

ABSTRACTS OF DISSERTATIONS AND THESES

Ph.D. Dissertations

- ✓ Filologo Pante, Jr., *Consumer Demand Functions: An Empirical Evaluation of Alternative Functional Forms*, School of Economics, University of the Philippines, 1976.

The objectives of the study were two-fold: (1) to derive independent estimates of personal consumption expenditures (PCE) broken down by item of expenditure for the period 1949 to 1974 and (2) to fit alternative consumer demand functions to the estimated data base and evaluate the relative performance of each functional form.

The functional forms considered were the single equation double log or "constant-elasticity-of-demand" (CED) function, the single equation "stock adjustment" and "state adjustment" demand models, the linear expenditure system (LES), the Rotterdam demand system and the indirect addilog demand system.

On the whole, the results suggested that the choice of which model to use depends on the objectives of one's analysis. If the objective was the prediction of expenditures, the LES was found to be clearly superior to all the other models. However, if the purpose of the analysis was the prediction of the budget shares, such as is common in many allocation problems, the Rotterdam model was unmatched in its predictive ability.

Regarding the use of the single equations approach versus the complete systems approach, the study demonstrated the distinct advantage of the former over the latter in terms of flexibility in its specification and simplicity in its estimation. The systems approach could not claim these advantages.

A couple of directions for future research were suggested by the study: (1) Additional work can be done to improve further the consumption data base. A program of work can include, among others, the derivation of a longer time series, the breakdown of the annual totals into semestral or quarterly components, the improvement of the price series and the refinement of estimates of consumer purchases of durable goods. (2) Time series data may be jointly used with budget data and the problem of multicollinearity among explanatory variables may be further studied.

- ✓ Vicente B. Paqueo, *Economic-Demographic Interactions and the Impact of Investments in Population Control*, School of Economics, University of the Philippines, 1977.

The study examined the interaction between economic and demographic factors, particularly the effects of investment in fertility control on the birth rate, population size and such economic variables as GNP,

wage rate and family income. It noted that most of the analyses, so far, of the economic impact of population control have been made on the assumption that the cost of reducing fertility was negligible. Its examination of the current family planning program, however, revealed that population program expenditures appeared substantial. To assess the economic-demographic effects of investments in birth control activities, it constructed a family planning program sub-model which was grafted to an economic-demographic model. Results showed that the effects on per capita income and real wage seemed significant. However, family incomes appeared largely unaffected and the effect on the traditional investment to output ratio (I/Y) seemed minimal.

One of the outcomes of the study's projection without family planning was that, if the economy were to depend on its own savings, the average annual rate of growth of GNP would be less than the historical growth rate and government long-term target of 8 per cent.

Noting that aggregate output is reduced due to a relatively smaller labor force, it suggested that if population control programs were accompanied by a rise in the labor participation rate, particularly of women, the payoffs from family planning may be larger. It also observed that the payoffs from the family planning program basically stemmed from the decrease in the number of persons sharing in national output, not from increased production and saving, thus implying that population control does not necessarily lead to more rapid economic growth defined as sustained increase in total output. Hence, the study pointed out that family planning was not a substitute for effective development policies.

✓ Djamaluddin, *Interregional Comparative Advantage in Rice Production in Indonesia: A Domestic Resource Cost Study*, School of Economics, University of the Philippines, 1978.

This study estimated the domestic resource cost (DRC) at shadow prices of increasing rice production in different regions of Indonesia using different production techniques. Comparative advantage was expressed as the ratio of domestic resource cost to the shadow price of foreign exchange.

Testing the hypothesis that the DRC of increasing rice production was greater in the Indonesian outer islands than in Java, three different techniques of production in West and East Java and four different techniques in South Sulawesi and Aceh (Sumatra) were analyzed, using 1974 production and marketing cost data. DRC coefficients for Indonesian outer islands and Java were compared to those of the Philippines, Thailand, Taiwan and the United States.

The major findings were:

- (i) All seven systems of rice production in the four provinces had comparative advantage at the cif price of \$350, and the DRC at shadow prices was smaller in Indonesia's outer islands than in Java;
- (ii) The range of DRC coefficients was comparable to that of Taiwan, smaller than that of the Philippines but greater than those of Thailand and the U.S.;
- (iii) The DRC coefficient was relatively sensitive to changes in the

import price of rice, yield and the shadow price of land.

The major factors contributing to the higher DRC of the systems in Java were higher shadow prices of land and government subsidies for gravity irrigation. This was supported by the finding that out-of-pocket costs of the systems in Java were lower than those in the outer islands.

The study noted that land being the most limiting factor in Java, changes in the sources of output growth and a slight variation in the yield assumption of the systems in Java might alter the order of DRC rankings.

