

**THE LEWIS MODEL AFTER 50 YEARS:
Assessing Sir Arthur Lewis's Contribution to
Development Economics and Policy
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ABSTRACTS OF PAPERS

Earning Inequality in Sri Lanka

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Abstract

“To Lewis, the study of why development occurs was not simply to satisfy intellectual curiosity, but it was to be useful in meeting ‘the practical needs of contemporary policy makers’ (Lewis, 1955:5).” (Excerpt from the VII Sir Arthur Lewis Memorial Lecture by G M Meier, Kingstown, StVincent and the Grenadines.)

Since the 1990s, accelerating economic growth has regained its dominance in the anti poverty strategies. However, the rising tendency of income inequity at the global level and within the countries emphasises the need to incorporate distributional factors to make the pro-poor growth strategies effective. This paper explores the sources of this surge in income inequality in a developing country context. The paper attempts to estimate an earnings function for Sri Lanka based on the household expenditure survey. The earners are distinguished by ethnicity, gender, sectors of employment, place of residence, education and occupation. One of the significant results of this study is that there was no ‘ethnic effect’ per se on earnings in Sri Lanka. Having seen a significant gender effect in earnings, the paper further attempts to calculate the degree to which this gender difference in earnings represents ‘discrimination’ against women.

The Dual Role of the Terms of Trade: the Indian Experience of Agriculture-Industry Interaction 1950-2001

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Abstract

Using Indian data for the period 1951-2000, this paper makes econometric tests of crucial propositions in W.A. Lewis's and N. Kaldor's models of the dual economy, viz. Kaldor's assumption that the intersectoral terms of trade is an exogenous variable, their common assumption (implicit in Lewis's model) of "autonomous" agricultural growth, and finally, their contesting propositions regarding the effect on industrial output of change in the terms of trade. Our econometric results indicate that neither agricultural growth nor the terms of trade are autonomous. On the other hand, Kaldor's emphasis on industrial output being demand-determined (by agriculture's demand) appears to be more justified, at least in the Indian context, than Lewis's view of supply-driven or cost-determined industrial output. In other words, the positive demand effect of more unfavourable terms of trade to industry appears to be stronger than the negative cost effect.

International Migration, Segmented Labour Markets and Competitiveness: Amalgamating the Lewis and Balassa-Samuelson Models

Richard Brown and Karen Hooper*

Abstract

We integrate three hitherto unconnected strands of economic theory; Lewis' dual economy model, the Balassa-Samuelson model and, segmented labour market theory. With our hybrid model we investigate the implications of migration with labour market segmentation for an economy's international competitiveness, where the migrants are concentrated in the secondary labour market and this segment supplies unskilled labour to the non-traded goods and services sectors. Our model reveals a number of original and counterintuitive insights that conventional models are unable to address. We show how international migration allows an economy to prevent appreciation of its real exchange rate, forestalling the loss of international competitiveness predicted by Balassa-Samuelson to accompany economic growth. The essential transmission mechanism is through the relative prices of traded to non-traded goods, rather than unit wage costs in the traded goods sectors.

Key Words: Lewis model; international migration; segmented labour markets; relative productivities; Balassa-Samuelson model; real exchange rates; international competitiveness; (non-)traded goods

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Theorising the Links between Social and Economic Development: the *SIGMA* Economy Model of Adolfo Figueroa

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Abstract

The *sigma* economy model of Adolfo Figueroa explains how labour market segmentation and inequality is perpetuated through exclusion in the provision of formal education, financial services and social protection. This article highlights the originality of the *sigma* model by contrasting it with dual economy models in the tradition of Arthur Lewis, which assume eventual labour market integration. The *sigma* model is consistent with methodological individualism, but also provides a strong framework for integrated analysis of social and economic dimensions of development.

Key words: dualism, exclusion, Figueroa, Lewis, economic development.

