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Unemployment as a Social-Welfare

Problem in Urban Zaire

James L. McCabe

November 1972

The consensus is that the unemployment problem in Zaire, like that in many African countries, is essentially urban.* There is evidence of a labor shortage in agriculture.[1] Unlike many LDC's, where the unemployment problem mainly takes the form of underemployment, Zaire is characterized by a high urban open unemployment rate. In Kinshasa, the main urban area, there is evidence that this rate has increased significantly since 1960, the date of independence. During 1967, it was estimated at 13 percent of the male population (over 15 years of age and not enrolled in school). Compared with official government statistics in other LDC's, such a mean open unemployment rate is high (due, possibly, to defining some underemployed as openly unemployed when they lacked a work permit).[2] Moreover, it is argued that presenting the mean estimate alone may understate the seriousness of the problem since the age distribution of the unemployment rate is obscured. The estimates made for Kinshasa covering the year 1967 indicate that 40 percent of the male population in the 15 to 19 year age group and 27 percent in the 20 to 24 year age group were openly unemployed. If anything, these estimates of at least open unemployment and underemployment combined have a downward bias, since they are based on the assumption of a 100 percent labor force participation rate.[3]

The picture becomes even bleaker if one supplements the unemployment data with wage and demographic statistics during the post-independence period. A worker in 1955 was estimated to support 2.8 persons, whereas in 1967 the mean ratio of dependents to employed in Kinshasa was 5.7 to 1. In 1968, the real base minimum wage was estimated at 50 percent of its 1960 level. Recently, there has been some increase in the real minimum wage in urban areas but it still remains substantially below its level at the time of independence.[4]

In this paper, it is argued that these conventional measures of the welfare impact of urban unemployment are highly incomplete in the Zaire case. This country, like many others in its geographic region and stage of development, has two important distinguishing characteristics: (1) a form of non-wage employment, which plays an important role in urban areas; and (2) individual sharing units which extend in size well beyond the nuclear family. Our main hypothesis is that the welfare impact of high unemployment rates, low real wages, and high dependency ratios has been substantially offset by a complex process of sharing and retail commerce both within and between primary groups. An important subsidiary hypothesis, which will be tested in a subsequent paper, is that willingness of the urban household to accept as a member a person who is unemployed (in the conventional sense of not receiving a cash wage) is affected by economic variables.

In Section I, we compare the size distribution of total income for Kinshasa with that of cash wage income. The next section involves the effect of the economic role of women on the discrepancy between these distributions. Particular stress is placed on their capacity to generate non-wage income for the sharing unit as a whole through urban commerce activities. In addition, it is pointed out that employment statistics completely ignore the retailing services performed by women within this unit. In the case of St. Jean Commune, we then show, in Section III, that households having high open unemployment rates tend to cluster with households having low open unemployment rates. It is argued that, under these conditions, a summary measure such as the average open unemployment rate may have little meaning as an indicator of general well being when the basic sharing unit encompasses several households. In Section IV, the distribution of lifetime or secular income is discussed. In relating this distribution to

that of annual income, data concerning the rate of upward mobility for migrants in St. Jean Commune are presented. The final section is composed of a summary of tentative research findings.

Throughout a great deal of this paper, we shall define the relevant sharing unit to be the nuclear family, generally referred to as the "household." There is, however, considerable evidence that this unit is substantially larger than the nuclear family, and, in Section III, we examine the effect of increasing the size of the primary economic group on wage and employment distributions with actual survey data taken from the St. Jean sample.

I. Wage vs Total Income Size Distribution

Despite high open unemployment and at least some underemployment, inequality in the size distribution of total income does not seem to be as great in Kinshasa as that experienced in the urban areas of many other LDC's. As a proxy for total income, we use total expenditure, i.e., household income (both wage income and non-wage income) less financial or money savings. To the degree that the financial savings rate is an increasing function of household income, summary measures of expenditure inequality will understate those of income inequality. This does not seem to be a serious problem in the Kinshasa case, since most household capital foundation takes the form of commodity or real estate purchases rather than cash savings, and these purchases are included in the total expenditure figures.

The size distribution of total expenditure by household (referring to the insular rather than the extended family) is based on Houyoux's sample survey of Kinshasa conducted in 1970, three years after the 1967 Socio-Demographic survey.[5] This distribution is compared with household income and expenditure distributions for other countries by examining two summary measures of income inequality, the Gini coefficient and the Kuznet's ratio.

These measures are derived from Lorenz curves, an example of which is shown in Figure 1. The Lorenz curve is a graphical array of income shares on the vertical axis and shares of recipient units on the horizontal axis, and is a standard device for comparing distributions. As one moves from left to right on the horizontal axis, the corresponding points on the Lorenz curve give the cumulative percentage of total income (or expenditure) attributable to the percentile having the lowest income per household, the percentiles having the lowest and next lowest combined, and so on. The Kuznet index is calculated from this curve and consists of the sum of absolute differences between percentage share of income and percentage share of recipients. Its range is from 0 to 200. In the case of perfect equality, the Lorenz curve takes the form of the straight line, shown in Figure 1, with a slope of 45 degrees. Since, in this case, the cumulative share of households is always equal to the corresponding share of income received, the Kuznet ratio is zero. On the other hand, in the case of perfect inequality 0 percent of the population is receiving 100 percent of income, whereas 100 percent is receives   percent of the income. Hence, the Kuznet ratio is 200.[6]

The Gini ratio compares the shares of income actually held by each percentile of recipients to the share of income that would be held under conditions of perfect equality. The ratio is found by comparing first the area (A) in Figure 1 between the 45° line and the actual Lorenz distribution, to second, the area (A + B), the total area under the diagonal. The Gini ratio goes to zero as the actual income distribution approaches perfect equality and 100 percent as the Lorenz distribution becomes more skewed.

