

DISTRIBUTION, GROWTH, AND GOVERNMENT

ECONOMIC BEHAVIOR IN PERU

By Shane J. Hunt

Development Research Project

Woodrow Wilson School
Princeton University
Princeton, New Jersey

Discussion Paper No. 7

March 1969

Note: Discussion papers of the Development Research Project are preliminary materials circulated to stimulate discussion and critical comment. Please do not refer to discussion papers without permission of the author.

Distribution, Growth, and Government Economic Behavior in Peru¹

I

The original purpose of this study was to set forth, as best it could be done, the means by which policy instruments have been used by the Peruvian government to affect that nation's rate of economic growth. After their initiation, however, papers tend to lead lives of their own, and this one has chosen to broaden itself in one direction and narrow down in another.

It is broader because it could not deal with growth policy alone. Growth is of course a Good Thing, and any government would prefer to foment it rather than retard it.² Nevertheless the urgency of pursuing other policy goals such as stabilization and distribution frequently leaves a government with few effective instruments left for growth policy. This has generally been the case in Peru, and so the history of growth policy is largely a history of the secondary effects on growth of policies designed with other goals primarily in mind.

-
1. I wish to express my appreciation to members of the seminar of the Research Program in Economic Development at Princeton for their helpful comments. Also, I wish to thank Carol Allen and Robert van Leeuwen for their excellent work as research assistants.
 2. Sometimes it is argued that what is important is not growth but development, the difference between the two being that development involves both growth and additional changes which permit a more equitable income distribution. Mere growth without development, as a separate policy goal, would therefore seem best defined as growth with unchanging income distribution, and that is the sense in which I would like to use it in this paper.

Secondary growth effects produced by the pursuit of other policy goals are not necessarily random; in the case of policies for improved distribution, they are more ^{than} often unfavorable. ^{Yet the} ~~The~~ conflict between growth and distribution is not inevitable. It can be avoided by redistributing claims on future income generated by present investment instead of redistributing present income. It can also be avoided by the behavior of the rich; if they love luxury so much that their ^{marginal propensity to save} ~~MPS~~ is no higher than anybody else's, then the dilemma disappears.

But in fact, this dilemma of choosing between growth and distribution appears very real in Latin America. It seems no accident that the countries which have suffered the most unhappy growth performances in the last 20 years -- Argentina, Chile, and Uruguay -- are precisely those in which the middle and lower classes have become most powerful politically, most disaffected with the existing social structure and income distribution, and most forceful in demanding distributive change. This close, inverse connection between growth and distribution demands that, if policy toward one is to be studied, then policies toward both be studied. That is the case in this paper.

The paper is narrowed down in that it deals only with budget policy, i.e., the use of taxation and expenditure to achieve combinations of the policy goals already mentioned. This leaves out tremendously important policy fields, such as those dealing with industrial development, public enterprises, and exchange rates. They are left out simply because they must be postponed to another paper.

For two reasons, I do not wish to view policy-making as a technical problem of correctly turning the handles of instrument variables in order to achieve exogenously determined targets. First, this approach is better suited to policy planning than to the analysis of past policy making, since in the past one is likely to find the exercise of the instrument as the only evidence suggesting

what the target was. Second, the process of choosing targets is very important, and should not be left out of consideration. Just as consumer expenditure is determined by the behavior of individuals, as expressed by a consumption function, so is government expenditure and taxation determined by society's behavior, as expressed by the choice of policy targets. Society's preferences, thus filtered through the mechanism of government, are nothing more than a reasonably pacific resolution of the preferences of different competing groups. The policy targets chosen are a reflection of the power of these various groups in the political arena; they are also a major determinant of the net benefit which these groups receive from the political process in general and the budgetary process in particular.

Before looking at the taxation and expenditure patterns which have been the result of political struggle over the Peruvian budget, we first look at the political environment itself, as it has been analyzed by various noneconomists. We seek the political origin of the economic behavior embodied in the particular combinations of growth and distribution policies pursued over the years.

II

Political systems ⁱⁿ ~~of~~ Latin America run to a pattern, the major features of which are known to every educated layman. It is ^{generally recognized} ~~known~~ that a small upper class, fully Western, exercises a commanding position in the political process, that a slow-to-emerge middle class is still numerically small and fairly powerless, that an enormous gulf in living standards exists between rich and poor, and that rumblings of unrest within the political system are frequently heard but usually deflected or suppressed. The political system ^{has been described, ~~as~~ as} ~~is~~ in a word, ^{as} oligarchic.

Oligarchies are relative things, however, since all nations have groups which exercise political power disproportionate to their numbers. With few

exceptions, these same groups also maintain much higher living standards than do the less fortunate of the same society. Therefore we must say that the political and social features listed above are merely more characteristic of Latin American political systems than of systems elsewhere in the world.

Moreover, since Latin America has its own diversity, they apply better to some Latin countries than to others. It is generally thought, however, that they apply particularly well to Peru. Nowhere else does the gulf between rich and poor seem greater. There are few other areas in Latin America with poverty comparable to that endured by the peasants of Peru's southern Sierra, but at the same time, in the same country, a century of development in the other half of a dualistic economy has produced great wealth. The gulf seems great in social mobility as well as income; it is an "often made observation that Peruvian society is rigidly structured and barriers between social classes are unusually difficult to cross - even in comparison with other Latin American countries."¹

It is this view of society which has led ~~many~~^{most} Peruvian intellectuals to speak of domination, rather than some form of reciprocal accommodation, as the essence of political and economic relationships between classes as well as between nations. Domination, it is argued, is exercised by whites and mestizos

1. Richard Patch, "La Parada, Lima's market: a study of class and assimilation," West Coast South America Series, American Universities Field Staff, Vol. XIV, no. 3, February 1967, p. 13.

2. The term, and the associated analysis, come from Francois Perroux, whose intellectual influence in Peru is profound. For one of the few statements of his work in English, see "The domination effect and modern economic theory," Social Research, June 1950.

over the Indian peasants,¹ and independently, by foreign interests over a small open economy such as Peru's. It is also the essence of relationship between oligarchy and masses. Thus we see a description of Peruvian class structure which differentiates between clase baja, clase media and clase dominante.² Not only is the latter's power emphasized, but also its numerical smallness. Some make reference to ~~40~~³⁰ families, ~~others to 100~~^{some to 40,}³; nobody has attempted to say with any precision exactly which families are on the list,⁴ but the impression of smallness ~~and~~ ^{and monopolization of power} exclusiveness remains strong in both popular and academic mind.⁵

1. See Julio Cotler, "The mechanics of internal domination and social change in Peru," Studies in Comparative International Development, Vol. III, No. 12, 1967-1968.

2. Jose Matos Mar, "Consideraciones sobre la situacion social del Peru," America Latina, January/March 1964, p. 62.

3. ^{Luis Alberto Sanchez, El Peru: retrato de un pais adolescente. Lima: Universidad de San Marcos 1963, p. 15} ~~Matos Mar, op. cit., p. 60; Francois Bourricaud, "Structure and function of the Peruvian oligarchy," Studies in Comparative International Development, Vol. II, No. 2, 1966.~~

4. ~~As has been done in Argentina by José Luis de Imaz, Los que mandan, Buenos Aires, 5th edition, 1966. A rather casual attempt has been made in Peru by Carlos Malpica, Guerra a muerte al latifundismo (Lima: Ediciones Voz Rebelde, n.d.), Part IV, "Los ~~Dueños~~^{Dueños} del Peru."~~

5. ^{Evidently} This is the popular view from within as well as without the oligarchy. Robert Triffin tells the story of attending a large luncheon of bankers in Lima in the 1940's, where he was told, "There are only 100 people in Peru who really matter, of whom 50 are in this room. If we stick together we'll be all right."

A summary assessment of the society of domination is put most bitterly and succinctly by the revolutionary de la Puente, "I think there is not a country in America where infra- and super-structural conditions are so unjust, so rotten, so archaic as in ours."¹

Of these various forms of domination, ^{the one} ~~that has~~ most extensively studied over the years ~~clearly the most carefully studied~~ concerns relations between the national, Spanish-speaking society, represented by white and mestizo, and the Indians. A number of studies document the mechanisms by which the Indian is excluded from political participation, since he is illiterate and not eligible to vote, from legal redress, since the courts require the use of Spanish, and from economic opportunity.² It is quite appropriate that anthropologists and sociologists have focused particularly on this issue, because the assimilation of the Indian into national life remains the overridingly important social problem of the country. It also remains true, however, that the other relationships of power to which the term domination is applied are much less studied and less well understood.

When we turn to relationships between oligarchy and masses, or even to definition of oligarchy, the student of Peruvian society receives rather little help from the literature of academic disciplines. It is not difficult to define oligarchy as an ideal type, in terms of smallness of size, control of wealth and power, and difficulty of access for society's nouveaux. It is difficult, however, to indicate how extensively these attributes must be undercut before an oligarchy can be said no longer to exist.

1. Luis F. de la Puente Uceda, "The Peruvian revolution: concepts and perspectives," Monthly Review, November 1965, p. 21.

2. ²⁸ Gotler, op. cit.