JEL Classification: I32, J15, J40, O10

Arthur Lewis and Industrial Development in the Caribbean: an Assessment

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Abstract

Sir Arthur Lewis was the first person to formulate a coherent strategy of industrial development in the Caribbean. In a paper entitled: “*Industrialisation of the British West Indies*” published in 1950, he provided a fully articulated framework for capitalist industrial development in the small states of the Caribbean. The paper also provides the basis for a regional approach to economic development in the Caribbean. It also contains a number of useful theoretical insights into international trade and the role of foreign direct investment. Prior to this seminal paper, Sir Arthur had outlined aspects of a strategy for industrial development in Jamaica and reviewed the industrial development of Puerto Rico. While these works had a practical policy intent, there is no doubt that they helped him to formulate a more general ‘model’ of economic development as discussed in his celebrated 1954 paper on “*Economic Development with Unlimited Supplies of Labour*”.

This paper assesses Lewis’ ideas on industrial development in the Caribbean, as formulated during the period 1938 to 1950, in light of current thinking on industrial development policy. The paper first outlines the Lewis strategic model of industrial development in the small states of the Caribbean. It then reviews the industrial development of the region since the 1950s. The final section examines the future of industrial development in the Caribbean in light of changing domestic, regional and international environments. The section also examines the sustainability of a Lewisian strategic model of industrial development in small developing economies.

Dualism in the Labour Market

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Abstract

Much of Arthur Lewis's classic article "Economic Development with Unlimited Supplies of Labor" concerns labor market dualism, which is the idea that comparable workers earn different amounts depending on which sector of the economy they are able to find work in. This paper will review Lewis's seminal ideas as well as dualistic labor market models that followed his.

Testing the Lewis Model: Economic Development in Latin America During the Twentieth Century

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Abstract

‘Economic Development with Unlimited Supplies of Labour’¹ contains a growth model in the classical tradition designed as a representation of early industrialisation in developing countries *over the long run*. Central properties of this model include: (i) high and rising labour productivity in industry, while in agriculture it is low and stagnant; (ii) labour reallocation from agriculture to industry as the basis for ‘extensive’ growth; and (iii) a rising investment rate as growing incomes permit increased saving.

Lewis based his highly influential model on ‘stylised facts’ drawn from economic history rather than systematic quantitative evidence, which was not available for developing countries at that time. However, the recently completed OxLAD database² now provides comparable economic and social series for the major Latin American economies for the whole of the twentieth century. This paper is thus able to test Lewis’ propositions for both the fifty years before his model – covering the transition from primary export led growth to import-substituting industrialisation – and the subsequent fifty years of transition from closed to open economic strategy.

The results of this analysis³ are surprising: (i) while industrial productivity growth was rapid during the middle years of the century, it was not sustained thereafter; (ii) agricultural productivity has grown relatively rapidly and steadily over the entire century, at rates comparable to those of industry; (iii) while labour did leave agriculture and industrial growth was ‘extensive’ during the import-substitution phase, most of the labour released ended up in urban services; and (iv) that although the investment rate did rise initially with industrialisation, it remained volatile throughout the century and capital accumulation was insufficient to sustain growth thereafter. None the less, Lewis’ reservations about the growth potential of reliance on primary exports and the importance of human capital accumulation⁴ do both seem to have been justified.

¹ Lewis, W.A. 1954. ‘Economic Development with Unlimited Supplies of Labour’ *Manchester School* 22: 139-91

² *Oxford Latin American Economic History Database (OxLAD)* available on <http://oxlad.qeh.ox.ac.uk>

³ Preliminary results are given in P. Astorga, A. Berges and V. FitzGerald 2003 ‘Productivity Growth in Latin America during the Twentieth Century’ Oxford University, *Discussion Papers in Economic and Social History No 52* available on www.nuffield.ox.ac.uk/economics/history

⁴ Lewis, W.A. 1955 *The Theory of Economic Growth* London, Allen & Unwin.

Does Political Structure Really Matter? New Evidence on Political Structure, Human and Financial Development and Economic Growth[#]

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Abstract

Sir Arthur Lewis placed his landmark paper, “Economic development with Unlimited Supplies of Labour” (Lewis, 1954) firmly in the classical tradition of economics. In this tradition, one of the main questions of interest is how economies can grow endogenously over time through capital accumulation. Even before the publication of Solow’s 1956 paper on neo-classical growth (Solow, 1956), Lewis was critical of the neo-classical approach as he believed that it could be relevant only to the few industrialised countries that had already accumulated sufficient capital to absorb the bulk of the available labour force, and not to the vast majority of (developing) economies where labour was, practically, in unlimited supply. In Solow’s paper the supply of labour is fixed and capital accumulation is therefore limited by diminishing returns to capital. Sustained growth can only occur with the aid of some exogenous force such as population growth or technical change. As Lewis argued, in a definitive critique of this approach (which of course predated Solow’s paper!), this effectively treats the main forces of interest as being exogenous. Nevertheless, it was Solow’s paper that set much of the research agenda for understanding economic growth in the following 30 years, with Lewis’s work being familiar to development specialists rather than at the centre of the mainstream.