Osman Rani Bin Hassan, *Technology and Size of Manufacturing Industries for Regional Balance and Labor Employment*, School of Economics, University of the Philippines, 1977.

The study examined the role of industrial technology and firm size in attaining Malaysia's development strategy for regional balance and employment creation. The approach undertaken was essentially a synthesis of location theory and the theory of production, where firm size and technology were assumed to be important linking variables. The study's findings related to (i) regional distribution of industries, (ii) employment creation and (iii) scale and technology.

Regional Distribution of Industries

In terms of full-time employment, the share of the four most industrialized states (Selangor, Penang, Perak and Johore) in Malaysia was high; and it increased from 78.7 per cent in 1963 to 82.8 per cent in 1968 and 84.0 per cent in 1972. In terms of value added, the share was even bigger and also increasing from 81.2 per cent in 1963 to 83.6 per cent in 1968 and 86.8 per cent in 1972.

Although spatially imbalanced industrial growth was not a uniquely Malaysian phenomenon, the import substitution policy through protection, encouragement of foreign investments, incentives based on capital expenditures and initial stage of development of industrial estates in the more prosperous regions had intensified the concentration of growth in localities which already possessed comparative advantage.

Smaller firms were more widely dispersed for the reasons that:

(a) localized submarkets were more suitable for small-scale and rural enterprises as the demand from low income groups tended to favor goods produced with more labor-intensive technologies;

(b) small firms were less likely to depend on agglomeration economies and linkages;

(c) small firms were less sophisticated in their organizational structure and therefore easier to operate. They could easily be handled by the local people who knew their areas best;

(d) small firms were less transport sensitive and were generally more intensive in the use of labor and local materials; and

(e) small and medium industries were capable of absorbing more part-time and home workers.

For these reasons, the promotion of smaller firms as a matter of policy should help realize the objective of regional balance.

Employment Creation

The possibility of substitution between capital and labor in industrial production was limited irrespective of firm size. This also meant that the elasticity of employment with respect to the real wage was low and an increase in capital cost relative to the real wage was not likely to generate much additional employment for a given size of industry.

Scale and Technology

Large-scale industries were more capital and skill intensive than the smaller industries. The large industries had lower elasticity of employment, much less than unity, with respect to output. Hence, large industries were more suited as a source of growth for the economy rather than as a source of employment creation. There seemed to be a justification in embarking on small and medium industries since these were more in conformity with factor endowments.

M.A. Theses

Winifrida V. Mejia, *Some Effects of Financial Policies on Industrial Promotion*, School of Economics, University of the Philippines, 1979.

The paper tried to show that for less developed countries to achieve full employment and a higher rate of economic growth, what was needed was an increased saving propensity or a reduced capital-intensity in production or both. Towards this end, the financial system was seen to play a crucial role. For one, it could influence saving and investment decisions through its policies on credit and interest rates. In the process, it could likewise influence employment and the capital-intensity of production.

The more important findings of the study were:

(1) The relationship between saving and interest rates was weak and uncertain. There were indications, however, that saving could be induced by stimulating investment.

(2) The relationship between the capital intensity of production and interest rates was strong. This implied that interest rate policy could be used to influence the employment growth rate.

(3) The attempt of the government to raise investment by imposing ceilings on interest rates could lead to distortions in the capital market, as well as excess demand inflation which could intensify disequilibrium growth.

(4) In allocating investment to priority activities, preferential interest rates and rediscount rates have been used by the financial system to promote preferred industries. However, in comparison with the rate of subsidy obtained from protection as well as with the penalty on exports, the subsidy rate obtained from preferential interest rates presently granted to priority activities such as export-oriented industries was small.

(5) Though the Industrial Guarantee and Loan Fund was designed to encourage small- and medium-scale industries and has been beneficial to small investors who have insufficient collateral to back up their loans, the total amount of loans granted through this program was very small (1 per cent) relative to total investments in manufacturing, although it accounted for a more significant portion (about 36 per cent) of total investment in small-scale industries.

Virginia Teodosio, *A Case Study of Casual Employment in the Philippine Government: The Ministry of Public Highways*, School of Economics, University of the Philippines, 1979.

This study aimed to examine the reasons for and the causes of the growing employment of casuals in the government.

Casual labor was defined as an intermittent type of labor, an emergency resource to be called upon as the needs of the service required and therefore only for limited durations. At the Ministry of Public Highways, its tenure had always been subject to the availability of funds and the duration of the project.

The study considered two viewpoints: that of the government and that of the casual employee. From the government's viewpoint, employees were hired primarily because of projects which were seasonal in nature and therefore required the service of casual employees. Moreover, for humanitarian reasons, the government absorbed casual employees in order to give jobs to unemployed persons. From the employee's point of view, he seemed better off in being a casual than in having no work at all.