A few years ago it could have been said that the other relationships of power to which the term domination is applied were much less well studied, and less well understood. In the case of relationships between oligarchy and masses, however, a spate of recent studies, begun by the work of Bourricaud and continued in a recent publication of the Instituto de Estudios Peruanos, has thrust this aspect of domination to the forefront of interest.¹

The debate thus stirred up has centered on whether or not there is a Peruvian oligarchy really exists. This ~~is~~ would be a difficult empirical problem under any circumstance, ^{It is} made more difficult in ^{the present context} ~~this debate~~ by the absence of ^{any careful} ~~any~~ attempt ^{at definition of} ~~to define~~ terms, with sufficient care ^{thus the} ~~as to~~ ~~identify~~ criteria which could be used for separating the confusing variety of social ~~systems~~ systems into the oligarchic and the non-oligarchic ~~remain obscure~~.

There are two principal lines of argument suggesting that ~~an~~ an oligarchy ~~really~~ doesn't exist. One has it that even within the closed elitist societies of Latin America there are many competing ~~and~~ political groups, and that the traditional aristocracy takes its share of lumps in the domestic political arena.²

¹ Francois Bourricaud, Poder y Sociedad en el Peru Contemporaneo. See Bourricaud et al., La Oligarquia en el Peru. Lima: Monc for the Instituto de Estudios Peruanos, 1969

² James Payne, "The oligarchy in middle," World ~~and~~ Politics, April 1968, pp. 437-453.

It is far from being all-powerful, however, and therefore talk about the oligarchy as the "dominating class" can be deceptive. It is also far from being permanently closed to new members; a close look at the oligarchy reveals so many episodes of internal conflict, lost battles against other groups, and instances of new groups gaining entrance to the elite that some of the most perceptive of observers have questioned the oligarchy's very existence.¹ This is no doubt because Peru's is a weakened oligarchy, which derived its power from banking, trade and plantation agriculture, and now finds itself in retreat against the rising forces of industrialization and a military establishment with a new political consciousness. The heyday of Peruvian oligarchy was long ago, in the first decades of this century, when the Republica Aristocratica held sway through its political instrument, the Civilista party, and when the oligarchy's rule could be direct and effective. The political and social history of Peru in the past sixty years ^{would} therefore appear ^{as} a story of the gradual erosion of oligarchic power, as other groups have developed the ^{leverage} ~~power~~ to obtain a share of the ^{political system's} output. ~~of the political system.~~ At the beginning of the century the other groups were exclusively urban; the political system recognized the growing power of urban

Ne P

1. Jorge Bravo Bresani, "Mito y Realidad de la oligarquía peruana," Instituto de Estudios Peruanos, mimeo, October 1967.

^{"Structure and function..."}
1. Bourricaud, ~~op. cit.~~ p. 25, gives the impression that oligarchy prefers indirect rule, and that the Civilista period was an aberration. It seems to me rather ^{that} ~~than~~ indirect rule has been the best that oligarchy could manage during other periods.

workers and middle classes by enacting social legislation, encouraging collective bargaining, and setting the urban beginnings to a national system of public education.

Over the decades the process of social mobilization has continued, to the point that in recent years the political system has begun to grant some of its benefits to the Indian peasant, viz. an agrarian reform law, in response to the peasant's newly-acquired ability in political organization.

^{Many of the} ~~The~~ new, challenging groups ^{have relied} ~~rely~~ on mass action and threatened violence as their bargaining tools in the political process. ^{3/} The oligarchy ^{has receded} ~~recedes~~ but slowly, however, since it has known that excessive instability ^{would} ~~will~~ bring the Armed Forces to the rescue. ^{in the past} ~~Peru has therefore been~~ ^{A few years ago, therefore, Peru was} most appropriately described as a military guardianship, where the Armed Forces permit ^{the} ~~the~~ oligarchy to employ "a defensive and delaying tactic which realistically has estimated the possibilities of defeat of the traditional ways but wishes to soften its impact."

This assessment of the oligarchy's evolution coincides neatly with the words of Bourricaud, who describes present-day Peru as characterized by a "shift from absolute to relative domination."⁵ Without being overly specific, he suggests

1. Fredrick Pike, The modern history of Peru, (New York: Praeger, 1967), pp. 192-200.

2. Hugo Neira, Cuzco: tierra y muerte Lima 1964.

3. James Payne, "Peru: the politics of structured violence," Journal of Politics, May 1965.

4. Rosendo Gomez, "Peru: the politics of military guardianship," in Martin Needler, editor, Political Systems of Latin America (Princeton: Van Nostrand, 1964), p. 300.

5. Op. cit. p. 30.

this shift to be a rather recent phenomenon, caused particularly by the changing political role of the Armed Forces. Therefore I take it as well established that Peru has an oligarchy in retreat, with the time of initial retreat possibly as early as 1900 or as late as 1955.

→ We should expect budgetary policy formulated in such a political environment to possess certain characteristics regarding distribution. ^{Specifically,} First, taxation and expenditure should reflect oligarchic power by being relatively regressive, in upper income ranges. ^{Monopolies} Second, budgetary policy should be particularly regressive in the income range which separates incomes of most Indians from incomes of most mestizos and whites. Third, the regression, or weak progression, of the system should be changing over time in the direction of greater progression, but the beginning of such change might be located anywhere between 1900 and 1955.

These expectations about incidence, as well as the earlier description of the distribution of power in the political system, are couched in relative terms, and therefore before examining the Peruvian fiscal system we must say something about patterns of expenditure and taxation in other countries, so that standards of comparison will be at hand.

III

There has been very little work done on estimating the incidence of taxation and expenditure in less developed countries. Within Latin America, the few studies to be found have, to my knowledge, all focused exclusively on tax incidence. Carefully done studies in El Salvador and Venezuela both conclude that these tax systems are mildly progressive. A study of Colombia, which

→ Henry Wallich and John Adler, Public Finance in a Developing Country; El Salvador - a case study, Cambridge: Harvard, 1951, pp. 132-133. Commission to Study the Fiscal System of Venezuela, The Fiscal System of Venezuela, Baltimore: Johns Hopkins, 1959, p. 40.

dealt only with quartile groups and was therefore quite undifferentiated at the upper end of the income distribution, found tax proportionality but no progression.¹ On the other hand, a more ambitious but looser study by Musgrave showed quite different results: that in all South American countries, except Venezuela, families ranking between the 25th and 50th percentiles in income suffered the highest average tax rate. ^{These} ~~The~~ tax systems therefore ^{seemed} ~~seem~~ to be progressive only below the 25th percentile and regressive over the wide range above it.² In the case of Argentina, the conclusion of tax regressiveness was confirmed independently by Herschel.³

The redistributive impact of taxation appears more certain in industrial countries, which generally place greater reliance on income taxation. Yet even in the United States, a country which gives particularly strong emphasis to income taxation, incidence studies have shown that progression of the total tax system is weak in both lower and middle income brackets; strong progression is to be found only in the upper brackets.⁴

-
1. Joint Tax Program, Fiscal Survey of Colombia, Johns Hopkins, 1965.
 2. Richard Musgrave, "Estimating the distribution of the tax burden," in Conference on Tax Administration, Problems of tax administration in Latin America, Baltimore: Johns Hopkins Press for the Joint Tax Program, 1965, p. 63. The apparent progression in Musgrave's Venezuelan estimate appears erroneous, however, the result of including taxes on foreign companies in a distribution which pertains only to residents of the country.
 3. Ibid, p. 86.
 4. George Bishop, "The tax burden by income class, 1958," National Tax Journal, March 1961.

One concludes that there are probably no tax systems in the Western Hemisphere which are strongly redistributive in either direction. For significant redistributive impact one must look to the expenditure side of government fiscal activity, and yet it is here that the empirical studies are hardest to find. The exercise of assigning benefits from government expenditure to various income classes involves such arbitrariness that few have bothered to do it. No studies come to mind in Latin America, and only Adler's in the United States.¹ His figures show strongly regressive expenditure favoring the lowest income groups, but also a milder but still significant redistributive impact running through the full range of income classes.²

Studies addressed specifically to questions of incidence are too few in number to permit drawing generalizations about the pattern by which redistribution evolves as countries develop. We may do this indirectly, however, by examining cross sectional studies which trace out the differences in expenditure and revenue patterns among countries at different levels of per capita income.³

-
1. John Adler, "The fiscal system, the distribution of income, and the public welfare," in Kenyon Poole, editor, Fiscal Policies and the American Economy, New York: Prentice Hall, 1951.
 2. Ibid, appendix by Schlesinger, pp. 418-420.
 3. Alison Martin and W.A. Lewis, "Patterns of public revenue and expenditure," Manchester School, September 1956; Jeffrey Williamson, "Public expenditure and revenue: an international comparison," Manchester School, January 1961; Harley Hinrichs, A general theory of tax structure change during economic development, Cambridge: Harvard Law School, 1966. Simon Kuznets, "Quantitative aspects of economic growth of nations: Part VII. the share and structure of consumption," Economic Development and Cultural Change, January 1962, Part 2; Richard Thorn, "The evolution of public finances during economic development," Manchester School, January 1967. For a more complete bibliography, see Thorn, op. cit.

for distribution and growth

~~whose growth and distributional significance is not immediately obvious~~

One well-established result, ~~from these studies~~ is that government revenues and expenditures are ex post elastic with respect to GNP. In samples including both developed and less developed countries, elasticities calculated either cross-country or by short time series cluster between 1.2 and 1.3.¹ Expressed as shares of GNP, government expenditures typically rise from about 12% to about 20% as per capita income increases from \$100 to \$600.²

Although the total is clearly elastic, the identity of the ^{elastic} component parts ~~which are also elastic~~ is less clear. Education seems clearly to be so, however. Kuznets calculates from a small sample that education and health expenditures are 3.8% of GNP for poor countries and 5.5% for rich countries.³ The approximate correctness of this level is confirmed by Martin and Lewis, and the trend (but not the level) by Thorn's regressions.⁴ On the other hand, the shares of general government and of development expenditures other than education and health show no evident elasticity; the same is true of total current expenditure less military spending, despite the fact that education and health contribute elastic components to ^{this} ~~the~~ total.⁵

1. Thorn, op. cit., pp. 36, 41. Williamson, op. cit., p. 50.

2. Calculated from regression equations in Hinrichs, op. cit., p. 13, Thorn, op. cit., p. 40, and Williamson, op. cit., p. 50. The correspondence between the results from these three sources is only fair.

