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YAIR MUNDLAK

Section Summary

The first paper, by Yair Mundlak, laid out a framework for the analysis. Growth, measured in terms of output per caput, is generated by increasing the ratio of other inputs (aggregated under the title 'capital') to labour and by the efficiency of their utilization. Agriculture competes with other sectors for labour and capital. This process has been going on in all economies regardless of the degree of imperfection of the factor markets. The share of agriculture in total resources depends, among other things, on the intersectoral differences in the rates of return which in turn depend on the sectoral prices. Agricultural real prices depend on world prices as well as on macro and trade policies. The empirical evidence indicates that world prices are well transmitted into domestic prices. As such they affect the sectoral rates of returns and the intersectoral resource allocation. This is the main channel through which world events affect domestic agriculture.

Persistent low wages in agriculture have led to a continuous decline in the share of agriculture in the labour force. At the same time, the differential rates of return lead to a capital accumulation in agriculture. The decline in the labour force and the increase in capital augment the capital/labour ratio and that contributes to an increase in average labour productivity.

The other source of productivity growth is the whole complex of events that are coined technical change. These are: (1) an expansion of human capital, such as research, extension, education; and (2) an expansion of physical public goods, such as roads, communication, major irrigation projects and so on. All these require resources and as such are to be financed by domestic savings or by capital inflow. This generates the tie between the pace of technical change and the pace of capital accumulation. It is in this sense that the implemented technology is endogenous. In some cases the research is done abroad and is applied domestically at low expense and as such it is perceived as exogenous. This simply reflects the externalities that are generated by research.

These topics were discussed in the various papers with varying emphases of the subjects in question. John Mellor and Uma Lele used Asian and African perspectives to emphasize that agricultural growth and its relation to global developments are complex processes in which relative prices play an important role along with a wide range of other forces particularly including provision of public goods. Because there are long time lags between initiatives of public investment in critical public goods and their effect on growth, price expectations are important.

As forecasts are subject to errors, they suggest that it is advisable to develop stable, long-term investment policies for these public goods. In this, they note that recent research results show that stability of policies and institutions which have tended to support and augment long-run comparative advantage of countries have turned out to be the most effective in achieving agricultural growth.

The importance of human capital in enhancing agricultural productivity was summarized in the comprehensive and informative survey by Robert Evenson. The paper deals with the issues of measuring and understanding the sources of growth in agriculture. High rates of return in research explain the major expansion in research in most countries as well as the expansion of the international network. In his discussion of this paper John Antle pointed out, among other things, that the rate of return attributed to research may have an upward bias by not taking into account the negative externalities generated by modern agriculture.

The relationships between productivity and prices were brought up in the paper by Cornelis van de Meer on Agricultural Growth in the EC and the effect of the CAP. Time series show that the EC had a better productivity growth performance than the traditional cheap exporters. This, he suggests, is due to the fact that price levels of the traditional cheap exporters may have been too low for achieving optimal growth. He suggested a conceptual framework which implies that too high a rate of protection also decreases growth rate. In discussing this paper Yuko Arayama indicated that the relationship between price levels and growth rate of productivity is an observed phenomenon that may have several interpretations.

In this connection, the paper by Domingo Cavallo has shown how macro and trade policies affected productivity of agriculture in Argentina. This paper, based on analysis of data for the period 1913-84 indicated that expansionary fiscal and monetary policies and trade policies led to a decline of the real rate of exchange. Since agriculture is found to be more tradeable than non-agriculture, it suffered from such policies. This has generated an increasing gap between yields achieved in Argentina and the USA. This result is in line with the observation made by van de Meer, but more importantly it provides an explicit structure for evaluating the underlying causality and it quantified it. The discussion by Juan Carlos de Pablo suggested that one should explore the more balanced sectoral growth that will result from correcting the trade and macro policies that Argentina followed, in addition to the ones examined by Cavallo.

As indicated above, the various policies affect intersectoral rates of factor returns and thereby affect off-farm labour migration. The paper by Yuko Arayama dealt with this issue with reference to his analysis of the Japanese experience. He indicated that the adjustment made is both in terms of hours worked and number of people engaged in agriculture. The paper discussed the issue within the farm-household model and used a household production function in addition to the agricultural production function. John Strauss discussed the paper with reference to the broad literature of farm-household economics.

The papers by Marc Nerlove and by Martin Kimmig and Anita Stilz extended the scope of the discussion. The first reviewed von Thünen's location theory and examined possible applications to development. The discussion by Jame Ohmke

indicated how such an analysis could be extended by properly adding the concept of dynamic equilibrium.

The latter paper brought in tools of time series analysis which assume no structural relationships to bear on the relationships between terms of trade and GDP. The discussion by Stanley Johnson placed the paper within the proper econometric framework and indicated the limitations of such approach to the study of problems when structure prevails.

Rapporteurs for the above sessions of the conference were:

MASURU KAGATSUME
CONSUELO VARELA-ORTEGA
JULIO HERNANDEZ

Participants in the discussions included:

Yair Mundlak, G.T. Jones, B. Gardner, T. Dams, S. Collison, W. Martin, A. Fantino, A. Burger, P. Dentes, D. Miro, E. Osbchatko, M. Triani and E. Vincent.