The resurgence of modern growth theory is usually dated from Romer’s work (Romer, 1986) in which he described a model that does allow for sustained growth in output per head to take place endogenously. In Romer’s model, the labour force is fixed but sustained output growth can occur without diminishing returns to capital because of human capital externalities in the investment process which raise the productivity of all factors of production. In this respect, endogenous growth theory offers an alternative view of unlimited labour: labour supply behaves “as if” it were unlimited because of the externalities generated through capital accumulation. Indeed, Sala-i-Martin and others have characterised the “new” growth theory as representing a revival of the classical tradition. It is interesting but perhaps fruitless to speculate how much quicker these developments might have occurred had Lewis rather than Solow become the main research paradigm in the 1950s and 1960s.

These paradigms of the growth process can be enriched in several ways, particularly by introducing the role of finance in growth following the seminal contributions of McKinnon (1973) and Shaw (1973). A more recent but equally important innovation, stemming from

[#] Useful comments on a previous version of this paper were received from Dominique Gross, Tony Killick, George Mavrotas, Frederick Nixon and participants at the conference on “Business and Development Finance”, held at the University of Manchester 5-6 April 2001. The paper is carved out of a PhD thesis successfully defended by the first named author at the University of Wales, Cardiff (see Evans, 1999). We thank the University of Wales for funding the overall doctoral research and the Department for International Development (DFID) for specifically supporting the work for this paper under the “Finance and Development Research Programme”, Contract No. RSC106506. However, the interpretations and conclusions expressed in this paper are entirely those of the authors and should not be attributed in any manner to DFID.

work by Bilson (1982), is the (arguably, long overdue) recognition by economists that the internal political process of a country may be directly relevant to the growth process. The nature of the political process and the degree of social cohesion in a country are both likely to influence the speed and efficiency with which human capital can be increased, Romer-externalities realised, and financial deepening extended beyond the capitalist sector (singled out by Lewis as being of key importance in the early stages of development) to the population as a whole.

In this paper, we combine traditional growth theory with political economy to investigate the importance of political structure in the economic growth process, controlling for the impact of key economic variables suggested by the theory of growth. The main innovations in the paper stem from the fact that we use a translog production function as the framework to control for the relationships among economic growth and factor inputs. The factor inputs considered are: labour, physical capital, human capital, and a monetary factor. The translog production function enables a richer specification of the relationships among growth and factor inputs, than the more commonly used Cobb-Douglas approach, as it allows for interactions among factor inputs. The basic economic model is then augmented with political economy variables that underpin key hypotheses on political structure. The model is estimated and tested using a comprehensive panel of 82 countries over 21 years.

The main findings are threefold. First, the results suggest that politically open economies (in terms of political rights and civil liberties) experience faster rates of per capita growth than authoritarian regimes. Second, it is found that all definitions of military conflict impart a deleterious influence on economic growth. Third, in addition to political structure, financial and human capital play an important role in economic growth. The implications of this study are that political structure really matters for economic growth, and deserves as much attention as do human capital and financial variables.

JEL Classification: A12, H11, O11, O57

Keywords: Political structure, financial development, economic growth, translog production function

Trade Reform and Fiscal Dependence on Trade Taxes

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Abstract

Historically developing countries have been heavily dependent on trade taxes, as Arthur Lewis recognised in a number of papers, including one in *The Manchester School*. This is largely because collection costs are low relative to alternatives such as broadly based expenditure or income taxes. Empirically a regularity between declining fiscal dependence on trade taxes and growth in GDP per capita is well established, with economic development facilitating a transition to more efficient tax instruments. It has been argued that trade liberalisation can accelerate that process, though the evidence thus far on this is more controversial. This paper revisits the issue and exploits data available from a large number of trade liberalisation programmes to investigate whether they tend to be associated with fiscal diversification or fiscal retrenchment.

