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INDUSTRIALIZATION AND THE DISTRIBUTION OF WEALTH IN PERU

By

David Chaplin

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INDUSTRIALIZATION AND THE DISTRIBUTION OF WEALTH IN PERU*

I. Introduction

The distribution of income and wealth as one of the classic socio-economic fields of investigation has experienced a recent upsurge of interest due to the dual concern with persistent poverty in the United States and with economic development in the world's underdeveloped areas.[1/] It seems that a continuous equalization of income as economic

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1/ Fuat M. Andic, Distribution of Family Income in Puerto Rico, Caribbean Monograph Series, No. 1, Institute of Caribbean Studies, University of Puerto Rico, Rio Piedras, 1964

Chung-li Chang, The Income of the Chinese Gentry, Seattle: University of Washington Press, 1962

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Ifigenia M. de Navarette, La Distribución del Ingreso y el Desarrollo Económico de Mexico, Mexico D.F., 1960

L. H. Samuels, African Studies in Income and Wealth, London: Bowes and Bowes, 1963

Carl S. Shoup et al., Informe Sobre el Sistema Fiscal de Venezuela: Estimación de la Distribución del Ingreso Personal, Ministerio de Hacienda, Comisión de Estudios Financieros y Administrativos, Caracas, 1960

development proceeds may be yet another popular myth. Few question the absolute rise in the median level of living in Western countries. The most general question is one of changes in distribution.

One point, central to this study and on which there seems to be some agreement is that the distribution of income, and probably of wealth, becomes even more unequal during the process of industrialization than it was at first.2/ A review of the literature tentatively suggests to the author the following pattern. Beginning with a feudal agrarian society of high overall concentration among all who own any real estate, and relative equality among the mass of petty landowners, the process of population growth and commercialized economic development would bring about an even greater concentration of property than already existed. The function of this increasing inequality, in the eyes of many economists, is to transfer sufficient wealth into the hands of entrepreneurs so that the large scale capital investments required for sustained economic growth can be made. Of course it can as well be the case that this concentration favors only the traditional landed aristocracy who may not put it to such a use. Concentration then would be a necessary but not sufficient condition for economic development.

1/ (Continued)
Lee C. Soltow, Toward Income Equality in Norway, Madison: The University of Wisconsin Press, 1965
Richard T. Titmuss, Income Distribution and Social Change, London: George Allen, Urwin, 1962
Reinaldo Torres Calceda, Los Estratos Socio-económicos del Ecuador: Un Ensayo de Cuantificación, Junta Nacional de Planificación y Coordinación Económica, Quito, 1960

2/ Simon Kuznets, "Economic Growth and Income Inequality," American Economic Review, Vol. XLV, No. 1, March 1955, pp. 18-19

Subsequently, in our ideal type model, assuming that the transitional elite has made "good" use of its wealth, equalization of income should occur in time to enlarge consumption sufficiently to soak up the increased productive capacity. Beyond this stage a new type of persistent inequality may arise within the generally affluent society due in part to the rising percentage of the retired and to that proportion of the labor force outmoded by automation. Our study, however, is concerned only with the first stage of increasing inequality, that phase overgeneralized by Marx.

The basis for the early stage increase in the concentration of wealth could be explained in general as follows:*

1. Movement into the market economy of the relatively larger, elite-owned resources previously possessed but not evaluated in commercial market terms. The extension of commercialism also means that real estate is exchanged for money rather than primarily as familial inheritance or bridal dowries. Hence the possibility for a more rational concentration of holdings.

2. Since only the upper class can save significantly and since investable saving is most practical in the form of liquid wealth -- commercialization increases the economic opportunities of those already on top.

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* The data analyzed in this study refer only to wealth in the form of real estate.

3. The increasing gap between the urban and rural world resulting from the concentration of industrialization in the largest cities -- in Peru's case almost exclusively in Lima -- since increases in per capita productivity come more rapidly in the urban industrial sector.

4. Excessive population growth decreases the level of living of the mass of landless peons thus widening the gap even if the wealth of the elite remains stable.

5. The shift from sharecropping and other types of subsistence farming to large scale commercial cash crops using paid labor. This is accompanied by a consolidation of holdings and, in most non-Western countries, by the substantial transfer of ownership to foreigners.

6. The usual inflation which undercuts the position of the majority group of employees in favor of the owners of land and other flexible price assets.

7. The relative equality of wealth within the agricultural sector.3/ (In our case this shows up in Tables 1, 2 and 3, especially in the isolated "feudal" departments of Cuzco, Puno and Ayacucho.) The picture most have, quite correctly, of Latin American social structure is one of extreme inequality. This is certainly true of the

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3/ See Simon Kuznets, "Quantitative Aspects of the Economic Growth of Nations," VIII, Distribution of Income by Size, Economic Development and Cultural Change, Vol. XI, No. 2, part 2, Jan. 1963, p. 53

entire population -- but few censuses have ever fully covered the mass of the landless peons. Moreover, the majority of the concentration figures one reads are estimates or are based on "courageously" extrapolated samples. Our data specifically excludes the landless -- but does include a large number of the minifundistas who are so common in Latin America.4/ Actually there are many land owners in Peru, perhaps exceeding the truly landless (see Appendix A). Within the sample of property holders in this census a greater equality can be seen as one moves toward the poorer areas. (Tables 1 and 2.)

8. Adjustments in the after-tax income of the highly skilled to offset governmental programs of equalization. In developed countries, and especially in those sectors of underdeveloped countries in which modern welfare state legislation has been enforced, employers tend to devise ways of adjusting the after-tax income of their higher level employees to offset the effect of progressive taxation and those welfare benefits which are of use largely to the lower classes.5/ The more usual procedure in Peru is to evade income taxes altogether. In addition the tax system in Peru is predominantly regressive.

4/ Thomas R. Ford, Man and Land in Peru, Gainesville: University of Florida Press, 1955, p. 53

5/ Kuznets, op. cit., pp. 2-3

Kuznets also suggests that workers may be willing to accept relatively lower wages if they receive sufficient deferred benefits. In the case of the highly organized factory workers in the Lima-Callao area, no such acceptance is in evidence. In fact, those workers with the highest level of received benefits also demand and obtain the highest wages.

