where $\underline{a}$ is the ratio of the price elasticity of supply to the sum of the price elasticity of supply with the absolute value of the price elasticity of demand.

p. 68–70   I find it hard to accept your neglect of pollution as a social cost of particular projects. I grant it may be difficult to classify projects according to their "modernization of society" potential but I imagine that a chemist could easily classify industries according to their "pollution potential".

Chapter 7

I was surprised not to find a discussion of the shadow price of labour. I was also surprised with the meager discussion on the shadow price of foreign exchange. Lance Taylor and I prepared a paper on this subject which is scheduled to appear in the QJE. I am sure he sent a copy to Stephen Marglin but the latest version can be obtained by writing to Lance Taylor at the Project for Quantitative Research on Economic Development

(Department of Economics) Harvard University. We end up by recommending the use of the "equilibrium" (no tariff) exchange rate as the shadow. As it turns out, in the linear case, this is the same thing as taking a weighted average of the import rate (cum tariff) and the export rate, where the weights are the same ratios of price elasticities mentioned in my comment (see above under p. 59). My main difficulty in this chapter, however, refers to your approach to the shadow price of savings. I am perfectly willing to accept the numbers one obtains with your "simplest case": with $p^k = r/i$, one generally obtains values ranging from one to two for p^k. But when you introduce a "dose of realism", p^k blows up to 4, 5 and 6, as your two first case studies show. I could not ever think of analyzing projects in Brazil or anywhere in Latin America with these numbers! Let me just point out one consequence of numbers like these. Take the shadow price of labour. I think you would write:

$$c_w = z + (p^k - 1)(w - z).$$

Say the marginal product in the agricultural sector is zero, $z = 0$. Use a p^k like those you recommend, say, $p^k = 5$. One would conclude that the shadow wage rate is four times the minimum wage in the industrial sector! If you are true to these numbers, you should rewrite your discussion of "shadowing" the wage rate. The fact that the economy is dual turns out to be quite irrelevant for your computations. In the case studies, what determine the results are the different marginal propensities to save together with your reinvestment assumption. Given the unusual consequences of your approach and the fact that the appropriateness of taking "reinvestments" into account is subject of much debate in the literature, I would suggest that you stick to your "simplest case" or else produce "realistic" cases which turn out believable numbers for empirical analysis. Little and Mirrlees' solution for this

problem is to redefine the correction factor for the consumption difference, w-z. Instead of using $p^k - 1$, they use $1 - 1/p^k$. In this case, with $p_k = 5$ and $z = 0$, one obtains a shadow wage equal to 4/5 of the industrial wage rate. This result seems to make sense but I am not sure about its theoretical underpinnings By the way, I've been informed that someone at UNIDO has prepared a paper comparing the Little-Mirrlees approach with that of Marglin on this subject I would appreciate receiving this paper.

p. 106 In this discussion you use Weisskopf's type of wage funds theory. This theory which assumes a rigid supply of consumption goods seems to me to be inconsistent with the model you use to derive p^k, which requires flexibility in the consumption-investment goods production decision. Can you have it both ways?

p. 110 There is a direct reference to India in the first paragraph, exemplifying bribery in Government activities. I think it must be a slip of the pen.

p. 114 Why are you not specific about the formula you recommend for the shadow price of labour?