Sir Arthur Lewis's Institutional Economics Perspective: Implications for the Analysis of Peasants' Incorporation to Market Economies

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Abstract

This paper aims to trace Sir Arthur Lewis's thinking on economic institutions, how he perceived they are configured, and its implications for economic growth and development. That revision is used to acknowledge his influence on the understanding of how actors from traditional sectors incorporate to the market economy, the constraints they face and the possibilities they have to be part of. Divided in two parts, my analysis starts with a conceptual discussion on institutions and markets, where Lewis's contribution is initially framed in his well known seminal work on economic growth theory from 1955, and it is then related to the development of the institutional economics stream since the 1970s. In a second part I illustrate the usefulness of that body of knowledge to understand the way in what peasants from the countryside area of Peru, in South America, relate to – and perhaps make part of - the market economy.

“Developing the Colonies”: Arthur Lewis as Adviser to the Colonial Office in the 1940s and 1950s

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Abstract

The paper draws attention to the historical origins of Lewis’s 1954 paper, “Unlimited Supplies of Labour” in the fascinating and lengthy Memoranda which Lewis submitted in the 1940s to the Colonial Office. I will argue that his was a strongly personal contribution containing many of the ideas which we have come to associate most closely with him: rural unemployment and underemployment, the concept of trade pessimism, and the importance of public spending on education, law and administration. The paper places the material in the context of the difficult relationship which Lewis had with the Colonial Office, over and above any disagreements there were on the underlying diagnosis of underdevelopment.

The Lewis Model and the Diverging Development Paths of Asia and Africa

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Abstract

Arthur Lewis's paper on 'Economic Development with Unlimited Supplies of Labour' had a profound impact on the evolution of development economics during the first few decades following its publication in 1954. The recent ascendancy of neo-classical economics in development thinking, however, has led to the neglect of various profound insights of Lewis's work which drew on the rich tradition of classical political economy. This in my view has led to a considerable impoverishment of current development thinking.

This is evident in the recent literature on comparative research on economic development in Asia and Africa, as much as in various other areas of development literature. Some of this comparative development literature is focused on mechanical applications of growth accounting exercises using cross-country regression methods, and another major part is devoted to more in-depth comparison of specific issues – both in my view generating limited insights into the divergent growth trajectories of the two continents and their policy implications, because of the lack of underlying systemic thinking which characterized Arthur Lewis's work. This applies to both the neo-classical literature and the work which has appeared as a critique of the neo-classical research on comparative growth performance of Asia and Africa.

In this paper I will revisit the literature on comparative growth of Asia and Africa, and would try to highlight some of the important policy implications of such comparative work, utilizing the framework of Arthur Lewis's seminal paper of 1954. In that paper Arthur Lewis was alert to the fact that the condition of 'unlimited supply of labour' did not apply equally to all the developing countries. As a general regional attribute he only referred to Asia as characterized by surplus labour, and Egypt was the only country in the African continent which he explicitly mentioned as an economy with possibly unlimited supplies of labour. With the hindsight of the development experiences of Asia and Africa during the past five decades, we will try to highlight the policy conclusions of Lewis's framework by examining the divergent development paths of the two continents within that framework.

We argue that many of the policy conclusions derived from a superficial comparison of the differences between the developments paths of Asia and Africa in the literature, put forward either by the neo-classical market oriented approaches or the heterodox interventionist frameworks, do not stand the test of careful scrutiny. Many of the variables which at the first instance are seen as emanating from government policy differences, may have their roots in deeper structural differences, already highlighted by Arthur Lewis in the 1950s. Issues such as the choice of techniques of production, development of economic and social infrastructure, processes of wage determination, and the impact of specific industrial and trade policies, can be significantly shaped by existence of surplus labour. In a long term historical perspective, and at a general continental level of analysis, even the evolution of development strategies may be viewed as endogenous phenomena shaped by underlying structural differences between developing countries with surplus labour and those without.