II. The Data

Research in non-Western countries on the distribution of wealth, whether consisting of fixed or liquid assets, is usually frustrated by a lack of data. In addition, with respect to the distribution of real estate, most figures given refer to the distribution of land by sizes of holdings rather than by ownership. It is relatively easy to map a region to determine into how many lots of varying sizes the available land is divided. It is quite a different matter to discover who owns each piece of land in countries in which securities are all held as "bearer" bonds and stock and in which only "fools" reveal their holdings to the government.

In the case of Peru, however, a property register is available for the period 1926-30, which permits some examination of the distribution of wealth during this transitional pre-"take-off" period.[6/] It lists each piece of real estate with an estimated annual yield of over 10 £P (Peruvian pounds, approximately $25 in 1929) with the full name, age, sex, address, nationality, occupation and marital status of the owner as well as the type and location of the property. A discussion of the various methodological problems involved in the use of this data will be found in Appendices A and B. At this point the relevant facts are the following:

6/ Ministerio de Hacienda, La Matrícula de Contribuyentes de Predios Urbanos, Rústicos, Industriales y Eclesiásticos, 1926-30, Lima, 1939

1. The property (land and buildings) in both rural and urban areas is certainly undervalued, but the system of evaluation was used with sufficient consistency to justify this analysis. The coverage of owners is also apparently complete within the units utilized in this study, judging by other sources of information about the landed elite of this era.*

2. Since this is a study of only one type of wealth for one segment of the population, the resulting concentration ratios are therefore not directly comparable to the above mentioned studies of income distribution.

3. The indices of concentration refer only to the universe as defined, not to the whole population of Peru or to all of the property in the country. In addition, since the 83,162 private

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* I should mention here, parenthetically, that the types of wealth not covered by this register are just those held in Peru primarily by the wealthiest -- namely -- securities, savings accounts and the traditionally obligated, virtually free labor of landless serfs. In a modern industrial society, government welfare services, which are normally utilized more by the poor, would also have been excluded but they were negligible in Peru before 1940. Therefore, the overall result of these omissions would be an under-estimation of the wealth of the top wealth holders. Thus, high as our concentration ratios are, they would be higher still if all types of wealth and the entire population had been covered.

it would be a futile enterprise to attempt an accurate estimate of the amount of such wealth missed since, in Peru, the use of "bearer" stock is common (acciones al portador). However, during this period taxes were low enough to allow the assumption that family and personal pride usually resulted in the use of personal names as part of the titles of fully owned enterprises. In the case of commercial firms this seems to have been the practice whereas the names of haciendas were usually derived from a geographical feature of the locale or the name of a saint. In the case of land, the name of the owners had to be registered. Consequently it is presumably the case that the loss of secretly-held elite property would be significant only after 1940 when taxation became a more salient problem.

Table 1.

Indices of the Distribution of Wealth*

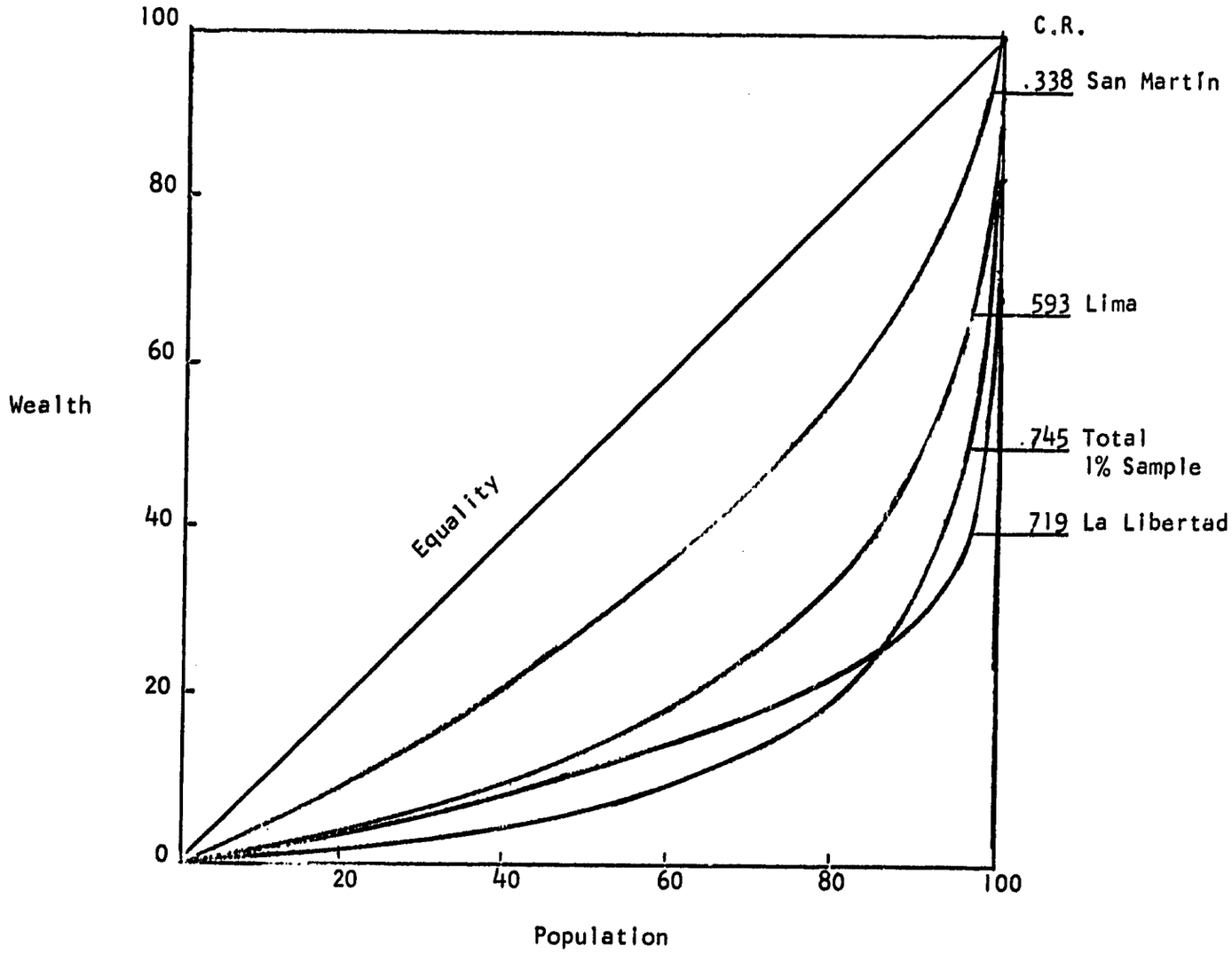
Departments of Peru	All Owners of Over 10 £P**				The Top 1% Sample						
	Number of Landholders	Median Value £P	Mean Value £P	Concentration Ratio	Concentration Ratio	Median Value £P	Mean Value £P	Number of Landowners	Value of Top Owner £P	Owned by Top Owner %	Range of Values £P
La Libertad	2,459	16	53	.715	.719	20	73	1,665	6,000	4.9	6000/12
Lambayeque	1,548	16	48	.695	.695	33	100	633	7,308	11.5	7308/20
Piura	4,496	19	62	.724	.691	30	93	2,605	10,163	4.2	10163/14
Loreto	2,057	18	42	.652							
Ica	3,027	30	93	.723	.629	160	417	499	10,880	5.2	10880/80
Arequipa	2,620	15	38	.620	.595	40	92	833	8,030	10.5	8030/20
Huancavelica	625	30	65	.613							
Lima	23,494	24	142	.786	.593	207	480	6,050	29,503	1.02	29503/80
Tacna	444	20	45	.615	.567	32	71	250	2,000	11.2	2000/20
Cajamarca	3,259	16	32	.546							
Puno	7,221	12	26	.525	.538	20	36	4,375	1,935	1.2	1935/10
Ancash	8,277	12	29	.543	.514	30	63	2,775	3,300	1.9	3300/20
Tumbes	496	20	42	.585	.510	40	83	200	930	5.6	930/20
Cuzco	9,383	12	25	.500	.497	24	46	3,600	2,401	1.4	2401/14
Junín	6,018	28	45	.525	.446	40	67	3,550	6,820	2.9	6820/20
Apurimac	2,407	10	19	.400	.440	16	24	1,502	1,720	4.8	1720/10
Huanuco	1,955	10	17	.370	.416	12	20	1,437	890	3.1	890/10
Ayacucho	2,446	16	23	.420	.393	20	29	1,655	700	1.4	700/10
San Martín	932	12	20	.374	.338	20	29	486	356	2.5	356/12
TOTAL	83,162	18	67	.719	.745	32	140	32,205	29,503	.6	29503/10