3. Op. cit., p. 10.

4. Martin and Lewis, op. cit., p. 218; Thorn, op. cit., p. 44.

5. Kuznets, op. cit., pp. 8-9; Martin and Lewis, op. cit., pp. 205, 209.

On the side of revenue, the predominant characteristic of cross-country studies is the relative growth of direct taxes, especially personal and corporate income taxes, and the relative decline of indirect taxes. Hinrichs points out that the direct-indirect tax ratio actually follows a U-shaped curve, with the earliest stages of modernization having been characterized by the relative decline of traditional direct taxes, particularly land and head taxes, and the rise of indirect taxes on foreign trade.¹ In the world today, however, this earlier stage is largely a matter of economic history. All recent cross-section studies show a strong relation between the share of direct taxes in GNP and per capita income, with elasticities between 1.2 and 1.4.² Expressed again in GNP shares, direct taxes run 2-4% for a country with per capita income of \$100, and 6-11% for a country with a \$600 per capita income.³ Most of this growth is attributable to personal income taxes. Corporate tax shares show some upward trend, but also show great variability among countries.

Indirect tax shares are only slightly greater for \$600 than for \$100 countries, about 9 1/2% of GNP in the former and 8 1/2% in the latter.⁴ This represents a substantial decline in relative importance in the budget, from about 2/3 of revenues to less than half.⁵

1. Hinrichs, op. cit., pp. 73, 101.

2. Thorn, op. cit., p. 48; Williamson, op. cit., p. 52.

3. Calculated from regressions in Thorn, op. cit., p. 48, and Williamson, op. cit., p. 52. Also Kuznets, op. cit., p. 3.

4. Kuznets, op. cit.,^{p. 3:} Williamson, op. cit., p. 52.

5. Williamson, op. cit., p. 54.

It therefore appears that tax systems have been getting more progressive, or less regressive, over time, as individual and business income taxes become increasingly important.¹ The particularly high elasticities of expenditures on education, health, and transfers suggest growing redistributive significance, i.e., regressiveness, on the expenditure side as well.

The growing government share associated with rising per capita income therefore has clear and favorable distributional significance. Its significance for growth is by no means so clear. A growing share has generally been considered ^{good} for growth, since it is expected that government's MPS will be higher than the private sector's propensity to dissave because of marginal tax increases. ^{As growth proceeds this} ~~This~~ becomes an increasingly ^{questionable assumption, however,} ~~severe test~~, since the high elasticity of direct taxes means that marginal increases in tax collections bear increasingly on saving. Nevertheless government's commitment to steer expenditure increases into development projects and education is ^{frequently} ~~sometimes~~ thought sufficiently strong to outweigh the negative growth effects of increasing tax progression.

This view cannot be accepted so sanguinely in Latin America. A glance at the expenditure patterns is sufficient to convince that the richer countries indeed do have a larger share of GNP devoted to government expenditure, but that this expenditure runs particularly heavily to transfer payments instead of investment. Since part of this redistribution is from rich savers to middle ^{of an expanding government share} class nonsavers, the impact on growth ~~is~~ probably perverse.

1. This conclusion is not certain, since the relative expansion of direct taxes is partly at the expense of import taxes, which could themselves be quite progressive.

IV

Unfortunately nobody has done the careful statistical work which ^{The question} ~~a study~~ of tax incidence in Peru deserves. In fact, the only estimates I have seen are the exceedingly rough ones put together by Musgrave.¹ Rough estimates have their place, of course, and are generally better than nothing, but in this case the dangers of roughness are compounded by the fact that the estimating method used is particularly liable to large error in result caused by small errors in data.² Accordingly the conclusion of this procedure, that the Peruvian tax system is regressive, is very much open to question. In fact, some alternative pieces of information run counter to this conclusion of regressivity.

The first piece of information derives from comparing Musgrave's results for Colombia with those shown in the Joint Tax Program study mentioned previously. Musgrave found a tax structure whose regressivity almost exactly matched the regressive pattern he found for Peru.³ The result pertained to central government taxes only, but, as Table 1 shows, the Joint Tax Program found this same tax system to be progressive.

1. Op. cit.

2. Musgrave's method consists of allocating tax payments, separately for each of five taxes, to the four quartiles of a distribution of spending units arrayed by size of income. The percentage allocations for each tax are chosen with only a casual empirical foundation, and are the same for all South American countries. Next, income is assigned to these same quartiles, by assuming an estimate of Venezuelan income distribution to be applicable to all countries. The ratio of taxes to income is then computed for each quartile. Small errors in assigning either taxes or income to the quartiles can affect the trend of the ratios greatly, and yet both assignments were made most arbitrarily.

3. Op. cit., p. 63.

Table 1

Tax Incidence

	Quartile			
	First	Second	Third	Fourth
Central government taxes as percent of income (Musgrave)				
Peru	5.4%	12.3%	6.6%	9.2%
Colombia	4.5	12.0	7.7	9.1
Colombian taxes as percent of income (Joint Tax Program)				
Central government	4.9	5.5	6.7	10.2
All government	10.9	9.4	11.1	12.7
Income distribution				
Venezuela (Musgrave)	5.0	7.0	21.0	67.1
Colombia (Joint Tax Program)	5.0	12.7	17.1	65.2
Distribution of indirect tax payments				
Internal indirect (Musgrave)	10	25	30	35
Import (Musgrave)	5	20	35	40
Colombian tobacco and liquor (JTP)	15	20	30	35
Colombian gasoline and vehicles (JTP)	7	18	23	53
All other Colombian indirect (JTP)	5	14	23	58
1958 Peruvian indirect taxes --				
Musgrave distribution	6.9	21.9	33.1	38.1
JTP distribution	5.9	14.7	23.6	55.8
Peruvian central government taxes as percent of income				
Musgrave tax allocation with Colombian income distribution	5.4	6.8	8.1	9.5
Musgrave tax allocations, with adjustments for indirect taxes and Colombian income distribution	4.7	4.5	5.9	10.6
Best estimate of tax incidence	19.5	17.4	20.6	16.9
Best estimate of total budget incidence	16.3	15.3	7.6	13.6

Sources: Musgrave, op. cit., pp. 58-63; Joint Tax Program, op. cit., pp. 224-227.

Two principal differences in assumptions are responsible for this completely different result. The first concerns the allocation of income to the four quartiles. Again referring to Table 1, we see that there is substantial similarity in the two distributions except for the second quartile, which is little better off than the first quartile in Musgrave's estimate.¹ The second difference lies in the allocation of indirect tax payments, which is done much more regressively in Musgrave's work than in the Joint Tax Program's. If Musgrave's assumptions on these two points are replaced by those of the Joint Tax Program study, our assessment of the tax system shifts sharply from regression to progression, as Table 1 shows.

Moreover, this progressive conclusion probably contains fewer errors, since the Joint Tax Program income distribution by quartiles is probably more accurate and makes a reasonable match to the distribution of indirect tax payments.² It

1. The particular allocation of income shown is derived from Musgrave's data on distribution of tax payments and tax burdens for Peru, op. cit., p. 63.

2. The frequency distribution of income contained 32 separate income bands in the Joint Tax Program study, but only 3 in the Shoup study from which Musgrave's estimates were derived. The danger of error in the interpolation required for deriving a quartile distribution was therefore less in the former study. On the question of correspondence between distributions of income and indirect tax payments, the poor correspondence in the Musgrave study is shown by the fact that total income of the second quartile is only 40% greater than that of the first quartile, but internal indirect tax payments are 150% greater.

is, however, not the best estimate which can be managed, even with the simple adjustments which are all that can be managed here. The other adjustments are all in the direction of greater regressivity, however, so the final estimate is that the tax system shows no progression, but rather exhibits what is best described as wandering proportionality.¹

We conclude, therefore, that the ^{Peruvian} tax system has no noticeable redistributive impact, one way or the other. The weakness of the evidence supporting this conclusion should be obvious, however, so much so that the conclusion is best stated ^{negatively} ~~in terms of a null hypothesis rejected~~; there is no clear evidence of either progression or regression.

If redistributive effect is to be found, therefore, it must be found on the expenditure side of the budget, despite the fact that most types of expenditure defy assignment of benefit to particular groups. Expenditures for general administration, defense, justice and police are of this nature and must be ignored here, or, what is the same thing, they must be assumed to have their benefits distributed proportional to income. From an a priori standpoint, only social and development expenditures (education, health, agriculture, transport, public works) can be assigned with some confidence, and even here data problems make it impossible to say anything about the grab bag which is public works.

1. These final adjustments are 1) subtraction from business income tax of profits of foreign companies. 2) assumption that 50% of business income tax is passed forward to the consumer, through the ready availability of tariff protection and tax relief for companies or industries in difficulty. 3) use of more comprehensive tax collection totals, including local as well as central government taxes, for 1961 instead of 1958. Source: ~~the~~ Banco Central de Reserva, Cuentas Nacionales del Peru, Table 12.

