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WAGE DISCRIMINATION BY MEANS OF A COALITION

(Rockefeller-Ford-Wisconsin at U.P.)

by

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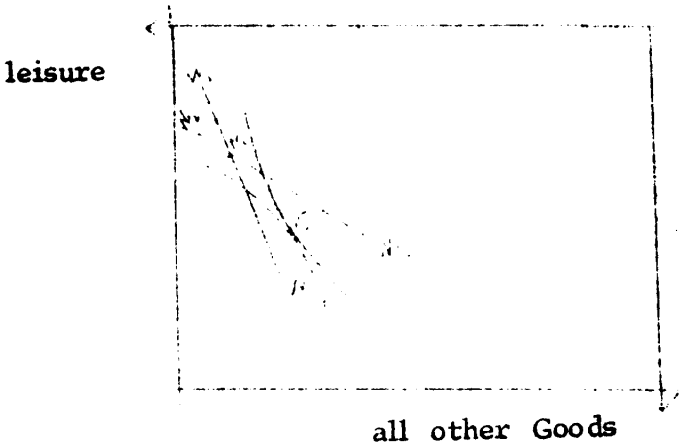
The purpose of this note is to show and resolve an operational difficulty in the application of the theory of wage discrimination to such current situations as exemplified by an actual situation at the University of the Philippines. This operational difficulty arises from the ambiguity of the textbook definition of wage discrimination; also relatively sophisticated firms do not practise wage discrimination overtly and hence crudely but employ a variety of institutional and paper techniques, legalistic devices and the use of second and third parties to hide the practise of wage discrimination.

The standard presentations tell us that wage discrimination exists when similar labor inputs are rewarded differently. A more rigorous definition would say that it is practised when two (or more) homogeneous labor inputs receive wages which are in different ratios to their respective marginal costs or to their value marginal products. Thus

$$\frac{W_1}{MC_1} \neq \frac{W_2}{MC_2} \quad \text{or} \quad \frac{W_1}{MP_1} \neq \frac{W_2}{MP_2}$$

Alternatively, we may define wage discrimination as the payment of wages to two similar individuals which are not equal to the difference in their marginal costs or to the difference in the value of their marginal products, viewing the matter from the revenue side. Of course we allow for transportation costs and costs of eliminating the payment of different wages for the same job in these definitions. The first formal definition of wage discrimination is preferable since it shows the misallocation of

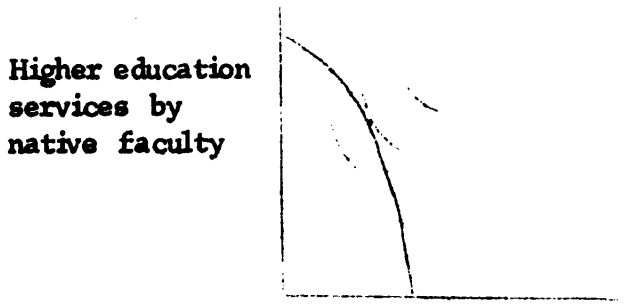
resources caused by the inequalities of wages to marginal factor costs. This misallocation is conveniently shown by an Edgeworth box:



At point M the two individuals are at equilibrium -- the two different (discriminatory) wage lines intersect and at that point Individual 2's wage line is tangent to his indifference contour and Individual 1's wage line is also tangent to his ordering surface -- we have not drawn these to keep the box simple. But note that both are off the contract curve. Point 0, the point of simultaneous bliss, where each maximizes his utility, can be reached only by a nondiscriminatory wage.

Some assumptions should now be examined before using the model above for judging whether the University of the Philippines discriminates in favor of its U.S. faculty members (Individual 1) and against its comparable native faculty (Individual 2). In the Appendix to this note,

it is implied that the trade-offs in production take the following form:



Higher Education Services
by U.S. Faculty

Given a fixed volume of financial resources, one gets less total output by recruiting an all-American team since the latter's financial cost to the University is comparatively higher. Note the ordering contour lines which we have superimposed. If this is actually the way the University ranks the relative importances of the two goods in question, then there can be no problem of wage discrimination against its native faculty. The latter are valued less and although they may be homogeneous from the point of view of educational production functions, they differ markedly in the value of their marginal products. Hence, even if the U.S. Ph.D. has an enormously higher marginal cost than his Filipino counterpart, we may yet derive the equality $\frac{W_1}{MP_1} = \frac{W_2}{MP_2}$.

