W. ARTUR LEWIS LECTURE:  
THE LEWIS MODEL OF “ECONOMIC GROWTH WITH UNLIMITED SUPPLIES OF LABOR”

Charles P. Kindleberger

The National Economic Association introduced the W. Arthur Lewis Distinguished Lecture series in December 1985. The Lewis Lecture is named in honor of the 1979 Nobel Laureate in Economics, much of whose research has been devoted to the problem of Third World economic development. A native of St. Lucia, in the former British West Indies, Arthur Lewis has risen to fame as the preeminent development economist of his generation. He is most famous for his 1954 Manchester School paper on economic development with unlimited supplies of labor, but his contributions span the fields of industrial organization, public finance, and international trade. He was one of the first to explore in depth the evidence on movements on terms of trade between industrialized and developing countries and was the first to perform a regression analysis in empirical trade research. Lewis was an active advisor to various governments in West Africa, the Caribbean, and Southeast Asia during the development decades. He says that he conceived of the idea of unlimited supplies of labor while on mission in Bangkok, Thailand in 1952. This third lecture in the series, by Professor Charles Kindleberger, examines the broad applicability of the Lewis model.

Barbara A. P. Jones
1987 NEA President

The corpus of the work of Sir Arthur Lewis is so filled with fascinating ideas, theorems, conjectures and speculations that we should all be happy as economist kings and queens. This lecture, I am told, however, is supposed to be about economic development, a subject I flirted with some years ago and then abandoned in favor of international finance and economic history. I hope I shall live up to the letter and spirit of your request
this afternoon if I return to the Lewis model of growth with unlimited supplies of labor that I used in a book on *Europe's Postwar Growth: The Role of the Labor Supply* in 1967,¹ and then applied to the British industrial revolution. It strikes me as perhaps still apposite as we contemplate the movement of blacks out of Southern agriculture to Northern cities in World Wars I and II, and today's migration to the United States of peoples from Central America and the Caribbean on the one hand, and from wartorn Asia on the other. I propose to discuss the Lewis model with its strong affinity to the Marxian model, based on a reserve army of the unemployed, and then to hold forth succinctly on its implications for national and international income distribution.

**THE MODEL**

First, let me remind you how the model works. There are two sectors, one industrial and one agricultural. Labor is paid less in the agricultural sector than in industry, and is ready to move if the demand is there. There is disguised unemployment in the agricultural sector, meaning that labor's marginal product is below what it needs for subsistence, the difference being made up by a subtraction from rent on land. The landowner is prepared to share the rent with his workers because they are members of his family. The two sectors are portrayed in Figure 1.

In the first period, when labor is allocated partly in the industrial sector and partly in agriculture, at $L_1$, the marginal revenue product in agriculture is below the wage, and the triangle of excess wage paid agricultural labor is offset by payments out of the rent.

Now comes a shift in the marginal revenue product schedule in the industrial sector. Observe that the Lewis model does not generate growth by itself but needs an autonomous shock such as an innovation, or a large dollop of investment. Since there is an unlimited supply of labor available to industry from agriculture, the increment of labor ($L_1 - L_2$) does not raise wages in industry but enlarges profits. In the agricultural sector, the subtraction of labor ($L_2 - L_1$) raises the marginal revenue product of labor along the unchanged schedule, and reduces the subtraction necessary from rent. Thus profits increase in one sector, and net rent in the other, with wage rates in each sector unchanged. There is, of course, an increase in wages available to those persons who shifted.

The model has a self-propelling dynamic if the enlarged profits in the industrial sector are invested further, shifting the $MRP_L$ curve up further, and it can even happen that landlords in agriculture, finding their net rent