Transport expenditure is probably regressive on balance, i.e., its benefits accrue particularly to the poor, since over the years a large share has been devoted to expanding and improving the national highway network, making it possible for the Indian to escape ^{peasant} ~~through migration~~ ^{internal} ~~the~~ domination ^{by migrating} ~~mentioned~~ ^{the} ~~city~~ ^{city} ~~earlier~~. Expenditure on agriculture could also be regressive, since incomes are lower in the agricultural sector than elsewhere, but in practice the experience of Latin American agricultural programs has been that the power of the few wealthy farmers has permitted them to appropriate most of the benefit.¹ Peru is no exception to this experience, and so the incidence of agricultural expenditure is probably progressive.

For a quantitative assessment of expenditure incidence, however, we must be restricted to a partial estimate involving only education and health, which together accounted for little more than a quarter of government expenditure in 1961. We may concentrate on this portion with some confidence that the other three quarters of expenditure has an incidence which, like the tax system, shows no obvious departure from proportionality. The benefits of education and health expenditures are treated as transfers received, i.e., negative taxes, in the final row of Table 1, which is an estimate of total budget incidence. This final estimate shows the expenditure advantages gained by urban lower and middle classes, who comprise all the third and part of the fourth and highest quartile. The public school system functions for them; in 1961 it had not yet been extended greatly to the rural poor, and it is not used by the upper class.² As for health

1. Solon Barraclough, "Agricultural policy and land reform." Conference on Key Problems of Economic Policy in Latin America, University of Chicago, November 1966, mimeo, pp. 11-29.

2. In the 1961 census, only 52% of the 7-14 age group was enrolled in school.

expenditures, they are largely located in urban areas, where income levels are higher. The hospitals and clinics built and subsidized are more available to urban residents, while the water and sewage systems provide exclusively urban benefits.

→ ^{This} ~~The higher net tax incidence of the lower two quartiles~~ is the statistical reflection of the domination of the Indian ^{peasant} referred to previously. Hardly any services of government are made available to him, but some taxation is levied upon him, particularly the turnover tax and excises or monopoly prices charged to coca, alcohol and tobacco.

→ ^{While the poor have therefore gained little, neither has great} ~~There is no parallel~~ redistributive advantage ^{for} which accrued to the oligarchy.

It would be argued by some that common governmental functions such as defense and police should be assigned to the benefit of the oligarchy, since they help preserve a political system possessed of obvious benefit ^{for} to the oligarchy. This seems too tenuous an assignment in the technical framework which governs studies of incidence, however. Rather it should be considered the achievement of oligarchy that, in a world of tax progression, it has survived with a proportional levy. The price it has paid is assent to fiscal advantage obtained by the new groups diluting oligarchic power.

V

Next to be considered is the trend over time in the redistributive impact of the Peruvian budget. Compared to the assessment of incidence in a given year, trend over time can be assessed more accurately and more easily, merely by examining the trend in size and composition of expenditures and revenues. It is here that the cross-country experience of the 1950's will aid in giving perspective to the evolution of Peruvian public finances.

By the standard of these cross-country estimates, we can see that in the 1950's Peru was a country with a small governmental sector. For example, Williamson's regression, dealing with the period 1951-56, predicted a government share of 14.6% for a per capita income corresponding to Peru's, but his figure for Peru was only 11%.¹ These low levels are confirmed by the data in Table 2, which show the Peruvian government sector to have been particularly small throughout the 1940's as well as for most of the 1950's. It was 1952 before the government share (including transfers) rose above 12% of GNP, and even then this figure was associated with a per capita income of nearly \$200, instead of the \$100 suggested by cross-country experience.

But how different things were in the 1960's. By the middle of the decade government expenditure had risen to just a shade below 20% of GNP, while per capita income was not even half way to \$600.² A substantial allocative shift had taken place.

This great change in the government's share is reflected in substantially higher elasticities than are shown by the cross-section studies. As Table 2 shows, even without including transfers we get elasticities over 1.5, in place of the 1.2-1.3 range most common in the cross-country studies.

We cannot be sure if cross-section studies are accurate predictors of change over time, however. It may be that government expenditure functions, where the observations are countries, exhibit the same upward drift commonly

1. Williamson, op. cit., pp. 50, 56. Note that his figures pertain to the share of government current expenditure only.

2. In ~~1965~~¹⁹⁶⁵, the last year for which full data are available, per capita income is estimated at 280 dollars of 1963 vintage, and the government expenditure share, including transfers, at ~~19.7%~~^{19.7%} 19.7%. In 1967, the last year for which data are available, the corresponding figures are \$ 363 and 22.3%. ^{Source:} Banco Central de Reserva. Cuentas Nacionales del Peru, 1950-1967, Tables 1, 12.

Table 2

Growth of Government Expenditure

	Real GNP per capita (1963 prices)	Government expenditure (incl. transfers) as percent of GNP (current prices)	Government exhaustive expenditure as percent of GNP (current prices)	(1963 prices)
1942-45	\$156	9.8%	8.7%	9.6%
1945-50	164	10.4	9.2	11.9
1950-55	200	12.6	9.9	12.7
1955-60	223	14.6	10.9	12.1
1960-65	261	17.0	11.7	12.1

Expenditure elasticities¹

1942-65	2.07**	1.56**	1.27*
1950-65	2.15**	1.72**	0.99

Sources. 1950-63: Banco Central de Reserva del Peru, Cuentas Nacionales del Peru, 1950-1965, Tables 1,2,4,12. 1964-1967: Cuentas Nacionales del Peru, 1950-1967. 1942-1949: ~~1949~~ Author's estimates, based on current price GNP in Banco Central de Reserva, Renta Nacional del Peru, and government expenditure detail in Balance y Cuenta General de la Republica.

1. Equals $(a_1 + 1)$, where calculated from regression of the form $\ln(G/GNP) = a_0 + a_1 \ln(GNP/P)$, so that $G = \frac{(a_1 + 1)}{e^{a_0/P^{a_1}}} GNP^{(a_1 + 1)}$. (G = Government expenditure, P = population)

*Significantly elastic at 5% level.

**Significantly elastic at 1% level.

associated with the consumption function, where the observations are individuals. If upward drift is widespread, then many less developed countries must be given credit for improved fiscal capability in the 1960's, but regardless of behavior elsewhere the government of Peru must be given such credit. This capability is important for the redistributive and growth-inducing potential which it represents, but ^{clearly} the realization of the potential depends on the political forces determining government economic behavior.

A look at the evolving composition of Peruvian expenditure shows that government's expanding share has indeed been associated with increasing redistributive impact, through the growing importance of education and health expenditure. It will be recalled that the figures of Kuznets, derived largely from 1958, indicated a rise in the GNP share of education and health from 3.8% for poor countries to 5.5% for rich countries. Peru was one of the poor countries included in Kuznets' sample, and in 1958 its GNP share devoted to education and health was exactly 3.8%. This ratio had risen sharply from abysmal levels during the early 40's, however, and during the 1960's the rise was even more rapid. By 1965 the ratio had risen fully to 6.0%, and for education alone it was 5.1%. It is here in education that we find most of the explanation for the elastic behavior of total exhaustive expenditures by government. For the 1950-65 period, the elasticity of total exhaustive expenditures is 1.72, but with education removed it drops to 1.18, and is not significantly different from 1.0.¹

It should be noted that this educational expansion is not merely the reflection of an upward drift in expenditure common to all poor countries. Although educational expansion has taken place elsewhere, nevertheless the

1. The corresponding elasticities for 1942-65 are 1.56 and 1.18.

Peruvian expansion was extraordinary, so that by 1963 ~~it was devoting a larger share of GNP to education than was any other Latin American country.~~¹ *its share of GNP devoted to education was exceeded only by Cuba and Puerto Rico among* Moreover, this expansion did not proceed independently of the particular administration which was in power; the residuals tabulated in Table 3 shows that the administration of Odría deemphasized education. The nature of the deemphasis is shown more clearly in the Table 3 figures showing education's share of exhaustive government expenditure. With every other new presidency, education's share jumped significantly. Odría did not cut back, but he held the line, even though it made necessary cutting a year out of the primary school curriculum, thus forcing two cohort groups to compete for admission to secondary schools at the same time.

As the statistics on incidence showed, it is here in education that we see most clearly the pressures on the government budget for allocating a greater share of political and economic output to groups newly-arrived in the political arena. Whether these groups be residents of provincial towns or new migrants to Lima, perhaps their first and strongest demand of government is education for their children.² Education is a derived demand, however; the primary demand is for occupational advancement, and so it is that the expansion of educational expenditure under Belaunde ~~had~~ had as its purpose the expansion of employment and income for prospective teachers as much as the expansion of educational opportunity for children.

Table 4 gives an indication of the different sources of pressure for increasing education expenditures. The growth of government spending on education, expressed in current prices, is divided into four components:

1. UNESCO, Statistical Yearbook, 1965, Tables ~~4, 9, and~~ 21.

2. William Mangin has pointed this out in the case of residents of Lima barriadas. Cf. "Urbanization case history in Peru," Architectural Design, Aug. 1963.