Alternatively, we may view the matter from the production side and argue

that the two labor inputs are not really homogeneous since the quality of their marginal products are not the same. Preference orderings such as those drawn previously embody what in the psychoanalytic literature of ex-colonial countries is called identifying with the colonizer. But note a curiously interesting result -- in no economic sense can we say that such an agency discriminates in its wage policy. If this is indeed the preference function of the University administrators then an economic analysis of this kind can only reveal this on the conscious level with the hope that its revelation will change the nature of the University's perhaps subconscious preference function. Here then is a therapeutic use of economic analysis as social logic.

However, if the University does have a different and morally desirable preference function, then I think it can be shown that it discriminates in its wage policies against its native faculty -- a curious result of our analysis.

Further conceptual clarifications have to be made before we can accomplish this task. Guidelines do not exist in the standard theory of wage discrimination -- we are simply given the inequality formula and left unsatisfied with regards to the important question of who is it that discriminates against whom and in relation to what situation. It seems that there are several senses of wage discrimination since it is a three-argument relational term. Relative to the same occupation as a whole and in (i.e. a world-wide market) the complete

absence of U.S. professors at U.P., the University discriminates against its native faculty since it pays them wages significantly below the latter's monetary opportunity costs within the same occupation. Hence if a Philippine Associate Professor who earns ₱12,000 a year has been offered a $12,000 job in a comparable or superior University, then the rate of intra-occupational discrimination practised by the University may be given by the formula $\frac{₱12,000}{₱48,000}$ or 1/4 of his alternative monetary opportunity cost.

Relative to a section of the entire market, let us say the Philippine market, the University discriminates, too, in the sense that it does not pay Individual 2 the money wages he could make in his next best employment in the same occupation -- say, by teaching at the Ateneo University. Note that we are not speaking here of real opportunity costs-- the discriminated professor is certainly receiving this from the University. Grant that Ateneo pays twice as much for a Ph.D. as the University of the Philippines. The professor who prefers the latter to the former derives nonmonetary (psychic) income which is at least as large in utility as the difference between his potential Ateneo wage and his actual monetary income at U.P. His monetary income at U.P. which, let us say, is the minimum he will accept for supplying his services to U.P., is the monetary equivalent of his real opportunity cost.

We may progressively reduce the section of the same occupation that we wish to study for wage discrimination and come to the firm level. Within the firm or University we have two kinds of wage discrimination -- that practised between branches of the University and within a branch. In any of the cases cited, the non-payment of the individual's full-social and monetary opportunity cost misallocates resources. For example, an Associate Professor with a Ph.D. in economics may be induced to move to a slightly higher-paying branch of the University such as the College of Public Administration whose need for an economist may not be as high as the Department of Economics. One can easily cite other instances in which the non-payment of a free agent's monetary opportunity cost (in the short-run) and full economic surplus (in the short-and long-run) misallocates scarce resources.

Within the University itself, wage discrimination exists but what seems worth noting is its systematic wage discrimination in favor of its U.S. faculty members. My tentative calculations which so far have not been disputed by the Ford and Rockefeller Foundations in Manila and by the University of the Philippines show that the average cost of maintaining a U.S. Professor at the University of the Philippines for one academic year is about ₱220,000 ($1 = ₱4) which for simplicity we also assume to be near marginal cost. This includes not only the salary of the visit-

ing professor in question but the transportation cost of his family; but a large part is due to the administrative costs of recruiting U.S. professors and attending to their needs in the Philippines. A U.S. Associate Professor earns an actual and imputed gross income of $24,000 or ₱96,000. This includes a $12,000 gross yearly salary; a rather expensive $6,000 completely furnished (mostly with importables) home for one year; a $3,000 tax allowance for being freed from the U.S. and Philippine income tax which has the effect of raising him to the $15,000 U.S. income group; $3,000 for the use of one-and-a-half cars, a half-time driver and one or two round-trip plane tickets from the Philippines to the U.S. and a hardship margin. Note that the effective doubling of the average U.S, professor's actual and imputed gross income is not intended to suggest the magnitude of the welfare gains enjoyed by a U.S. visiting academic entrepreneur since we lack information on his valuation of his actual and imputed monetary income under Philippine conditions. It is probably better to view his ₱96,000 from the cost side -- as his total actual and imputed wage cost to his employer. Viewed this way, we may wish to deduct certain minor items in the wage items just listed.