* The departments are ranked according to the level of the concentration ratio in the 1% sample.

** This Matrícula de Contribuyentes covered all pieces of property, land and building, valued at 10 pounds Peruvian. Peru's present currency is the sol, 10 of which equal 1£P.

owners of property in the register constituted variable percentages of each department, our coverage was reduced to 32,205 in order to obtain a comparable 1 per cent group in each political unit.

Graph 1 Lorenz Curves of Wealth Distribution



Our results therefore will be of greater sociological and political relevance than economic. We are thus analyzing the internal structure of the land-holding elite as related to various indices of industrialization. The class coverage of this purposive sample certainly extends well into Peru's small middle class. The most generous of estimates (beyond the glib "40 families" sort), should not assign over a thousand of this group to the upper class. The bulk of this 32,205 belongs to various segments of a very heterogeneous middle class. We can refer to them all as an elite only in the simplest material terms. Social subcategorization will have to await further analysis.

III. Findings

Our major finding is that the concentration ratio rises as we move from the isolated mountainous departments to the commercialized plantations on the coast.* Unequal as the distribution of land was in the interior it was more so on the sugar and cotton haciendas, especially on the north coast (Tables 1, 2 and 3). This would seem to illustrate the widely held observation that industrialization does not promise a uniform improvement in economic status to all regions involved.7/ The

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* We can of course not confirm a longitudinal hypothesis on the basis of cross-sectional data. Unfortunately it appears that no such national compilation has been attempted since our data was published. Therefore we can only illustrate a plausible conjecture.

7/ Jeffrey G. Williamson, "Regional Inequality and the Process of National Development," Economic Development and Cultural Change, Vol. XIII, No. 4, part II, July 1965, p. 44

agricultural sector normally lags and may in fact suffer an absolute as well as relative decline.

An attempt was made to correlate concentration ratios for the 16 departments for which at least 1 per cent of the estimated 1929 population was available, with such indices of economic development as could be obtained from the closest census (1940). On the basis of a 5,000+ population definition of urban areas we found a correlation of +.50 between urbanism and wealth inequality. The percentage of the work force in agriculture varied inversely with the concentration ratio (-.57). In addition, correlations with the percentage in finance and commerce (.54) and "speaking Indian languages only" (-.57) all suggest an increase in inequality with commercialization and industrialization.

The concentration ratio does not show a very high positive relationship with the average level of wealth in each area (CR and mean +.39, median +.35). This arises from the fact that there are three different types of areas relevant to the question of the distribution of wealth: (1) the feudal Sierra, (2) the commercialized coastal plantations, (3) the "industrialized" urban area, Lima. In the latter case the beginnings of an incipient lessening of inequality within this top group can already be discerned.*

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* Had the entire population been covered in all of these areas no such lessening of inequality in the city might have been revealed, if, as Kuznets suggests, urban industrial inequality is greater than rural, and probably increasing in this country in this era. (See Kuznets, Economic Review, op. cit., p. 8) Moreover, wealth inequality was probably greater and will be more persistent than income inequality.

To the extent then that mean and median wealth vary directly with a higher concentration ratio, the relative improvement of the "elites" holdings need not be at the expense of an absolute decrease for the rest of the population. However, such a relationship holds only for 6 of the 16 departments. (See Table 1.)