Table 3

Components of Exhaustive Expenditure

	Real GNP per capita (1963 prices)	Exhaustive expenditure as percent of current price GNP			
		Education	Education and health	Defense	Total less education and defense
1942-45	\$ 156	1.13%	1.83%	2.46%	5.1%
1945-50	164	1.67	2.44	2.61	4.9
1950-55	200	1.77	2.60	2.70	5.45
1955-60	223	2.52	3.57	3.17	5.2
1960-65	261	3.60	4.78	2.92	5.2
Expenditure elasticities					
1942-65		2.88**		1.37**	1.07
1950-65		3.37**		1.22	1.13

Deviations from trend of Regressions

Presidency	Period	Education/GNP		Defense/GNP		Total exhaustive less education and defense/GNP		Education as % of total gov. exhaustive expenditure
		Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	
Prado	1942-45	1	3	2	2	2	2	13.0%
Bustamante	1946-48	3	0	2	1	3	0	18.5
Odria	1949-56	1	7	2	6	4	4	18.4
Prado	1957-62	4	2	4	2	2	4	26.4
Belaunde	1963-65	3	0	0	3	2	1	33.4

Sources: Same as Table 2

increases in the number of public school teachers, in the cost of living, in the average real wage level in the economy, and in the real wage differential existing between teachers and the economy's average. The expansion of the stock of teachers follows ^{a growth path} ~~the pattern~~ suggested by the pattern of ^{residuals} ~~residuals~~ in the previous table; a spurt during the administration of Bustamante (11% annually from 1946 to 1948), rather slower growth during Odría (4.4% annually from 1949 to 1956), a faster 8.0% rate during Prado's administration, and a remarkable 12% annual growth in the first years of Belaunde. The growth rates vary by presidency, but within the period of a given presidency the rate does not show systematic variation.

It is quite different in the case of teachers' real wages. The characteristic pattern is for real wages to take a big jump with the coming to power of a new administration, either immediately before or immediately after the election, but between elections the teacher, and the civil servant in general, is lucky if his money wage ^{merely} keeps pace with the cost of living. After ~~a real wage~~ an increase of 31% in the first year of Bustamante, real wages declined so much that two years later teachers were worse off than they had been before Bustamante came to power. We see other strong spurts in wages from 1949 to 1951, in 1956, and again in 1961 and 1962.

These election-oriented spurts are testament to the political importance of teachers in particular and civil servants in general. Expansion of the stock of teachers and classrooms involves lags and cannot be so neatly timed for the politically sensitive year. Despite the irregularity of wage advances, it is noteworthy that from 1942 to 1956 the long run trend in ~~real~~ teachers' ^{real wages} salaries was just the same as for real wages in the whole economy. Since that time, however, the teachers have opened a lead which has widened greatly in the 1960's.

Table 4
Indexes Relating to Education
(1960 = 100)

	Total number of public school teachers	Total expenditure on education (current prices)	Implicit education price index	Cost of living	Implicit real wage of teachers	Real GNP per capita	Teachers real wage differen- tial
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1942	27.3	1.88	6.9	13.21	52.2	66.6	78.4
1943	33.0	2.21	6.7	14.81	45.2	64.6	70.0
1944	34.0	3.44	10.1	16.92	59.7	65.9	90.6
1945	36.8	4.06	11.0	18.80	58.5	66.7	87.7
1946	45.1	7.08	15.7	20.54	76.4	71.3	107.2
1947	51.3	9.32	18.2	27.26	66.8	67.5	99.0
1948	55.7	9.59	17.2	35.2	48.9	63.9	76.5
1949	55.3	13.04	23.6	41.3	57.1	70.4	81.1
1950	56.9	17.44	30.7	47.0	65.3	76.2	85.7
1951	58.4	22.7	38.9	52.4	74.2	82.6	89.8
1952	62.4	25.2	40.4	57.2	70.6	83.5	84.6
1953	63.4	28.1	44.3	60.6	73.1	83.7	87.3
1954	67.9	31.6	46.5	62.2	74.8	90.0	83.1
1955	69.7	35.0	50.2	65.3	76.9	92.4	83.2
1956	74.5	52.3	70.2	68.7	102.2	94.3	108.4
1957	77.5	60.4	77.9	74.9	104.0	92.9	111.9
1958	84.7	75.7	89.4	81.7	109.4	93.5	117.0
1959	90.6	88.5	97.7	91.0	107.4	94.3	113.9
1960	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1961	107.4	129.5	120.6	105.1	114.7	105.1	109.1
1962	114.0	158.8	139.3	108.3	128.6	111.5	115.3
1963	121.2	194.8	160.7	112.4	143.0	112.3	127.3
1964	136.9	241.8	176.6	122.7	143.9	116.8	123.2
1965	152.2	385.1	253.0	143.8	175.9	118.4	148.6

Sources: Column 1 -- Author's compilation, derived mainly from Ministerio de Educacion Publica, Estadística Educativa and La Educacion en el Peru (Lima 1967). Also Anuario Estadístico del Peru. Column 2 -- Author's compilation from Balance y Cuenta General de la Republica. Column 4 -- For 1950-65, Banco Central de Reserva, Cuentas Nacionales del Peru, 1950-1965 (Lima 1966), Table 9. For 1942-49, Anuario Estadístico del Peru. Column 6 -- Same as Table 2 above. Columns 3, 5, and 7 derivative from columns 1, 2, 4, and 6.

It is in the 1960's that we see their ^{expanding} political power ^{quite} ~~most~~ clearly. Between 1960 and 1965, an expansion of 285% in education expenditures is decomposed into a 52% increase in the number of teachers, a 44% increase in the cost of living, and a 18% increase in real wages throughout the economy, and a 49% increase in the real wage differential between teachers and the general labor force.¹ The increases corresponding to the cost of living and the expansion of real wages elsewhere may be labelled unavoidable, in the medium run if not in the short run; strong pressures to expand expenditure by that amount could be expected under any conceivable circumstances. The remarkable overall expansion of this five-year period is shown in the other two components, an almost equal percentage growth in the number and relative real wage of teachers. The expansion in numbers may be attributed to ~~both~~ parents' demand for education of their children and to university students' demand for places as teachers. It permitted an equal expansion in the total number of students in the system.² The equal expansion in relative real wages is attributable ^{exclusively} ~~inclusively~~ to the political power of teachers, however, and so we must conclude that ^{The expansion} ~~expanding~~ educational expenditure was more a response to demands of teachers than of the families of school children. ~~In the teachers' colleges, however, the number of enrolled students jumped from 4,008 to 14,718, an increase of 267%.~~

1. That is, $(1.52) (1.44) (1.18) (1.49) = 3.85$. Since the quantum index refers only to teachers rather than to all educational personnel, this assumes that the growth of administrative personnel is proportional to the expansion ⁱⁿ ~~of~~ the number of teachers. If administrative growth has been more rapid, then the real wage differential growth rate is too high.

2. The number of students in both public and private schools grew by 50% during 1960-1965. Ministerio de Educacion Publica, La Educacion en el Peru, Lima 1967, p. 51.

Much
~~Most~~ of this increase originated in the famous Law 15215, which decreed a 100% increase in all teachers' salaries, to be provided in 4 annual steps of 25% each, a great expansion of teacher training facilities, and the guarantee of a job with the government for every newly-graduating teacher. This extraordinary law provoked hardly any opposition when it was introduced in Congress in 1964, so eager were all political parties to look well before so large and influential a block of voters, despite the fact that the fiscal planning required for implementing the law was, to say the least, inadequate. Within two years this fiscal commitment, among others, provoked an economic crisis from which Peru has not yet fully recovered. The last two of the four 25% increments were cancelled, as was the commitment to hire all teachers' college graduates. In the meantime, however, the expansion of enrollment in the teachers' colleges had proceeded apace, from 4,008 in 1960 to 14,718 in 1965, an increase of 267%. By ~~last year~~¹⁹⁶⁷, the government needed fewer than 2,000 new teachers, but the teachers' colleges were graduating 9,000.

It hardly needs saying that in previous decades, particularly before World War II, it was never necessary to make such fiscal commitments in order to secure the support of public school teachers. Comparisons with GNP are not possible for these early years, because GNP estimates begin only in 1942, but it is possible to examine ^{the importance of educational expenditure through the evolution of its share consisting} the composition of ^{total} government expenditure. This is done in Table 5, which gives a long-term perspective of Peruvian budgetary development. From this table we see that the functions of government at the beginning of this century were largely restricted to the maintenance of domestic tranquillity and national defense. The essential change over the course of the decades has been the slow but inexorable expansion of demands for governmental participation in economic and social development. We have already traced that development in

Table 5

Percentage distribution of Government Expenditure

	General adminis- tration	Armed Forces	Justice and Police	Education	Health	Development	Transfers	Other
1900	28.5%	25.1%	22.2%	2.9%	0.7%	2.0%	9.6%	9.0%
1905	23.8	35.6	14.3	4.5	2.9	3.3	13.9	1.7
1910	12.5	52.9	11.3	8.1	1.2	2.1	9.4	2.4
1915	18.6	27.4	17.7	10.1	0.7	1.7	16.3	7.4
1920	21.5	23.4	14.6	10.6	5.9	11.0	11.3	1.9 1.7
1929	25.9	22.8	14.5	11.7	4.9	8.3	10.9	1.1
1942	19.4	24.7	15.5	10.5	6.4	11.8	11.0	0.6
1945	14.7	26.3	14.8	13.3	7.7	10.9	11.6	0.7
1950	13.3	24.6	15.2	16.0	5.2	14.5	10.6	0.5
1955	11.8	23.8 19.8	13.9	14.8 13.3	9.4 6.8	15.3	10.4	0.6
1960	11.4	21.6	12.1	20.6	8.3 7.4	12.1	13.3	0.7
1965	9.6	15.6 15.9	12.2	29.4 28.7	6.4 5.1	16.8	9.3	0.7