Now assume that a Filipino Associate Professor is paid an expected actual and imputed wage of ₱12,000 by the University. This is

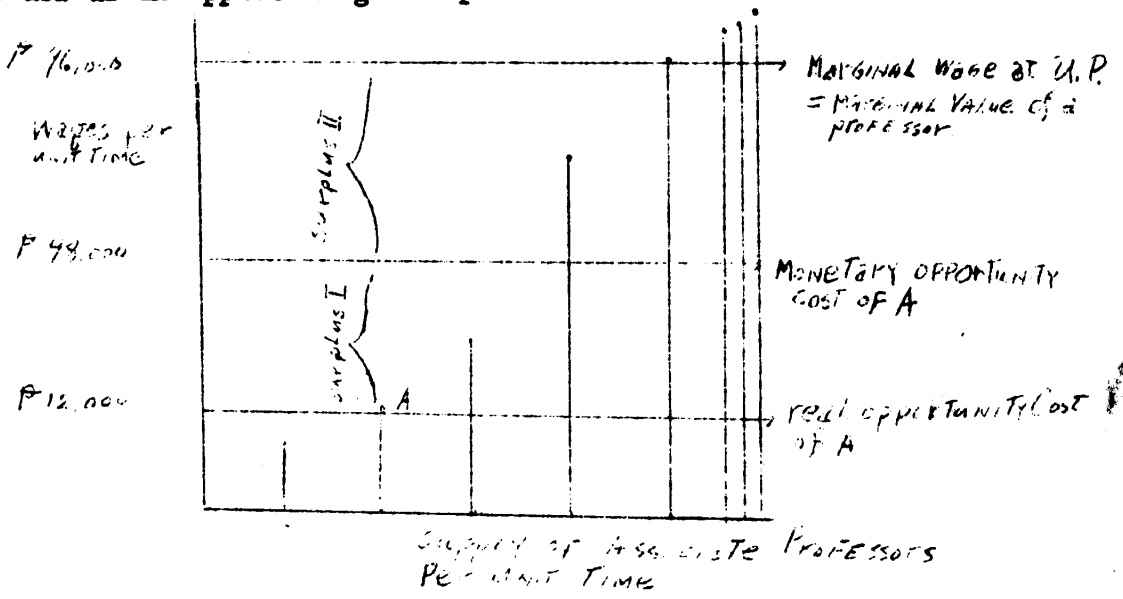
an optimistic figure since the monthly income of a beginning Associate Professor is about ₱700 and the University does not guarantee him the use of a University - subsidized housing and it is practically impossible for its new Philippine faculty now to get housing in the University. Assume, too, that this is the additional costs of hiring a Philippine Associate Professor. Then the gross wage income of a U.S. Associate professor is roughly eight times that of his Philippine counterpart and it also suggests a large misallocation of resources since

$$\frac{₱\ 96,000}{₱220,000} < \frac{₱12,000}{₱12,000}.$$

These are the quantitative implications of such phenomena as the de-luxe U.S. occupied houses and cars of Greater Manila and the University which have put U.S. professors on top of the socio-economic ladder at the University and which have led some academic members and students at the University to raise the question of an American take-over of the University of the Philippines. I shall show later that the charge is true in one sense and is yet another inefficiency attributable to the practise of wage discrimination. Its U.S. faculty members are the only ones the University recruits at their monetary opportunity costs and hence its supply of U.S. Ph.D.'s has increased; and since the University pays its bright native faculty discriminatory wages which are really close

to the bottom of the wage-barrel, the University's actual and potential supply of Filipino Ph.D.'s has diminished and will continue to do so. In short, they are being replaced to some extent by U.S. faculty members.

This deserves a closer look and we may begin by looking into the reasons why a Filipino scholar stays at the University at relatively miserable discriminatory wages. A supply curve will suggest the answers as well as aid us in appreciating the points made in this note.