The Lewis Model and Agrarian Structure

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Abstract

This paper considers the implications of the Lewis model for agrarian structure in the process of economic development. Beginning with what Lewis himself has to say about traditional sector transformation in his model, the paper goes on to raise the question of agrarian structure in the context of the model and its assumptions. Particular attention is paid to the question of whether the transition to development implies the promotion of large-scale agriculture, or land reform and other policies directed to assist the development of smallholder agriculture. In doing so the paper demonstrates the circumstances under which output under smallholder production will be higher than on large farms and, in a situation where labour is abundant, resources will be more efficiently allocated than under large scale agriculture. The conclusion is drawn that Lewis's dual economy model has considerable relevance to agrarian policy, perhaps more in the duality of capital markets than labour markets.

Is Growth Alone Sufficient to Reduce Poverty? In Search of Trickle-Down Effect in Rural India

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Abstract

This paper carries out a theoretical analysis in the light of the Lewis's contribution on the existence of surplus labour. We have examined this view whether economic growth is able to reduce this surplus labour so as to reduce growing poverty. We have carried out several econometric tests in order to examine whether the trickle down effect took place in rural India over a long time-period. We found no evidence to suggest that the trickle down effect did occur, thus implying that the emergence of capital-labour substitution was primarily responsible in preventing growth from reducing poverty. Also this paper suggests that the decline in poverty and a higher growth rate during the late 1970s and 1980s was largely a result of government anti-poverty measures and the more equitable distribution of credit and inputs to smaller and marginal farmers. Hence this role of intervention underpins the Lewis model of development as distinct from the Neo-classical model.

Wages and Employment in Traditional Agriculture

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Abstract

Wages in traditional agrarian societies are often observed to be above reservation wages even in the slack season when markets are in a state of excess labour supply. Models of noncooperative wage setting by landlords which explicitly take account of the costs of supervising hired labour and emphasize worker heterogeneity are developed and analysed. Both symmetric and asymmetric information cases are considered. Conditions are given for the existence of competitive equilibria and their relationship to Nash equilibria. Nash equilibria are shown to be more likely to exist. Nash equilibria exhibit wage dispersion and involuntary unemployment or underemployment with identical workers earning different wage rates.

Key Words: Wages, Involuntary unemployment, Underemployment, Supervision costs.

The Political Element of the Works of Arthur Lewis: Fabianism and Decolonisation of Africa

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Abstract

During the time of demise of the British Empire, W. Arthur Lewis lived in Britain as an active Fabian socialist of Caribbean origin. The first half of this paper deals with the roles he played in the Colonial Office and the Fabian Colonial Bureau in the 1940s, making use of the historical records in Rhodes House, Oxford, and the Public Record Office.

Lewis, a young LSE researcher and Fabian pamphleteer, was appointed as an advisor to the Colonial Office during the Second World War, but came into head-on collision with colonial *laissez-faire* philosophy. With Labour coming into power in 1945, Lewis organized with his Fabian colleague an important conference that sought for better understanding between British socialists and colonial nationalists, to which Kwame Nkruma of Gold Coast was invited among others, where Lewis himself articulated his perception of the ambiguity of colonial elite. Shortly before the Conservatives took office in 1951, Lewis played a key role in publishing an influential policy document, *Attitude to Africa* (1951). In this paperback Lewis presented a blueprint for peasant-led growth of African agriculture, which showed a stark contrast with the mainstream thinking in the Colonial Office about the "backwardness" of African traditional institutions.

The second half of the paper discusses implications of his monograph, *Politics in West Africa* (1965) which proposed a combination of coalition government, proportional representation and federalism for the West African plural societies. In writing this, Lewis drew on his own experiences in West Africa as the economic advisor to Prime Minister Nkrumah of Ghana, from whom Lewis parted in the late 1950s not least due to the urban bias of Nkrumah's development policy. The Lewisian pluralist model of African governance, being reformulated later by Arend Lijphard, has exerted a great influence, in an indirect manner, on the trajectory of multi-party negotiation of South Africa in the early 1990s. Lewis's emphasis on the revitalisation of African peasant economy and his proposition of decentralised democratic governance provide us with practical and theoretical insights into the contemporary challenges faced by Africa and other developing world.