If we add the per cent of the sample group's wealth owned by the top property holder as a way of ranking the departments, we note that Lima, the site of most Peruvian manufacturing industry, falls last with the lowest relative holdings, followed closely by the backward Sierra provinces of Ayacucho, Puno and Cuzco. (See Table 3.)[8/] Group I is made up largely of coastal departments, Group II of mixed jungle and mountainous areas. This pattern of shifting concentration emerges even more clearly if we break down the department of Lima since it includes both the wealthiest of coastal valleys and backward mountainous provinces. (See Table 4.)

8/ Although Soltow's study dealt with income distribution in eight Norwegian towns, he did observe some trends of relevance to my case with respect to changes in wealth. The concentration of wealth rose between 1850 and 1920, returning to the 1850 level by 1950. Soltow also noted that while the distribution of income was greatly equalized between 1850 and 1950, the distribution of wealth, even in Norway, changed very little. The wealth-income ratios declined but the distribution of property holding did not become comparably more equal. (See Lee C. Soltow, Toward Income Equality in Norway, The University of Wisconsin Press, Madison and Milwaukee, 1965, p. 42.)

Table 3.

The Wealth of the Top Wealth Holder

	Department	Per cent
I.	Lambayeque	11.5
	Tacna	11.2
	Arequipa	10.5
	Tumbes	5.6
	Ica	5.2
	La Libertad	4.9
	Apurimac	4.8
	Piura	4.2
II.	Huanuco	3.1
	Junín	2.9
	San Martín	2.5
III.	Ancash	1.9
	Cuzco	1.4
	Ayacucho	1.4
	Puno	1.2
IV.	Lima	1.0

Table 4.

Concentration Ratios Within the Department of Lima

	Province	C.R.
I.	Cañete	72
	Chancay	70
II.	Lima	69
	Districts	
	Rimac Valley	80
	City of Lima	64
III.	Cajatambo	47
	Canta	46
	Huarochiri	40
	Yauyos	29

Lima's three coastal departments head the list. The others are all in the mountains with Yauyos being the most isolated. Within the province of Lima we find the highest concentration ratio in Peru in the intensely cultivated valley near the city, while within the city itself a somewhat more "moderate" ratio is found.

This general pattern of increasing inequality is also illustrated for a later period by the Central Bank's figures on regional mean per capita income in 1955, 1956, 1959, and 1960.9/

Table 5.

Distribution of Mean Per Capita Income

by Geographic Regions

	1955 %	1956 %	1959 %	1960 %	1959 Population %
Coast	54.09	56.16	57.31	61.62	33.37
Sierra	45.51	38.65	38.18	33.77	53.14
Jungle	5.40	5.19	4.51	4.61	13.49
	100.00	100.00	100.00	100.00	100.00

The poorer and most populous area, the Sierra, fell back relatively.10/ The poverty of the poorer regions is, of course,

9/ Banco Central de Reserva del Perú, Renta Nacional del Perú, 1942-1956, Lima, 1958, p. 67; Renta Nacional del Perú, 1942-1960, Lima, 1962, p. 35

10/ A more recent U.S. Department of Labor analysis reached the same conclusion. "The disequilibrium between the regions has increased over the preceding 10-year period (1950-60)" p. 13, Labor in Peru, Bureau of Labor Statistics Report, No. 262, U.S. Department of Labor, Washington, D.C., Feb. 1964

exaggerated due to the inevitable exclusion from this accounting of goods and services not passing through any commercial market. This deficiency is greater in the poorer and more isolated regions. Estimates of the proportions of Peruvians "outside the national economy" in the 1950's range from one-third to one-half of the population.[11/] This miscalculation of the extent of poverty is presumably bound to decline as commercialization proceeds and as the population in the commercialized areas grows relative to that in the relatively untouched areas, resulting from emigration from the latter and a slower decline in mortality rates in rural areas.

The 1959 United Nations study of Peru's industrial development concluded that although Peru's consumption outstripped its gross product (a situation made possible by post-1950 inflow of foreign capital and a favorable balance of trade) the added consumption was not enjoyed by the lower classes.[12/] In fact, even within the officially registered industries "where better levels and more stable systems of renumeration are usually to be found, real per capita (white collar) salaries were lower in 1955 than in 1947 in

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11/ The J. Walter Thompson Company, in a report which made a determined effort to maintain an optimistic posture, estimated that 55.9% of Peru fell into its lowest market potential category, p. 10, J. Walter Thompson Company, The Peruvian Market, 1957

12/ Economic Commission for Latin America Analyses and Projections of Economic Development VI, The Industrial Development of Peru, United Nations, Mexico, D. F., 1959, p. 11

all sectors except trade, the reduction being particu'arly severe in agricultural activities and manufacturing industry...consequently, this sector did not even succeed in maintaining its real income at the same level."

This report did note that with respect to blue collar wages, "the situation was apparently much more favorable, since considerable real improvements were registered here."[13/] It should be noted that this favored group is limited to unionized workers in the larger factories in the Lima-Callao area who have managed, with the help of a series of Supreme Decrees raising wages, to more than hold their own in wage levels.[14/]

All of the above discussion has not taken into account a vital distinction relevant to the significance of any level of concentration. The wealth data on which the concentration ratio was based constituted the total holdings of the individuals covered by the register. The holdings of these property owners varied according to their "unity." Some held all their land and attached fixed assets in one integrated unit while others with the same total value and acreage had numerous and widely dispersed units of property.

In general, the middle level property holder in the Sierra was likely to be burdened by very fractionalized possessions while both

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13/ Ibid.

14/ Op. cit., p. 43

the poorest and the wealthiest were likely to control more integrated property. As one moves toward the coast the tendency towards integrated concentration grows as property tends to be acquired more by purchase than by inheritance or marriage. The general principle seems to be that where property is transferred through the family, that is, via inheritance or marital arrangements, and where entail is forbidden and equal inheritance the rule, large units tend to be broken up and dispersed in terms of subsequent ownership. On the other hand, where property exchange occurs through a commercial market, successful large owners purchase still more land, preferably contiguous to that already held.