Each supplier of services to the University gets a line or a point. At point A, the Filipino professor's valuation of his total monetary and nonmonetary opportunity costs in his ₱12,000 - job with the University are being met by its compensating monetary equivalent of ₱12,000. This is the reason why he will work for he University during a certain period of time. The real opportunity cost is based

on the attractiveness or burden (for various reasons we need not go into) as compared to our professor's next best alternative employment in the same occupation (since we are dealing with the short-run). It is a function of his alternative monetary opportunity cost. For instance his ₱12,000 cost might have been computed on the basis of a ₱36,000 alternative cost. The relative attractiveness of a U.P. job is 1/3 and his monetary opportunity cost is multiplied by 1/3 to yield a money measure of his real opportunity cost. In year t+1, assume that his monetary opportunity cost rises to ₱48,000. Our professor's real opportunity has risen by 1/3 of 12,000 and an efficient academic administrator ought to meet this unless he wants to lose his higher-valued professors.

Since we assume our Ph.D.'s are more or less homogeneous, the value of the Filipino Associate Professor's marginal product is also ₱96,000 -- the marginal product and cost to the University of the last U.S. professor. The University discriminates in two senses -- it not only appropriates Surplus 1 but Surplus 2 as well. The full surplus of ₱84,000 would otherwise accrue to A in the absence of discrimination. Surplus 1 is the minimum monetary compensating variation which represents the psychic benefits A derives in his occupation as compared to his next best occupational alternative; and the difference between ₱48,000 and ₱12,000 is the minimum monetary esti-

mate of the intangible benefits he derives in his present place of work as compared to an alternative University offering the highest wage. Needless to say the latter is an enormous sum to pay for the privilege of teaching in the University -- the reason why the University is losing its non-indentured faculty. Given the University's commitment to build up its stock of Ph.D.'s or prevent its depletion, the University is behaving inconsistently in not meeting these costs increasingly and as quickly and to the fullest extent possible. The indenture system on which it has relied so heavily is shortsighted and is not a permanent long-run solution to its needs.

As a matter of fact an economist and dean of a well-known institution, the University of Washington, has proposed a rule for efficient educational administration: "each faculty member should be paid an amount which reflects both his value to the institution and his opportunity costs, but exceeds neither. ... Competitive offers from equal or superior institutions are an excellent measure of a faculty member's opportunity cost, and should be heeded by a dean."* His conclusion in the same passage that a policy of "price discrimination is called for" is misleading. As we saw there are two kinds of intra-firm discrimination and clearly what the Dean really meant is "discriminate less by paying Surplus 2

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* Philip W. Cartwright "The Economics of Deaning," The Western Economic Journal, Volume III, No. 2, Spring, 1965, page 163.

on top of real opportunity costs." Also "his value to the institution and his opportunity costs" cannot be paid simultaneously unless one is speaking only of the last recruit or of social opportunity costs -- a not-so-relevant consideration for a decentralized decision-maker. Note that a commonly cited argument given by those who argue for the absence of wage discrimination in the University -- that U.S. professors are recruited in U.S. markets while their Filipino counterparts are recruited in Philippine markets -- is superficial. The point is precisely that: why the systematic preference for excessively costly U.S. markets when less expensive markets can be tapped? Furthermore it is not true that the two classes of professors belong to different well-separated markets. Many Filipino scholars are marketable in the U.S. as well as other places and consequently belong to the same international market. Of course indentured U.P. professors cannot be said to be in the same free market.

The textbooks tell us that wage discrimination exists when similar labor inputs are rewarded differently. But the standard presentation, however, fails to add or stress the additional requirement that the payment of two or more wages for the same kind of labor input must be paid by the same employer -- if what we want to establish is the existence of a systematic wage discrimination in favor of a foreign

ethnic group within the institution (firm). The University argues that it is not the employer of its American visiting professors. True, it appoints them and assigns them to their tasks but they are its professors without pay. The real employer is Rockefeller in one instance and the University of Wisconsin (funded by Ford) on the other since these recruit them and pay their salaries. Legally of course, for social security purposes, the source of the paycheck is the employer. However the legal definition of employer is contradictory: for travel purposes, the University of Philippines is listed as the American visitor's employer. It is also possible to regard Ford (or Rockefeller as the case may be) as the employer since the latter is Wisconsin's and U.P.'s source of funds On a psychological level we seem to think that loyalty belongs to the payer. And to complicate things further, the original home - institution from which the visiting U.S. professor has taken a leave or a sabbatical may also wish to qualify as the employer. We seem to be at an impasse.