Arthur Lewis and the Determinants of Long-Period Economic Growth

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Abstract

In his *Theory of Economic Growth* and in many of his essays in international economic history, Arthur Lewis searched for a key to the determinants of economic performance over the long-period, and thus to the reasons for convergence and non-convergence. These long-period forces have recently, of course, become a preoccupation of writers within new growth theory, in particular with those such as Sachs and Warner and Easterly, who try to explain the persisting backwardness of Africa, and with Acemoglu et al (*AER*, 2001), who explain chronic underdevelopment in terms of the persistence of institutions hostile to growth. In this essay, we place Lewis in relationship with modern writers on the theory of long-run growth. The main line of argument is that Lewis in the 1950s actually did a better job than these writers of the 1990s and 2000s, albeit with less sophisticated techniques of analysis, in explaining the link between the forces of long-run growth and short-term factors such as economic policy reform. In achieving this, we argue, Lewis's improvised fusion between economics, politics and economic history was particularly valuable, and still has ideas to contribute to the formulation of the theory of economic growth.

Development, Growth and Labour Market Structure

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Abstract

I propose a model of employment choice under uncertainty and imperfect capital markets that explores the relationships between economic and financial development, growth, and labour market structure. Following in the tradition of Arthur Lewis's work, the model distinguishes between different employment sectors that develop at different rates. The model thereby sheds light on the pronounced cross-country and development-specific differences in sectoral employment structure - another of Lewis's themes. Novel econometric evidence finds a central role for both economic and financial development for explaining these differences. Countries with a lower per capita GDP, greater interest rate risk premiums, and larger agricultural sectors are characterised by larger artisan self-employment sectors, and smaller 'formal' labour market sectors containing entrepreneurs who employ wage-and-salary workers. The finding that financial development decreases the number of artisan own-account self-employed workers contrasts with the view articulated in some places that more sophisticated lending practices promote small own-account businesses. That view ignores the broader occupational choice effects analysed in this paper.

Arthur Lewis's Contributions to Development Thinking and Policy

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Abstract

In this paper, I hope to emphasize Arthur Lewis's role in the post-war intellectual history of development thinking and policy, focusing first on the revival and substantial enhancement of the classical school's dualism framework which he pioneered; second, on his other contributions to development theory generally; and third, on the policy conclusions flowing from his work. Throughout, I will endeavor to show how well his contributions have stood the test of time and the assault of critics.

Rural-Urban Migration with Risk Aversion and Regional Uncertainty

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Abstract

In this paper we analyse the role of risk on individuals' migration decisions in a modified Harris-Todaro model. We assume that the individuals are heterogeneous with respect to their preferences towards risk, and regional uncertainties exist in both manufacturing and agricultural sectors located in urban and rural areas respectively. The existence of rural risk has been recognised but has not been explicitly modelled in the Harris-Todaro framework. While the urban risk is a possibility of being unemployed, there is full employment in the rural areas and the associated risk affects agricultural production and wage. We simply assume that the rural risk is caused by random states of nature. Each individual compares his expected pay-offs across sectors thus the migration decision is perfectly rational. The individuals' degrees of risk aversion and distribution of individuals' types within the population determine the migration equilibrium. Our analysis gives two interesting results. First, both risk averse and risk loving individuals may choose to stay in the same sector. The policy makers should take this possibility into account in order to design a suitable policy or a set of policies that matches workers' needs and characteristics in each sector. This leads to our second finding: suppose there is a significant proportion of the risk averse individuals in the urban areas, a policy of rural development that seems, at first sight, to be a desirable tool for reducing the level of urban unemployment may result in migration in both directions (into and out of the urban areas) creating high social and economic costs. Nevertheless our results are achieved under the assumption that we are able to rank the individuals with respect to their preferences towards risk although location decisions may not be monotonic with respect to the degrees of risk aversion.

Social Structure, Underemployment and Rural to Urban Migration: Evidence from Indian Data

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Abstract

A key prediction of the Lewis model is that with industrialization, an increase in manufacturing activities would absorb the unemployed and underemployed from the rural sector. Lewis' explanation of this phenomenon was that as manufacturing activities increase, the underemployed from farm sector would move to urban sector thus underemployment would decline without any change in the wages in agriculture or the industrial sector.

It is implicit in the Lewis' formulation that labour markets are homogenous in the agriculture sector and labour migration is not influenced by prevailing socio cultural structure of the economy. In this paper we have analyse rural to urban migration pattern of workers in Indian context. A specific feature of Indian society is that it is organized on a social hierarchy that traditionally evolved with a clear cut division in the labour market based on caste and religion. We use large household level survey data on employment and unemployment collected by the Indian National Sample Survey Organization to calculate the migration patterns by caste or social groups. We find that Indian labour migration appear to be caste selective. This finding has important implications on the interpretation and policy implication of the Lewis' model of underemployment and migration.