The political and social consequences of owning property in highly unified or highly dispersed units are clearly different. The latter constitute a less efficient system for a single managerial agency and so are usually rented out through a variety of sharecropper or tenant leases. Large unified holdings make possible, though certainly not inevitable, a more efficient and profitable enterprise. However, even if poorly run, the high style of life and the direct control over large numbers of resident peasants or peons, offers the owner of such property more effective local prestige and political power than accrues to the owner of a large number of small holdings.

There are other differences as well among the various kinds of concentration in different areas. In the Sierra the poor owners of a few holdings are generally Indians while the local gamonales or hacendados, owners of plantations, are predominantly Mestizos. On

the coast the large and growing haciendas were falling increasingly into the hands of foreign owners, German in the case of sugar planations and Japanese in the case of cotton in northern Peru. (The latter were expropriated during World War II.)

IV. Discussion

We have, therefore, suggestive indications of an increase in the inequality of wealth during the early stage of industrialization if several assumptions are tenable in this case:

1. That cross sectional differentials can be extrapolated historically, for example, Lima in 1930 predicting Arequipa's situation by 1950. It is highly likely, of course, that many specific areas in Peru may never reach even Lima's 1930 level of urbanization. It is also true that the change in Lima between 1930 and the present is not, in all respects, comparable to the changes occurring in isolated rural areas during the same period. In both cases, however, the process of economic rationalization, viewed in general terms, is at work. In both cases the eight factors listed on pages 3, 4 and 5 would seem to be operative.

2. That intra-elite differences can be projected into the entire population. All other evidence on Peru seems to confirm a generally high concentration of wealth. It would of course be mathematically possible to have a high level of intra-elite inequality with a relatively low total concentration ratio for the whole population. The opposite situation of general inequality with relative intra-elite equality is also possible.

In Peru's case an extrapolation of our findings would seem justified. However, firm figures could never be discovered to test this proposition since at least a third of Peru's population in this period worked entirely outside a commercial labor or consumer market while probably another fifth participated only marginally.

Our findings would also be of interest sociologically and politically even if such an extrapolation was not justified. The internal structure of plutocratic elites is clearly a subject relevant to many interests -- and one the author intends to pursue with respect to the socio-political history of Peru during the oncenio (eleven-year term) of President Leguia (1919-30), the progressive dictator who had this property holders' census taken.

It should also be noted that we have been discussing two types of distributions simultaneously -- regional and class. Most studies of the distribution of wealth tend to focus on one or the other. It could, for instance, be the case that class differences within some regions tend toward equalization while simultaneously the regional distribution of wealth becomes increasingly unequal. Were the data available, I believe that this is what would be observed in Peru. The decline of the rural aristocracy, described below, has resulted in a degree of de facto land reform by default as some plantations are virtually abandoned to the resident Indians. This has occurred in many areas of Peru's southern highlands -- Puno, Cuzco and Ayacucho in our data.

Another plausible pattern could be a class as well as regional increase in inequality due to the factors discussed above. This would occur on a class basis especially in regions of high population growth and a shortage of land. Here the elite might be holding its own in absolute terms but the mass of the society could become increasingly impoverished.

Overall the factors making for an increase in inequality do not function equally in all types of areas. Were the data available it would be interesting to develop an index reflecting factors which tend to raise or lower the inequality of wealth by regions in terms of class distributions within each area.

It is interesting to note that except for the rural area near the city of Lima (Rimac Valley C. R. of 80, Table 4) the highest concentration ratio was found for the country as a whole. Only this one region was more unequal than was the entire country. Within the country the "middle region" in terms of the process of industrialization, that is, the rural coastal area, was the most concentrated. Not all areas, of course, will have their day as being more industrialized than some and less than others. Some areas will always lead and others will always drag behind. Trailing regions may escape the extreme concentration seen in the highly commercialized farming areas if they move, as are some U. S. southern states, directly from subsistence farming into manufacturing.

The city of Lima, which revealed some intra-elite decline in inequality relative to the coastal rural areas, probably has seen an overall increase in inequality since 1930, if only due to the excessive numbers of migrants added on at the bottom. Whether the holdings of the current top 1 per cent in Lima are greater than in 1930 would be a matter of wild conjecture. I would guess that they would have risen, as probably also would be the case of the national concentration ratio. (Perhaps it should also be added here that another increasing gap probably existed, at least until recently, between Peru's real median per capita wealth and that of the West. It is also likely to be the case that, as in other currently underdeveloped countries,[15/] Peru's median per capita income is lower than was that of "Western" countries at the same stage. Such an increase in class, regional and international inequality may be more than the current evolutionary political system can bear.)

One set of hypotheses, which was suggested by an evaluation of this data in the light of other evidence about the class structure of Lima, Cuzco, Puno, and Ayacucho, bears on the question of the amount of social mobility Peru's allegedly static society has experienced since 1900.

In the case of Peru there was a relatively stable cultural tradition and economic structure together with a high rate of social

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15/ Kuznets, Economic Development and Cultural Change, op. cit., p. 68

turnover. A model of minimal factors necessitating this type of social change could be derived from this situation as follows: Given the prohibition of entail and primogeniture, and the requirement of an equal division of property among all legal sons and daughters as well as illegitimate children, it is rare that one family can maintain a comparable socio-economic position in a community for several generations. Then add to this an unpredictably unfavorable sex ratio (too many girls) among children, and it can be seen why property is likely to pass out of the paternal line in two generations. To these persistent factors can be added the post-1920 evacuation of the provincial Creole "aristocracy" to Lima. Absentee landlordism has not always predominated in Peru. Its recent prevalence seems to have been impelled by a preference for a more urban style of life, and the rising Indian unrest due in part to the increase in population with the resulting shortage of land.