To help us out of this conceptual dilemma, we must go back to the actual and relevant decision-making situation and see in what sense X or X, Y, Z, ... can be said to be the employer or one of a group of employers. Assume that the program-objective for which grants were received is to maximize the net flow of university educational services.

Since this objective has been fixed, that is the end of the matter -- U.P., or its recruiter and administrator of funds (the University of Wisconsin and the Rockefeller's Budget ~~Office~~ treasury in the U.S.) have no power to re-employ earmarked funds to finance an alternative program-objective. However anyone of these members of what might be called a coalition has significant power in relation to the employment of the human and non-human means for pursuing the given objective.

Assume then that the fixed goal can be achieved by use of alternative production techniques such as: (1) recruit U.S. professors only (2) re-employ Ford's grant and produce 4 Philippine Ph.D.'s abroad at the cost of a U.S. professor (3) recruit an international team of experts at lower average cost. In a decision situation such as this, the employer can be defined only with respect to the power to choose the particular production technique. It seems obvious from those familar with the University of Wisconsin-University of the Philippines Program in Development Economics, for instance, that the employer is not a single dictator whose preferences as to the means employed are decisive for the whole group. Anyone in the coalition composed of U.P., Ford and Wisconsin has a significant power over the means employed including the hiring and firing and the assignment of recruits to their jobs. Note that an exact determination of the relative distribution of total managerial

power is unnecessary so long as any one of the three mentioned has the minimum amount of power to veto any of the remaining two members' decisions with regard to the choice of technique and the hiring, firing and job-assignment of the person in question. It is only in this negative sense that the decision of any one of the three institutions named above is decisive for the whole group. Hence the coalition has to arrive at a unanimous decision with regards to the employment of means -- a paradox of voting does not arise since the members mutually accommodate to each other's differing needs and interests (which are enhanced by achieving the coalition's main goal). Also, the differential power of any one member must not be too large as to be decisive for the entire coalition except in the negative sense just mentioned. Otherwise we would have a single effective employer, not three. It turns out that the American scholar has no one single employer but a committee. It is possible to have many masters.

The State University's passing the burden of employership to the University of Wisconsin (sometimes it quotes Ford and Rockefeller as the employers) appears to be an institutional and paper gimmick. It is a well-known technique which in this case allows the University to practise disguised wage discrimination and in reverse, too - against its own native faculty. The analogy here is suggested by the government practise in, say, the U.S., of establishing quasi-government non-profit

organizations such as the Institute of Defense Analyses which is similar to Ford's and U.P.'s creation of a Wisconsin-U.P. Program in Development Economics housed in Madison, Wisconsin. Unable to hire additional analysts for a given job at existing government wages, the U.S. Department of Defense sponsored the founding of this institution in order to hire more analyst at their higher opportunity costs without raising the wages of intra-marginal persons who perform the same job. Their main if not sole customer, is the Defense Department. A variation of this gimmick is also practised by U.S. firms in the Philippines like ESSO. In view of Mayor Villegas' and President Marcos' repeated national campaign against wage discrimination, the analysis presented in this note is highly pertinent. Note a growing national goal implicit in this campaign-avoidance of national affront caused by wage discrimination and also the promotion of "fairness".

I realize I have simplified the problem which faces the U.P. and its financial supporters. Choice-problems are complex and there are additional considerations I have omitted. The U.P. certainly benefits from association with foreign scholars and the University has been able to avoid the vice of inbreeding. I find that some of my American and Filipino colleagues are as disturbed and concerned about the very large disparity in incomes of persons doing the same job. Furthermore, U.P.'s use

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of Ford's and Rockefeller's relatively untied aid increases the Philippines' supply of services from first-rate scholars. But as suggested earlier, there are alternative ways of reallocating Ford and Rockefeller's money without recourse to systematic wage discrimination in favor of one ethnic group and against the largest minority group in the Philippine-the Filipinos. Furthermore, it does not seem legitimate to view wage discrimination as the price paid for adding to the flow of scholarly services in the Philippines. This rests on a questionable view of the national welfare function -- that it is a real-valued scalar which depends on a weighted algebraic sum of the values of such variables as the amount of scholarly services, the degree of wage discrimination and so on.