The migration pattern that emerges from the Indian data suggests that it is dominated by the upper castes in the social hierarchy. One possible explanation could be the higher level of physical and human capital that upper castes traditionally possessed. Since these castes have better information networks and are in a position to assess the possible gain from migration, they migrate first. As a result the total labour supply in the rural sector declines. Since there is a possible gainful employment for labour from lower caste, the underemployment among the labourer in these castes declines and they have lesser incentive to migrate. Therefore, adjustment takes place in the labour market not only due to increase in employment in the manufacturing but also in the farm sector due to the migration of upper caste labour. This adjustment process has important implication on poverty outcomes and the level of living of the lower caste population in India.

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Sir Arthur Lewis's Article on Unlimited Supplies of Labour

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Abstract

In this paper I propose to consider the lead-up to and the aftermath of W. Arthur Lewis's famous paper on economic development with unlimited supplies of labor, which the journal, *Manchester Studies* published in 1954. The first part, which will be the briefest, will discuss what Lewis said inspired the break-through for the article. I will also place the article within the framework of modernization theory, which was emerging as the dominant paradigm in social science literature in the decade after World War II. Lewis claimed that his article drew upon the insights of the classical economists, notably Smith and Ricardo. In fact, his division of the economies of what he called underdeveloped economies into two diametrically different sectors--the traditional and the modern--was becoming the orthodoxy in the fields of political science, sociology, and history.

The second part of the paper will deal with reactions. There was widespread acceptance of the article, which the economist, Paul Krugman, in a much later essay expressed great difficulty in understanding, but which Joseph Stiglitz in a reply attempted to account for. In addition to trying to explain the article's impact, I will also discuss its critics, focusing on the review that Peter T. Bauer published in *The American Economic Review* and the arguments over surplus labour and dual economies.

Lewis's article was based on a close reading of English economic history. He expressed his indebtedness in this and other publications to the Hammonds and Phyllis Deane and Cole, whose views on the industrial revolution he employed as proof that the British had themselves industrialized by means of unlimited supplies of labour. Time and space permitting, I propose to see how well Lewis's understanding of the British industrial revolution has stood up over the last fifty years in light of the new historical research on Britain's industrial revolution.

Arthur Lewis and the United Nations

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Abstract

Arthur Lewis's role at the United Nations has been misunderstood, for example by Ronald Findlay in his entry on Lewis in the *New Palgrave*. Lewis had served in the UK Colonial Office during the Second World War, but was never a senior official at the UN. He did, however, draft the 1951 UN expert report on "Measures for the Economic Development of Under-Developed Countries". This well pre-dated his famous 1954 article on economic development with unlimited supplies of labour.

The context of this UN report was the controversy between the US and the UK generated by the preceding UN report on "National and International Measures for Full Employment", drafted by Kaldor. Lewis and his expert colleagues dealt with the issue of unemployment and underemployment in developing countries in a manner that side-stepped the accusations of "extreme Keynesianism" that ensued from Kaldor's report. Increasingly, he made economic development a consensual focus for the UN's activities.

In doing so, Lewis was already using the idea of unlimited supplies of labour, within a medium term framework. His UN report therefore represents an intermediate stage between the 1945 industrialisation projections of his post-1950 Manchester University colleague, Kurt Mandelbaum, and his own 1954 canonical version of the surplus labour theory.

Grants versus Loans

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Tito Cordella and Ratna Sahay

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Abstract

Under which conditions do grants work better than loans in fostering growth? To answer this question, we present a simple model à la Krugman [1988], and show that the optimal amount of loan concessionality is negatively correlated with the quality of the policy environment, with the level of per capita GDP; and with the recipient's fiscal stance. Then, we test our model estimating a modified growth model for a panel of developing countries, and find evidence supporting our theoretical predictions. Finally, we assess the determinants of the current aid allocations (between grants and loans) and we discuss their effectiveness.

Keywords: Aid Policies, Grants, Loans, Concessionality, Empirical Growth Models