The situation in Peru seems to be strikingly like that of the landed gentry in the 19th century China as described by Chung-li Chang.[16/] He found that this class of elite landowners: 1. Could not earn enough from their land through a tenant-sharecropper system to radically enlarge their landholdings. On the contrary, money had to be diverted into land from outside sources to effect such economic

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16/ Chung-li Chang, The Income of the Chinese Gentry, Seattle: University of Washington Press, 1962, pp. 127-128

mobility. Therefore they found political posts indispensable to agricultural success. In this way, they could (a) evade taxes, (b) use the police to collect land rents and (c) divert public funds to private advantage. Peru's landed elite has long "accepted" public posts as deputies, senators and departmental prefects, but not in the disinterested spirit popularly attributed to England's landed aristocracy. Chang also found that: 2. Large estates could not be held together from one generation to the next due to the prohibition of entail and primogeniture -- consequently China also experienced a high rate of social mobility at the gentry level. In both cases very few families succeeded in developing the Rothschild or DuPont "clan spirit" which has for so long balanced kinship ascription with the practical requirement for administrative efficiency all for the sake of the family enterprise.

This increase in the concentration of wealth is, of course, the subject of much controversy. On the one hand it is argued by most Western economists that <u>if</u> control of this relatively greater proportion of wealth passes into the hands of progressive entrepreneurs, then all will be well, at least for succeeding generations. Against this position are heard outcries against the social injustice involved in the exploitation of the masses required to produce efficiently on too low an absolute level of living. That injustice results cannot be denied. But it must be demonstrated that it is essentially the actions of the entrepreneurs and not primarily the consequences of the population explosion which have brought about the all-too-frequent real

decline in the standard of living observed in many currently industrializing areas. Unfortunately for analytical purposes, these two factors are normally co-existent.

Many economists have assumed a "functionalist" position on the question of unequal wealth and economic development. It is observed that the two have coexisted and therefore a positive virtue in inequality is assumed. Concentrated in relatively few and progressive hands, large amounts of wealth could be effectively invested to promote industrialization. The opposite, of course, is more likely if the propertied elite is not so disposed. In Peru we have just such a case. The overwhelming bulk of the entrepreneurs in Peru's industrial sector have been foreign immigrants, that is, persons of non-creole, mestizo or indian parentage. In the case of the textile industry it can be demonstrated that there were scarcely any Peruvians, so defined, who used their wealth to develop this industry.17/

In general, white immigration to Peru has been small, probably not over 20,000 since 1900. However, these foreigners, Anglo-Saxon and Italian immigrants alike, arrived -- not as marginal strangers -- but elite entrepreneurs -- moving in near the top and usually consolidating their positions, thus making Peru, while nominally politically independent, very much a cultural and economic colony. The Italian

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17/ See Chapter IV in Chaplin, The Peruvian Industrial Labor Force, op. cit.

immigrants came largely from Northern Italy and Southern Switzerland. Some, thanks perhaps to the "excessive" ease of their acculturation, "went native." That is, after a period of economic success, some of them -- more often their sons, would cease innovating in their original patterns and instead divert their patrimony into the acquisition of extensive but relatively unproductive haciendas -- especially if they could thus obtain the traditional servitude of hundreds or thousands of Indians. (One way of separating the "progressive" from the "tradition-oriented" agriculturalists in Peru today is that the former prefer land without attached Indians so that they can innovate free of what is a traditionalizing trap, as well as currently, a political obstacle -- land reform. They prefer to hire "acculturated" workers on a seasonal basis at higher wages.)

The most extreme case of Italian 19th century entrepreneurs "gone native" is to be found today in the department and especially in the city of Cuzco where this group of immigrants has largely displaced the Creole aristocracy who generally evacuated to Lima. The sons and grandsons of this late 19th century wave of immigrants to Cuzco are today to be seen running the once outstandingly progressive family textile mills or plantations into the ground.

The majority of Italian immigrants to Peru (the largest single nationality) have been extremely successful and, like the Anglo-Saxon immigrants, they have retained strong ties to the mother country thus undercutting what otherwise might have been a cohesive economic power elite." This problem of differing foreign cultures of

orientation separates not only the descendants of post-independence immigrants to Peru but many old Peruvian Creole families as well, since a foreign education became increasingly desirable after 1900.

One of the most interesting political implications of this pattern of wealth distribution is its effect on Peru's revolutionary potential. A plausible and relevant hypothesis would be that revolutionaries tend to be those whose income is rising absolutely -- but still falling behind a higher referent group in relative terms. By implication those at the bottom, even if falling, would be less likely to initiate a radical change. Underlying this latter proposition is the usual assumption of the fatalistic passive outlook of a traditional lower class.

On the basis of our data we could explain Peru's "overdue," or perhaps by-passed revolution, as follows:

The politically powerful proletariat, the organized workers in the Lima-Callao area, have enjoyed both an absolute and a relative increase in their level of income since 1920. They, therefore, have not seen fit to make effective common cause with either the Indians, whose standard of living may even have declined in absolute terms, or with the salaried middle class and provincial aristocracy whose fortunes have declined relatively. Most of the truly revolutionary uprisings have started in provincial cities. The failure of the Lima-Callao population to support these efforts has doomed them to failure.

Within Lima we find that the most radical unions are not those of blue collar workers but the white collar employees such as the bank clerks. As the United Nations' report revealed, salaried groups have not held their own. These income shift differentials are exacerbated by parallel divisions within the union movement, the white collar workers being more Communistic while the bulk of the blue collar work force until recently belonged to the increasingly moderate and very anti-Communist Aprista unions.

A radically economistic hypothesis is not therefore being proposed. Both differential income shifts and group affiliation were relevant. The "standard" explanation of Peru's failure to revolutionize, however, has overemphasized the role of the APRA and neglected the combination of Peru's extreme domination by Lima and the income improvement experienced by the organized Lima proletariat in comparison to other groups.