In the case study, it was found that most casual employees were newly hired. Almost all did not have civil service eligibility and therefore had difficulties of becoming permanent. In addition, casual employees performing regular jobs could not hope to become permanent unless there was a vacancy in the plantilla. More benefits seemed to be enjoyed by the permanent and temporary employees than casual employees. Concerning salary rates, compensation differentials were confirmed.

A number of conclusions were drawn from the study. They were:

(1) The data supported the hypothesis that the incidence of casual employment was mainly influenced by the type of programs and activities undertaken by an agency.

(2) The work assigned to casual employees could be part of the regular activities of the agency, hence they were employed for prolonged periods of time.

Furthermore, the Joint Memorandum Circular No. 1 Series of 1979 by the Civil Service Commission, Commission on Audit and the Ministry of Budget which basically aimed to limit casual employment on a project basis was found to be in the right direction, if only to stop the misuse of funds with regard to casual employment.

Finally, the study noted that from the standpoint of economic policies, it was important not only to consider generating employment opportunities but also to consider altering the distribution of demand for labor over the year, if only to reduce instability of employment.

✓ Vivien Q. de la Torre, *Contractual Arrangements in Labor Utilization: The Case of Rice Farming in Selected Areas of the Philippines*, School of Economics, University of the Philippines, 1979

Studying institutions as a means to allocate resources, this paper focused on contracts entered into between farm operators and hired labor in rice farming. It examined the different arrangements in various farming activities, described these arrangements in terms of such factors as the means of payment, enforcement devices, hiring procedures, and input contributions and explained differences in patterns observed.

The production patterns observed were explained by the competitive theory of contracts. Intensities of both inputs — labor and fertilizer — were directly related to land quality; the marginal products of the inputs being greater on better quality land. Thus, marginal productivity was adjusted across farms by regulating the intensities of the factors of production. Another device for adjusting marginal productivity was farm size. Furthermore, mechanization was responsive to farm size, even in family-based farms.

The patterns in labor hiring were explained by the second-best theory of contracts. In land preparation, the daily wage arrangement was associated with the use of a plow and the "pakyaw" with the use of a tractor. In harvesting, the daily wage arrangement prevailed in areas of low physiological density and good land quality while the sharing arrangement prevailed in areas of high physiological density and poorer land quality. Also mentioned was the new system called "gama" which required harvesters and threshers to weed the plot as well. This was a case of adjusting to significant increases in productivity and population pressure by increasing the volume of work while retaining the share ratio.

The study further noted the change from the share arrangement to the daily wage arrangement in harvesting in the high wage areas. Due to higher intensity of operation and high wages, the percentage of supervision cost to total harvesting cost was lower than in other areas. Also, this arrangement allowed supervision by family workers at the same time in areas where family labor was more extensive.

Finally, the study recommended that further studies should be undertaken to develop finer land quality indices, wage indices and commercialization indices.

✓ Bharat B. Karki, *Impact of Modern Varieties of Rice on the Farm Income and Income Distribution in the Selected Districts of Eastern Nepal Terai*, School of Economics, University of the Philippines, 1979.

This study explored the benefits and their distribution of Modern Varieties (MV) of rice as compared to Traditional Varieties (TV) of rice in selected districts of Eastern Nepal Terai. Specifically, it measured the relative costs and revenues of TVs and MVs, quantified the change in the composition of labor use (family, hired and exchange) from TVs to MVs, and calculated the elasticity of substitution between labor and capital in the production of each of the two rice varieties.

The main findings were as follows:

(1) Average yield was higher for MV than for TV rice. In spite of an increase in capital, intermediate input and labor cost, the net income to the farmers producing MV was higher (by 22 per cent) than that of farmers producing TV.

(2) The labor requirement for MV rice was higher than for TV rice. The labor requirement was about the same for land preparation and for crop establishment. However, the labor use for weeding and harvesting was higher for MV rice than for TV rice. For all operations, except weeding, family labor use was lower for MV than for TV rice, hence the substitution of hired labor for family labor in the production of MV rice. This implied that the standard of living of the poorest class (hired labor) was improved with the introduction of MV rice.

(3) The elasticities of substitution of labor for capital were about the same as between indigenous and modern technology, suggesting that the new technology was neither more labor- nor more capital-saving than traditional technology. This resulted in a static ratio of the relative share of labor to capital.

The study suggested that higher production, productivity, and equity in the distribution of higher output can be attained by enhancing the rate of adoption of MV rice and by making packages of modern inputs more readily available. Credit institutions can facilitate this by encouraging tenants in the use of fertilizers and modern inputs. Insecticides can be made available at lower costs. Adequate capital investment for irrigation facilities can be made a long-run policy.