It appears from the growing sense of national awareness and dignity and the reference to Mayor Villegas and President Marcos that the national welfare function might be vector-valued. Given three investment projects (1) ₱220,000 for the importation of a U.S. visiting scholar for a year or (2) devote the same resources for either recruiting in less expensive non-Philippine markets or (3) produce about four Filipino Ph.D.'s who have M.A.'s and part of their theses completed (for 3 years each in the U.S. or England). Given a vector-valued social utility function a particular investment is preferable to an alternative project costing the same amount if systematic wage discrimination is avoided and then if that particular pro-

ject yields the highest net discounted flow of first-rate scholarly services to the country. The Appendix shows that (3) is the economical solution. It is claimed here that U.P. has the employment power to re-allocate its grants to achieve its given goal. But it authorizes the coalition to employ U.S. professors only at their monetary opportunity costs. Since the Philippine scholar's monetary and real opportunity costs are also rising and given the University's beggar-your-native faculty policy the latter are quitting the University. Hence in a sense U.S. professors have taken over the former's jobs including that of research -- an allocative effect of U.P.-Rockefeller-Ford and Wisconsin's wage policy.

APPENDIX

The goal for which the coalition of U.P.-Rockefeller and U.P.-Wisconsin-Ford was formed seems to be the maximization of the integral of new and discounted educational services at the university level.

$$\text{Max} \int_{t=0}^{n} P_t \varepsilon^{-\delta t}$$

$\delta = \ln (1+i)$, the force and effective ratio of interest respectively. $P_t = f(t)$ is the stream of educational services and is some function of time. Assume that $i = 10\%$ is the opportunity cost of postponing education for a year and is probably slightly lower than the general equilibrium market rate since its final use is earmarked. Its employment use in production is, however, not fixed and i may be measured as the rate of return in the most efficient production technique. But it is simpler to treat i as a pure impatience rate. The initial investment cost we are considering is ₱220,000. Assume a minimum acceptable planning horizon of either four or five years. In production technique (i) - recruit a U.S. professor for a year

$$P_t = I_o + 1/2\ I_o + \ldots + (1/2)^4 I_o$$

or some such reasonable function where I_o is the unknown return in the first year. For Project (3) - produce 4 Philippine Ph.D.'s - its corresponding the stream of services $Y_t = 4 I_o$ during the fourth year and zero before that. Actual solution -- examples to these integrals showed that

$$\int_{t=0}^{4} Y_t \varepsilon^{-\delta t} > \int_{t=0}^{4} P_t \varepsilon^{-\delta t}$$

Any reasonable set of assumptions with respect to production technique (2) - recruit a multinational team -- also showed that

$$\int_{t=0}^{5} Y_t \varepsilon^{-\delta t} > \int_{t=0}^{5} M_t \varepsilon^{-\delta t}$$

At least 2 members of the coalition -- U.P. and Ford -- seem to have an additional goal to the combined coalition of U.P.+Ford-Wisconsin. Each of the former's utility function may be represented by $M_t = P_t + f(H_t)$ where the variables are measured in money income (M) units. H denotes the accumulation of Philippine Ph.D.'s. Since we assume that the variables are results of our initial investment in higher education, the effect on M of an additional investment is

$$\Delta M = \frac{\partial M}{\partial P} \Delta P + \frac{\partial M}{\partial H} \Delta H$$

Since $\frac{\partial M}{\partial P} = 1$, $\Delta M = \Delta P + \frac{\partial M}{\partial H} \Delta H$

Neither the exact value of the coefficient of ΔH nor the marginal rate of substitution $\frac{\partial P}{\partial H}$ between P and H is known for lack of data and because of the inscrutability of the planners. But clearly the inclusion of H_t in the maximands above enhances the superiority of technique (3).