A comment should be made on Marx's view of this increasing inequality in the distribution of wealth.[18/] Like all great social theorists his insight was generally mistaken, partially correct and highly fruitful. It was overgeneralized in its simple historical extrapolation beyond the period observed. Marx was, however, least wrong about the era he studied. By implication he may also have

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18/ Karl Marx, Capital, London: Swan Sonnenschein & Co., 1891, Chapter 32, "Historical Tendency of Capitalistic Accumulation"

undergeneralized in implying that this increasing inequality was peculiar to a capitalist system. If all the relevant data were available it could perhaps be shown that in any economic system industrialization would result in the same general evolution.19/

The period covered by this register then would be comparable to that observed by Marx. In the case of the currently underdeveloped countries the telescoping of the entire industrialization process seems sure to aggravate the demographic basis for an absolute decline in the status of the lower class. The rapidity with which the death rate can be reduced and the persistently high level of urban fertility will mean a relatively greater level of surplus labor at a later stage of development than was the case in Western industrialization.20/

Conclusion

A variety of evidence has suggested a direct relationship between an increase in the inequality of wealth and the process of industrialization. Our intention in this report has been to present these findings and to suggest some of the possible correlates of such a pattern which further research could test. This study also revealed that if the differing degrees of "unity" of a given level of wealth are explored,

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19/ See Chapman, op. cit.

20/ Warren C. Robinson, "Urbanization and Fertility: The Non-Western Experience," Milbank Memorial Fund Quarterly, Vol. XLI, No. 3, p. 306

the isolated rural regions of Peru are held in their poverty partly by an excessive fractionalization of property while modern coastal enterprises accumulate large unified holdings as success breeds more growth. This rural dispersion of property holding also reveals the basis for the high level of social mobility experienced by the traditional landed aristocracy contrary to a mistaken picture of rigid stability in such areas. Finally it was observed that this transformation in the distribution of wealth was accompanied by increasing foreign ownership of the largest and most profitable holdings.

APPENDIX A.

The Data

The primary source of data on which this study is based is a Peruvian Tax Payer's Register collected by the second Leguia regime (1919-30) between 1926-30 as part of an effort to "modernize" the country. It covers 130,000 pieces of property officially estimated to yield more than 10 £P (about $25 in 1926) in annual "liquid income" owned by private individuals, businesses, voluntary associations, legally incorporated Indian communities, the Public Beneficiary (a semi-official charity foundation) and the Catholic Church. The present paper was concerned solely with the holdings of individuals. After collecting all the separated property of each individual, which was made possible by the availability of full name, address, age, sex, nationality, and occupation, these holdings reduced from 110,000 to 83,162. Of these, 32,205 -- a 1 per cent sample -- were selected for comparative analysis.

The Register was complete for departments and provinces representing what, in 1940 was 81 per cent of the population. The missing provinces were fortunately marginal, being Amazonas, Madre de Dios and Moquegua. All the major Sierra Indian and coastal departments were covered as well as all of Lima. The reduction to 1 per cent eliminated Loreto, Huancavelica and Cajamarca since their landed elite constituted less than this percentage of the estimated 1929 population. Loreto is largely uninhabited jungle while the other two are moderately populated mountain departments.

Property in the register included land, buildings and equipment. The validity of the official evaluation is, of course, in doubt, but a sufficient level of reliability in the application of the rates, however undervalued, has been confirmed by authoritative Peruvian sources. For our purposes only the relative standings are of interest, hence underevaluation is not a relevant problem.

The effective social coverage of our sample is a matter of definition. This 1 per cent consists largely of male adults who represented owning units of at least the average size of Peruvian middle and upper class families of that period. An enumeration of 637 individuals in Raúl Garbín, Diccionario Biográfico del Perú, Lima, 1943, revealed an average family size of 5.6, defined simply as parents and children. On this basis alone our data could be said to represent the holdings of at least the top 5 per cent of Peruvian society of that period.

Another way of "placing" this data is to note that the 1940 Peruvian census lists 29.8 per cent of economically active males, and 19.4 per cent of females, as being owners or employers. (P. 408, Censo Nacional del Perú, Vol. I, Ministerio de Hacienda y Comercio, Lima, 1940.) This category covers (476,221 males and 170,120 females) 646,341 individuals. Backdating this from 1940 and adjusting it for the coverage of the 1 per cent sample, the register indicates that the 32,305 constitute 9.3 per cent of the owners and employers of that era assuming 1940 proportions.