p. 130 In your discussion of constraints you refer again to the shadow price of investment I wonder how your approach compares to the idea of using a low interest rate to discount future income in combination with the use of a "mark-up" in the initial investment. Say the initial investment is 100. Then instead of discounting it at 20 per cent as some would have it, you would discount $100p^k$ at a "low" rate of 10 per cent. In your literary discussion you seem to suggest this, but then you go on to recommend mark-ups which depend not on the value of the investment but on the ways in which the _fruits_ of this investment are distributed among different economic groups. Could you not clarify the differences in the approaches?
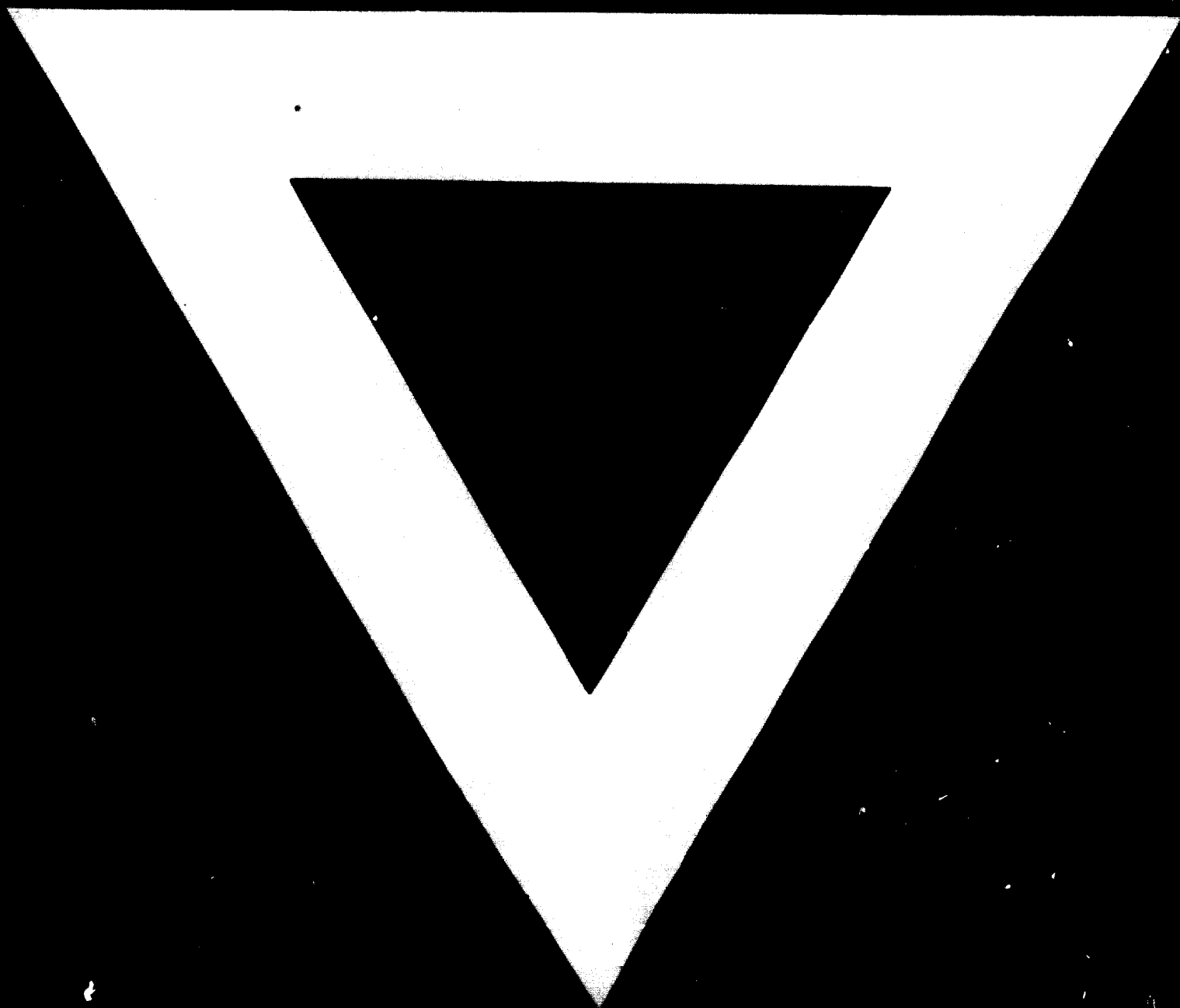
p. 139 What do minus 10,000/C units of consumption utility mean?

p. 164 Panagua is <u>not</u> the project you just finished analyzing!

Case Studies

I do think the second project should come first. The treatment of foreign finance and specially of skilled labour is very confusing in the first case. It takes some time to figure that you are talking about transfer of "surplus value" from the private sector to the Government in the case of employment of skilled labour. The nature of the problem is different from that of employing unskilled labour. The transfer of unskilled labour not only increases their wages but also represents an improvement in resource allocation. Not so with the transfer of skilled labour. However, you treat both cases in the same way, which is somewhat confusing. You do not give much importance to underpayment of skilled labour in the text, nor provide a theoretical explanation for it. When it comes to the case studies, this phenomenon turns out to be as important as the overpayment of unskilled labour. I also think that too many "unexpected" things happen in the case studies (that must be why you had to add appendices to these cases). It would be <u>much</u> better if you illustrate the text with simple examples, introducing numerically, one by one, the corrections to market prices you judge more important. If you did that, the case studies would serve simply as a way of putting together your examples in the text, and this would make the text much easier to read and understand.

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