Source: Author's compilation, derived from Balance y Cuenta

General de la Republica

Table 6

Deviations from Trend

	Real growth in GNP from preceding years	Position in Cycle (boom +, recession -)	Sign of regression residual	Presidency	Total residuals for presidency pos. neg.
1942			-	Prado	2 2
1943	-1.2%	-	+		
1944	3.7	-	+		
1945	3.1	-	-		
1946	8.7	+	+	Bustamante	3 0
1947	-3.7	-	+		
1948	-3.6	-	+		
1949	12.3	+	-	Odria	4 4
1950	10.1	+	-		
1951	10.5	+	-		
1952	2.9	-	+		
1953	2.2	-	+		
1954	9.6	+	-		
1955	4.9	+	+		
1956	4.6	+	+		
1957	1.0	-	+	Prado	3 3
1958	3.4	-	+		
1959	3.5	-	+		
1960	9.1	+	-		
1961	8.2	+	-		
1962	9.3	+	-		
1963	3.8	+	+	Belaunde	3 0
1964	6.8	+	+		
1965	4.8	+	+		

Sources: Same as Table 2. Dependent variable in regression is $\log_{10} (G/GNP)$ where G is ~~gross~~ total government expenditure including transfers, and ~~GNP~~ is ~~gross national~~ ~~total~~ ~~GNP~~ with G and GNP are in current prices.

the case of education for the period since 1942. We can now see from Table 5 that Peru was virtually without a system of ^{national} public education in 1900, but that the decade following was a highly important one for educational development; it marked the beginning of a commitment to universal public education, at first applied only to Lima and other accessible coastal areas, but later, in the 1940's, the geographical outward expansion of universal education began in earnest.

It is significant to note that the first important steps ^{of educational expansion,} ~~toward universal~~ education, made between 1900 and 1910, were the handiwork of the quintessential oligarchic government in Peru's history. They came not as the result of immediate pressure from below, but of enlightenment from above. One may reasonably doubt that this enlightenment was motivated by pure charity, however, but rather by a recognition of the likely course of future events. Oligarchic power was built on economic advancement, particularly export development, and this in turn was producing urbanization and social mobilization of the masses. Oligarchic power thus possessed the elements of its own decay, but it is nevertheless to the credit of José Pardo, President of Peru from 1904 to 1908, and other ^{relatively} liberal Civilistas like him that they recognized this and began an early and graceful retreat.

Public health and development expenditures did not acquire a significant share of budgetary allocations until the 1920's, during the 11-year presidency of Leguía (1919-1930). This was a period of big construction activity, financed in part by big foreign loans and devoted largely to the national integration and development of an export economy. Water and sewer systems, hospitals, irrigation works, port works, and, most of all, roads were the newly-emphasized responsibilities of government. As was mentioned above, many of these types of

Table 9

Growth of Government Revenue

(Revenues expressed as percent of current price GNP)

	Total revenue	Indirect taxes	Taxes on imports	Excise taxes	Turnover tax	Direct taxes	Major taxes on income from labor capital	
1942-45	11.2%			0.83%	0.17%			
1945-50	11.6			0.42	0.27		0.65%	4.3%
1950-55	12.7	6.3%	2.0%	0.30	0.23	5.8%	0.67	3.9
1955-60	13.3	7.4	2.9	0.35	0.46	5.3	0.73	3.0
1960-65	16.0	9.2	3.4	0.29	2.49	6.1	0.72	3.2

Revenue elasticities

1942-65	1.63**			-0.22**	5.05**			
1950-65	1.82**	2.54**	2.02**	0.36	8.70**	1.10	1.02	0.17*

Sources and elasticity formulation same as in Table 2.

* Significantly different from unitary elasticity at 5% level

** Significantly different from unitary elasticity at 1% level

expenditure probably had an incidence which was not particularly ^{beneficial to the poor.} regressive.

All urban dwellers did benefit from public health investments, however, and perhaps the poorer urban dwellers benefitted most. The purely economic investments generally represented a response to the demands of capitalists complementary to their own private investments. who required government infrastructure investment. The upsurge in development expenditures during Leguia's period is therefore a statistical manifestation of the historian's view of his presidency, ~~was~~ a period of capitalist expansion undertaken by a new group of entrepreneurs, who were not well-established members of the old Civilista oligarchy.

Principally through education, therefore, we can see that the expansion of governmental activity was associated with an increasing redistributive impact which may be traced back to the very beginning of this century. Although the first steps in this educational redistribution may be attributed to anticipated rather than actual power possessed by newly-emerging beneficiary groups, real power was not far behind. The political power of the urban masses was manifest at least as early as 1912, with the election to the presidency of Guillermo ^{Billinghurst} Billinghurst, and it is most obvious in the last 20 years, ^{The period of} with the election-oriented wage increases mentioned above.

^{It was mentioned earlier that the} ~~The~~ educational cut-back of the relatively conservative administration of Odría ^{illustrates} shows that this particular component of expenditure did not expand independent of presidential administration. In the case of total government expenditure, however, it is surprising how little the overall expansion was influenced by differences in the combinations of political forces which brought successive presidents to power.

1. Frederick Pike, op. cit., Chapter 8.

1. Jorge Basadre, Peru: problema y posibilidad. Lima, 1931, ^{Chapter 8;} ~~pp. 171-189~~

Frederick Pike, op. cit., Chapter 8.

This is not immediately apparent, however, if we ^{happen to} look at the pattern of residuals which comes from a regression of the expenditure/GNP ratio on real per capita income. The administrations of Bustamante and Belaunde were founded more substantially on the power of emerging middle and lower middle classes, and, as Table 6 shows, they have a much higher proportion of positive residuals.

There is some deception in this result, however. A closer look suggests a ratchet effect in government expenditures over the cycle; thus government expenditure is maintained ^{when} ~~while~~ GNP declines in a recession, causing the ratio to rise, while government expenditure expands with a lag in a boom, causing the ratio to fall at first, then to rise in the boom's later stages as the government's expenditure share surges to a new higher level. This evidence is also summarized in Table 6, where the two columns of signs show a remarkable parallelism. The signs tend to be opposite except for the late stages of a boom, when government expenditure also is booming, as in 1955-56 and 1963-65. Thus we conclude that the overall growth in government expenditure has not proceeded independent of the business cycle, but it is independent of the political representation of various presidential administrations.

The expansion of government expenditure thus appears inexorable, a fact of political life against which neither an Odría government in Peru nor an Eisenhower government in the United States could do much. Although on the one hand Odría reduced the redistributive significance of expansion by cutting back on education, his alternative emphasis on labor-intensive public works expenditure was certainly not without redistributive impact. Indeed by this emphasis he probably favored still poorer groups; aspiring manual laborers instead of aspiring public school teachers. No government in recent decades has been able to afford the luxury of throwing away the additional political advantage to be gained from additional expenditure programs.

VI

In similar fashion, we can examine the evolution of tax incidence over the years. As was the case with total expenditure, the ratio of total revenue to GNP shows a clear and ~~steady~~^{steady} growth over time, and the ex post revenue elasticities, shown in Table 7, are a good deal higher than the 1.2-1.3 range derived from the cross-country studies.¹ Also as before, however, we can make no inferences about redistributive impact merely by looking at the trend of the aggregate, but must instead look directly at the trends of component parts.

Indeed, the recent evolution of revenue structure in Peru is quite atypical. The first unusual feature we note is that it is the expansion of indirect taxes, not direct taxes, which has enabled the ~~whole~~^{as a whole} revenue system to be ex post elastic. All direct taxes, taken as a group, have just kept up with GNP growth since 1950, their share of GNP being a more or less constant 5 1/2 - 6%. In fact the major component, consisting of a group of the principal taxes on income from capital, has shown significantly inelastic growth.² Although the growth of ~~direct~~^{direct} taxes is ~~surprisingly~~^{merely} low, their recent level is not; rather by the cross-section standard the level was ~~quite~~^{unusually} high in 1950, given the low per capita income which existed, ~~and~~^{but} this same level in 1965 was about average for countries of Peru's 1965 per capita income.

1. Williamson, op. cit., pp. 50, 52. Thorn, op. cit., p. 46.

2. This group consists of the cedular taxes on business and interest income, the excess profits tax, the tax on retained earnings, the business license tax (patentes), the complementary fixed tax which is applied to dividend and interest payments, and all export taxes. Most export ^{TAX} payments may be credited against liabilities for business income taxes, and so merely represent an advance payment of a profits tax. Those export taxes which cannot be so credited are nevertheless taxes on income, since world market prices are given for a small country and the tax therefore cannot be shifted forward in the short run.

transmitted to Peru through its export sector, and a larger export share means prosperity and a high share to capital.¹

The negative sign of the real GNP variable remains something of a mystery, however. Even supposing that the export share variable controls for cyclical fluctuations in the ^{capital's} profit share, we would still expect a ^{secular rise in the} rising share of ~~profits~~ as the modern sector expands. Decline in the ratio of tax base to GNP therefore seems unlikely, but decline in the ratio of tax collections to base is also refuted by prima facie evidence, i.e., the tax rates. The tax rate on commercial and industrial profits has been going up all the time. From a top rate of 10% established in 1941¹ has risen to 15% in 1942, 20% in 1947, and 35% in 1959. Further change in 1968 did not raise the top rate but raised the lower rates substantially.²

There remains only one reason by which this strange sluggishness of profits tax expansion may be explained; it is the continuing erosion of the tax base through special exonerations of continuing taxes and abolition of minor taxes. Most exonerations come through the Industrial Promotion Law, which provides generous deductions for reinvested profits and further tax reductions for ^{locating} manufacturing establishments ~~located~~ outside Lima. Important beneficiaries of

1. The use of capital's share as a less indirect variable was deemed inadvisable, since the ratio does not derive from other data in Peru's national accounts, but rather represents an assumption from which estimates of gross profits are derived.