Graph 2. Decile Distributions

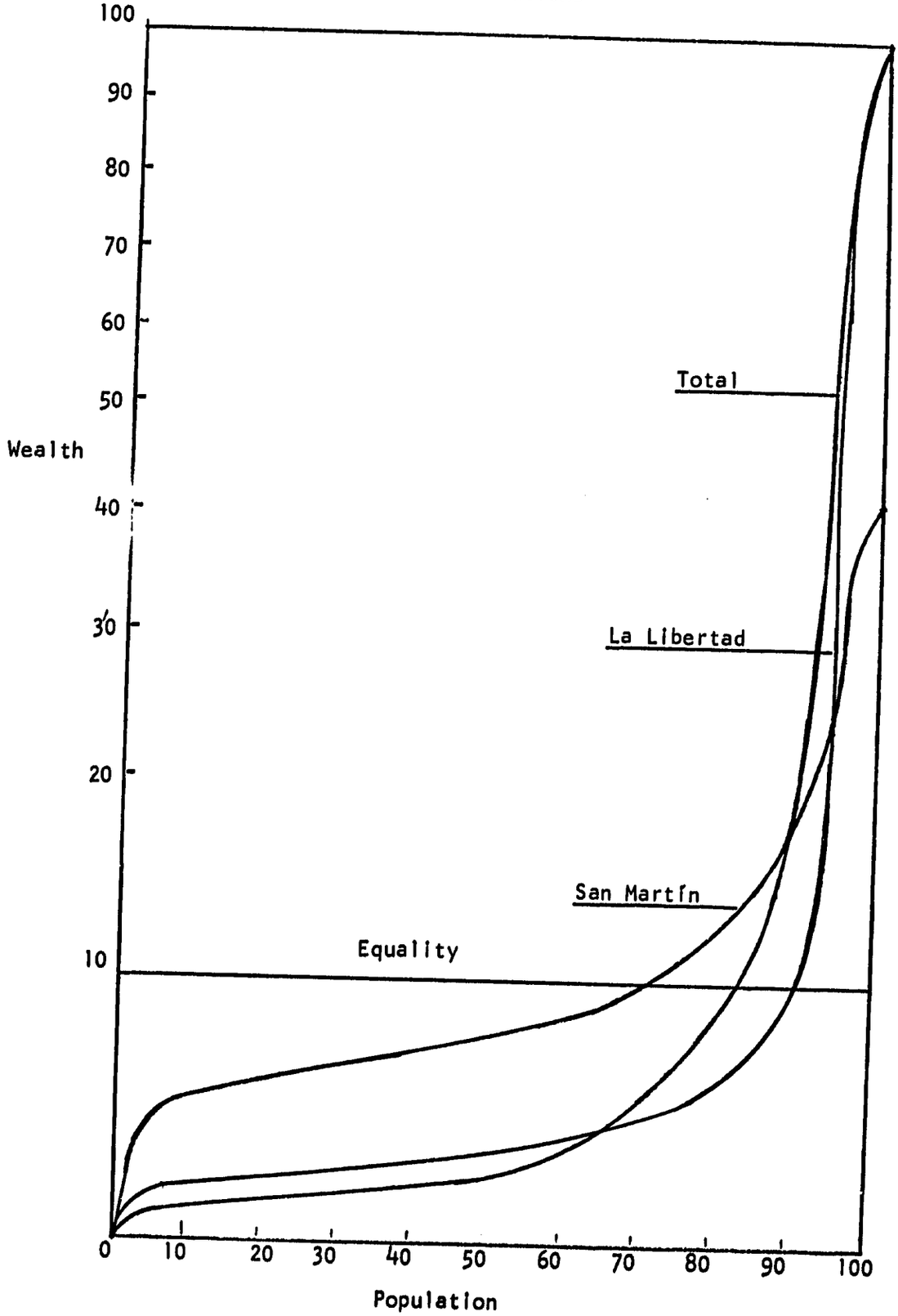

Table 2.

Percentile Distributions for the 1 per cent Sample

Departments	TOTAL %	Percentile Groups 1 %	2 %	3 %	4 %	5 %	6 %	7 %	8 %	9 %	10 %	Top 5%	Top 1%	Total 1% Sample Sum of Difference	Concentration Ratio
La Libertad	100.0	1.6	1.8	2.2	2.5	2.7	3.0	4.0	4.9	7.1	70.0	63.4	40.0	120.1	.719
Lambayeque	100.0	2.0	2.0	2.2	2.4	3.0	3.6	4.2	5.4	8.5	66.6	59.1	39.7	113.3	.695
Piura	100.0	1.6	2.0	2.1	2.1	2.7	3.4	4.4	6.1	10.8	64.6	52.9	25.8	112.0	.691
Ica	100.0	1.9	2.2	2.4	2.8	3.4	4.3	5.4	7.2	13.4	56.8	42.3	18.6	100.4	.629
Arequipa	100.0	2.2	2.4	3.1	3.3	4.2	4.8	6.0	8.2	12.4	53.4	43.3	24.7	91.6	.595
Lima	100.0	1.8	2.2	2.5	3.1	3.9	5.0	6.7	9.3	14.7	50.6	37.3	15.5	90.8	.593
Tacna	100.0	2.8	2.8	2.8	3.7	4.2	5.5	5.7	7.7	13.3	51.3	40.4	21.4	89.2	.567
Puno	100.0	2.8	3.1	3.3	4.0	4.9	5.6	6.3	8.7	12.6	48.8	37.9	18.3	82.7	.538
Ancash	100.0	3.2	3.2	3.7	4.4	4.8	5.7	6.7	8.9	13.1	46.4	35.7	16.9	79.0	.514
Tumbes	100.0	3.0	3.6	3.6	4.2	4.8	5.2	6.9	8.9	13.5	46.3	32.8	10.3	79.7	.510
Cuzco	100.0	3.3	3.5	4.2	4.3	4.6	5.7	6.9	9.0	13.3	45.0	33.8	14.8	76.8	.497
Junín	100.0	3.3	4.1	4.6	5.3	6.0	6.6	7.8	9.3	12.4	40.7	31.4	15.8	66.3	.446
Apurimac	100.0	4.1	4.1	4.1	4.6	5.3	8.1	8.3	8.5	12.0	40.6	32.4	17.9	65.3	.440
Huanuco	100.0	5.0	5.0	5.0	5.0	5.3	6.1	7.2	9.0	10.9	41.3	32.6	18.7	64.6	.416
Ayacucho	100.0	3.8	4.3	5.3	6.4	6.8	6.8	7.1	9.8	13.4	36.0	26.2	11.2	59.3	.393
San Martín	100.0	4.2	4.7	6.0	6.9	6.9	7.6	8.9	10.7	14.2	29.8	19.9	7.5	49.4	.338
TOTAL Perú	100.0	.8	1.0	1.4	1.5	2.0	2.7	4.0	6.9	12.8	66.6	53.4	27.3	118.9	.745

APPENDIX B.

Methodology

1. The Concentration Ratio

The primary device used in this study is a ratio based on a Lorenz curve, or ogive. It is a cumulative frequency distribution which conventionally places population on the horizontal and income on the vertical axis. As a result (see Graph No. 1) a diagonal line from the "0" values represents an equal distribution in which, for example, 5 per cent of the population owns 5 per cent of the wealth, etc., while 100 indicates complete inequality; i.e., a population of more than one person in which only one owned all the wealth. The concentration ratio is the ratio of the area lying between the actual curve and the diagonal (A-B) and the area of the entire lower triangle (ABC).

2. The "Sum of Differences" as an Alternative to the Concentration Ratio

The cumbersomeness of computing the CR without a computer and the fact that some studies of the distribution of wealth and income present their data only in percentiles make a substitute index desirable. The algebraic sum of the differences between the holdings of any chosen percentile group (1 per cent was used in this study) and the percentile figure used would provide a single index to represent the whole distribution. The graph of this non-cumulative distribution also complements that of the concentration ratio in emphasizing the difference between those holding more and less than the chosen break point figure.

On the data analyzed in this study the following correlations were obtained.

C. R. and Sum of Differences on 1%	.996
C. R. and the Top 10%	.986
C. R. and the Top 5%	.944
C. R. and the Top 1%	.810