2. Joint Tax Program, Estudio fiscal del Peru, Chapter 2. Ministerio de Hacienda, La reforma tributaria de 1968, p. 38.

this latter provision are mine smelters, none of which had tended to be located in Lima before passage of the law.¹ Beyond this, however, not only have mining companies secured the right to special tax provisions, through the Mining Code of 1950, but the most significant new mining venture of the last two decades was undertaken through a special contract containing even more generous terms. Essentially, the Southern Peru Copper Company was accorded the privilege of a specially low tax rate until such time as it had recovered its enormous investment in the Toquepala mine. "Recovery" was defined to have taken place when accumulated profits equalled the original investment, where these profits were calculated net of depreciation and depletion.²

The lack of emphasis on personal income taxation is another curiosity of the Peruvian tax system. It is well documented that personal income taxes in less developed countries generally have about the same exemption levels and structure of progressivity as do similar taxes in developed countries, but ~~that~~ ^{as to convert} income levels are so low ~~that what is~~ an important mass tax in developed countries ^{into} ~~becomes~~ something fiscally far less important, levied only on the well to do.³ This situation is acutely and particularly true for Peru. A number of alternative calculations show that personal income tax exemptions, when expressed as

1. See the excellent study by Charles Farnsworth, "The application and impact of tax incentives for industrial promotion in Peru," Banco Central de Reserva, mimeo, July 1967.

2. A public uproar over ~~the terms~~ of this contract occurred in 1967, some 14 years after the contract's establishment, and brought about a change in terms.

3. U Tun Wai, "Taxation problems and policies of underdeveloped countries," IMF Staff Papers, November 1962, pp. 432-433.

Table 8

Exemptions in Personal Income Tax

(Impuesto Complementario de Tasa Progresiva)

	Annual exemptions single male	exemptions family of 4	Average Personal income per capita	Price index of consumer goods	Number of taxpayers	Taxpayers as percent of white collar workers
1950	₡12,000	₡22,800	₡1586	41.8	5,308	2.0%
1961	30,000	66,000	4827	93.5	8,740	2.2
1963	30,000	66,000	5787	100.0		
1964	48,000	114,000	6619	109.2		
1968	98,000*	164,000*				
1950	100	100	100	100		
1961	250	289	304	224		
1963	250	289	365	239		
1964	400	500	417	261		
1968	817*	719*				

*Income from labor only

Sources: Joint Tax Mission, Estudio fiscal del Peru, Chapter 2; Ministerio de Hacienda, La reforma tributaria de 1968, pp. 35-36. Banco Central de Reserva, Cuentas Nacionales del Peru, Tables 1, 6, 9, and 11.

a multiple of per capita income, are higher in Peru than in any other South American country.¹

The problem of excessively high exemption levels could ^{have been} ~~be~~ solved by inaction, ^{through} ~~by~~ allowing growing incomes and rising price levels to scale down the real value of exemptions. Unfortunately, pressures to raise these levels ^{have been} ~~are~~ periodic and irresistible. As Table 8 shows, the number of taxpayers was minuscule during the 1950's and early 1960's, and this small number may be expected to decline further, as ~~more~~ recently, exemption levels have gone shooting up much more rapidly than has average money income. Meanwhile, the cedular tax on wages and salaries was abolished in 1964 and replaced by a stamp tax. Payments to labor for services rendered are now counted merely as another form of transaction, to be covered by the ubiquitous turnover tax.² This was indeed a curious change. In place of a 5% cedular tax levied with a S/.30,000 exemption, (i.e., about \$1000) there was instituted a 1% tax with an exemption of only S/2,400 annually (i.e., about \$100). The prosperous middle classes, ^{those} with 1963 incomes above S/.30,000 annually, were clearly the winners in the important tax changes of the 1960's.

1. Richard Musgrave, op. cit., pp. 64-65. For example, in 1958 the income of a single person ^{had to} must be 12 times the national average before he ^{became} becomes liable to tax payments, and 14 times before his tax liability ^{rose} rises to 1% of his income. The corresponding multiples for a family of four are 26 and 32. The highest corresponding multiples to be found anywhere else in South America were 6, 25, 9, and 17, respectively.

2. Thus we have a part of income taxes masquerading as an indirect tax in our figures. This wage tax amounted to some 7% of total turnover taxes in 1967, and ^{is} ~~this share is~~ ^{a share} so small that its transfer to direct taxes would not greatly affect any of ^{the} ~~this~~ data or conclusions, ^{of this paper.}

If their income was above S/.66,000, for a family of four, they gained tax relief on two fronts, as Table 8 shows, for their liability was reduced for complementary as well as for cedular taxes.

But rich and poor alike paid substantially more in indirect taxes. As was the case with direct taxes, an unusual evolution over the past 15 years has produced a tax-to-GNP ratio much more in line with the experience of other countries. Both \$100 and \$600 countries, it will be recalled, tended to collect indirect taxes amounting to 8 1/2 - 9 1/2% of GNP, and by the 1960's Peru's indirect tax take had risen to just that range.

Excise taxes did nothing to contribute to the overall ex post elasticity of indirect taxes. These most traditional of internal indirect taxes have never been levied on a wide variety of goods, and the few goods ^{involved} ~~included~~ are among the least income elastic. In fact, more than half of the pure excises represented by the appropriate column in Table 7 are received from taxes on alcohol alone. In addition to these pure excises, however, the net surpluses of the traditional government monopolies in tobacco, salt, and a few other basic ~~commodities~~ ^{products} should be considered disguised excises. Most such products are both price and income inelastic, so even if we include them into a broader definition of excise taxes, the resulting aggregate is still strongly inelastic. For example, excises and government ~~monopoly~~ surpluses together averaged some 1.55% of GNP in 1942-45 and had declined to 0.63% of GNP by 1962-65.

Import taxes were subject to the same ^{process of} erosion through exonerations which seems so to have undercut the potential elasticity of taxes on business income, and so it is surprising to see that they were ^{in fact} ex post elastic during 1950-65. Moreover, this rise in the ratio of import duties to GNP occurred precisely in that period in the 1960's when Industrial Promotion exonerations were becoming particularly numerous. The cause lay in a series of major tariff increases which occurred at the same time.

These tariff increases were ~~done~~^{made} mostly for revenue purposes, but protection was also an important motive. The 1960-67 period was one of export boom and domestic inflation associated with the luxury of exchange rate stability. Therefore, domestic industry was progressively robbed of protection by diverging price movements; tariff increases helped offset this effect. Moreover, the tariff levels prevalent in the 1950's, while high by world-wide standards, were quite low by the standards of the amazing tariff rates generally prevalent elsewhere in Latin America.¹ A government hard pressed to find new revenue sources found room for maneuver in import taxation, since, in Peru as in neighboring countries, tariff increases were welcomed and supported by important segments of society as harbingers of prosperity through industrialization.

Over this post-war period, therefore, the dominant trend in incidence of the Peruvian tax system has been toward increased regression, (or decreased progression). This is the result of an increased relative importance of indirect taxes, and the continued erosion of direct taxes on both individuals and businesses, an evolution which represents a continuing expansion in the power of domestic entrepreneurs and the salaried middle classes.

Looking ^{at} revenue structure in a longer perspective, our conclusions must be less certain, but it seems most likely that tendencies toward greater regression in the last 20 years represent a backsliding from a longer-term trend toward somewhat greater progression in the tax system. This longer trend may

1. ^{Santiago} Macario calculates the average Peruvian tariff at 22% for 1959, as compared to 29% for Brazil, 32% for Colombia, 38% for Chile, and 53% for Argentina. ~~See~~ Cf. ^{his} ~~Santiago Macario,~~ "Protectionism and industrialization in Latin America," Economic Bulletin for Latin America, March 1964, Table 2.

be traced back as far as 1854, when President Castilla abolished the head tax on Indians, a levy which was clearly the most regressive element in the tax system of colonial Peru. For several decades thereafter, the overwhelmingly important source of revenue was not taxation, but instead the income deriving ^{from} Peru's possession of a world guano monopoly. It was only with the collapse of guano revenues in the 1870's that the country was obliged to begin construction of a modern tax system.

The reconstructed tax system relied principally on customs duties, supplemented by a few internal excises, and ~~we~~ we can see from Table 9 that the job had been done by 1900. The system was effective, but regressive. The few direct taxes included in the revenue mix were of trivial importance. [†] The incidence of Peruvian revenue structure did not change greatly between 1900 and the advent of World War I, but thereafter the major changes in taxation were all in the direction of greater progression. First there were export taxes introduced during the war itself, then a regular system of business and personal income taxation, a process begun in 1926 and greatly advanced with the reform and consolidation of income tax laws in 1934. We may calculate crude estimates of the evolution of tax progression merely by repeating the assumptions and calculations of Table 1, but using the different revenue structures for various years ^{they are} as shown in Table 9. These calculations show that the share of major taxes paid by the richest quartile of the population was 51% in 1900, rose to 65% in 1920, 70% in 1945, and 76% in 1950. By 1961, however, this share was back to 62%.

The sources of possible error in such calculations are numerous, but perhaps the most obvious is the assumption that the burden of a given tax among quartile groups is constant over time. In the case of import taxes this seems particularly

Table 9

Percentage Distribution of Government Revenue

	Export taxes	Other profits taxes	Personal income taxes	Import taxes	Turnover taxes	Excise taxes and monopoly revenue	Other revenue
1900	0 %	2.9%	0 %	59.5 %	1.6%	27.7%	8.3%
1905	0	3.6	0	50.9	1.4	35.1	8.9
1910	0	4.2	0	49.9	1.2	29.0	15.7
1915	0	5.5	0	28.5	1.4	39.1	25.5
1920	32.6	3.4	0	26.1	0.9	17.7	19.3
1929	7.1	6.2	0.9	30.3	1.8	27.0	26.7
1942	16.0	15.0		11.1	1.5	15.9	40.6
1945	16.5	16.1	5.7	9.0	1.6	11.7	39.4
1950	27.5	13.9	5.4	8.5 (13.0)	2.4	7.0	30.7
1955	11.0	12.3	5.4	18.1 (21.7)	1.5	6.7	41.4
1960	8.9	15.6	5.5	8.5 (19.6)	8.3	5.8	36.2
1965	4.0	10.4	3.5	18.1 (23.9)	19.6	3.6	35.0

Source: Author's compilation, derived from Balance y Cuenta General de la Republica. Figures in parentheses are total import taxes, including those collected under various special accounts, as reported by Banco Central de Reserva, Cuentas Nacionales del Peru, Table 13.

questionable; high transport costs and the low degree of urbanization in 1900 suggest that in fact import tax incidence might have fallen much more heavily on the rich than it does today. If this is the case, the redistributive backsliding of the recent decades may have been sufficient to return the incidence of the Peruvian tax system not just to what it was in 1920, but even to what it was in 1900.

These trends are dangerous for making inferences about the evolution of oligarchic power, however, since the richest 25% of the population consists largely of middle class salary receivers. The introduction of export, business income and personal income taxation in the second and third decades of this century undoubtedly hurt the oligarchy, ~~however~~ ^{but} in Peru as in other countries the problems of tax compliance and loophole plugging are so serious ~~as to make it quite evident~~ that an effective fiscal attack on the oligarchy ^{evidently} is not a matter of legislation, but of tax administration, a far more difficult challenge. ^{Moreover,} legislative attacks on the rich hit even more effectively at the salaried middle classes, the group which now challenges the oligarchy's traditional power most seriously. For this reason, in Peru as in so many other countries, the use of taxation as an instrument for achieving distributive equity has ground to a halt. The economic theorist's heady talk about making efficiency and equity compatible through more or less competitive markets and lump sum taxation and redistribution ^{seems applicable only in} ~~is talk about~~ another world, perhaps somewhere above the clouds.

Meanwhile, back on the Andean earth, we find that the long-run redistributive impact of the Peruvian budget lies almost entirely on the side of expenditure, with the expansion of education and public health programs. An expanding revenue system with unchanging tax incidence has redistributive significance if it makes possible the expansion of ~~redistributive~~ expenditure, however, and it is from

this viewpoint that a favorable assessment may be given to the most important tax change since 1934. This is the recent development, in the early 1960's, of an effective and significant system of internal indirect taxation.

There remains a further significant tax development which has not yet occurred; this is the transformation of personal income taxes from minor levies on the elite to important levies collected on a mass basis. It took the belt-tightening esprit of total warfare to persuade the American public to permit the income tax this type of transition. Naturally, it cannot be accomplished so quickly without so dramatic an external threat, but it is discouraging to see that in Peru progress seems to have been backwards on this issue. Personal income tax reform must remain the great challenge of Peruvian public finance in the coming decade.

VII

In an environment of continuing political conflict over distributive issues, what have Peruvian budget policies been able to contribute to accelerated growth? Part of an answer comes from the first column of Table 10, which shows that growth of government investment has kept up with GNP growth, but in very erratic fashion. When periods of fiscal crisis come, investment programs are among the expenditure components easiest to cut, and so they show marked cyclical instability, with serious slumps in 1954, 1959-60, and 1963. The elasticity of government expenditure with respect to GNP ^{comes out to something} is fairly high over the ¹⁹⁵⁰⁻⁶⁵ ~~1950-65~~ period, somewhat ^{above} 1.5, but the instability is sufficiently great to make this calculated result insignificantly different from unitary elasticity.

Table 10 also shows that the expenditure shares devoted to fixed investment are about the same in public and private sectors. It might seem surprising that

Table 10

Government Investment

	Government fixed investment as percent of GNP	Total government exhaustive expenditure	Private fixed investment ^{as} percent of private consumption and investment ^{plus}
1950	1.14%	13.5%	15.8%
1951	1.10	11.9	19.8
1952	2.47	23.6	21.0
1953	2.14	19.7	23.3
1954	1.56	16.6	17.5
1955	3.30	29.9	17.3
1956	2.55	21.8	23.2
1957	2.08	19.1	24.5
1958	2.27	20.4	22.3
1959	1.49	14.1	18.4
1960	1.19	12.1	18.8
1961	1.97	17.1	20.5
1962	2.15	18.6	21.5
1963	1.26	11.4	19.8
1964	1.87	14.8	17.0
1965	2.70	19.5	16.4
1950-55		19.2	19.1
1955-60		19.6	20.8
1960-65		15.6	19.0

Source: Banco Central de Reserva, Cuentas Nacionales del Peru, Tables 1, 2, 5.

the investment share is not larger in the public sector; certainly economists seem to assume a larger share when they view with evident favor the expansion of government's share of GNP in a developing economy.¹ In fact, in Peru, the similarity of investment shares is prima facie evidence that the substantial expansion of government's GNP share in the past twenty years has ^{had} no significance for the long run growth rate.

This conclusion is subject to two important qualifications, however. First, it is based on terribly inadequate accounting conventions about what constitutes investment and what constitutes consumption. A far more analytically useful definition of investment would not include durable consumer goods, ^{e.g.,} ~~residential~~ residential construction, but would include all productivity-increasing expenditure even if not embodied in material output, ^{e.g.,} ~~education~~ education. The government's durable consumer goods are public buildings, but even eliminating all construction of buildings from government investment does not lower the totals greatly; building construction has averaged something less than 20% of government investment over the years.² If in addition we assume that ^{only} half of educational expenditure is properly treated as investment, the addition of

1. The investment share of government is in fact substantially higher in the only other South American country for which data were readily available. This is Uruguay, certainly not a country noted for overzealous investment programs by government, but possessed of a government ~~investment~~ investment rate of 20.5% for 1960-63, as compared to the private sector's rate of only 13.6% for the same period. Cf. CEPAL, Boletín Estadístico de América Latina, February 1967, p. 245.

2. Banco Central de Reserva, Cuentas Nacionales del Perú, Table 14.

this amount is far more significant than is the deduction of building construction. Government investment as a percent of total governmental exhaustive expenditures is changed from something less than 20% to something more than 30%, and by this more reasonable concept of investment we can indeed say that expanding the relative size of government has been growth-promoting after all.

The second qualification concerns the fact that the ratios of Table 10 are average rather than marginal rates. The previously-mentioned elasticity of government investment expenditure with respect to GNP is our guide to the government's marginal investment rate. Since an elasticity is the ratio of marginal to average, it shows that the marginal rate is about 1.5 times the average, or, by the unfortunate national accounts definitions, about 30%.¹ Given that a share of approximately this magnitude is allocated to government investment out of *given* increases in government expenditure, what offsetting investment decreases in the private sector might we expect as a result of parallel increases in tax collections? It is not enough merely to assume that resources are withdrawn ~~from~~ proportionally from private investment and consumption, leaving the private investment rate unchanged. We need to look *once* again at the evolving composition of government revenues.

Despite a feeble existing knowledge of sources of saving in the Peruvian private sector, it is nevertheless quite certain that most saving is generated out of income from capital. Therefore the surprising inelasticity of tax revenues on income from capital, so *unfortunate* from a distributive standpoint,

1. The marginal rate is undoubtedly higher *still* by the investment concept which includes education, since education expenditure has expanded so greatly over the past 15 years.

is not at all unfortunate from the standpoint of growth. As taxation has become more regressive in recent years, it has shifted more and more away from saving and investment and on to consumption. For this second reason, therefore, we may say that the expansion of the government sector, as it has taken place in Peru in the past 20 years, has been good for growth.¹

VIII

At a number of points we have touched on the issue of conflict between the goals of growth and distribution, but this issue is of such importance that it deserves a brief summary even at the expense of some repetition.

There are several instances in which growth and distribution goals have indeed come into conflict, with quite opposite outcomes. On the side of taxation, the most obvious and difficult conflict has been the one just mentioned, regarding the severity with which income from capital is to be taxed. In this case growth won out over distribution, partly because the growth significance of unequal distribution was obvious and persuasive to policy makers and to public opinion. This is particularly the case with tax exonerations; the entrepreneur who wishes to introduce a new industry to his country, for the small consideration of not having to pay taxes, is a culture hero, and the size of his personal income after taxes does not come to issue.

1. Two other factors, not dealt with in this paper, are also important for assessing the desirability of an expanded government sector. One is possible complementarity between private and public investment. This is one aspect of a larger issue, the relative social profitability of public and private investment in Peru.