The distribution of household expenditure based on Houyoux's sample survey of Kinshasa is very close to the expenditure distribution estimated for urban
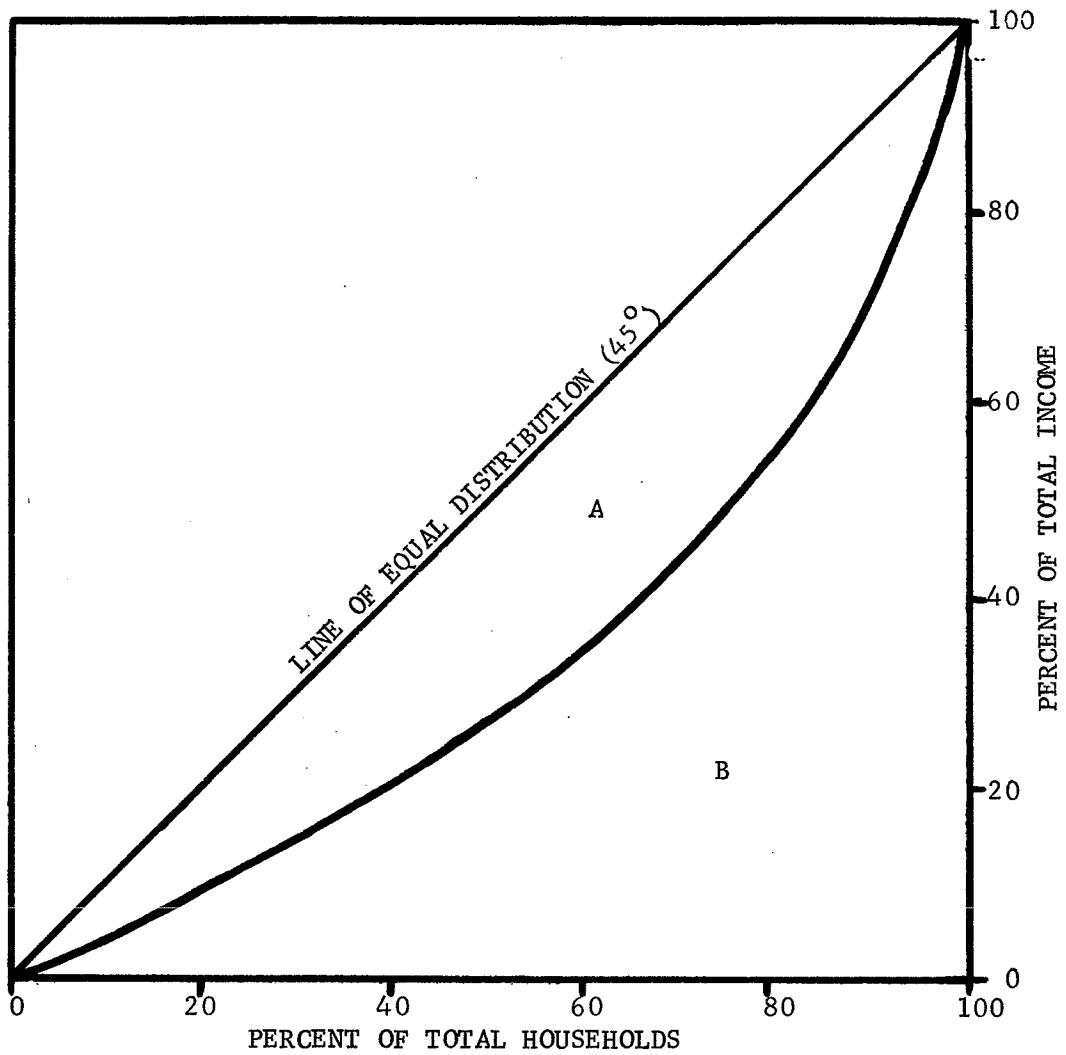
FIGURE 1

LORENZ CURVE

India during the 1950-60 period. (See Table 1.) In the case of Swamy's urban

India sample, the Gini coefficient is .30 and the Kuznet index 56 based on a

9-year average of the annual estimates. (Hence, these measures do not reflect

the distribution of average income by household over a 9-year period and merely

an average of indices of short-run income inequality.) The summary measures of

expenditure inequality based on Houyoux's sample for Kinshasa are negligibly less

than the average of those presented by Swamy. The Gini coefficient is .37 and

the Kuznet ratio is 55.

One may speculate that the size distribution of income implied by the expendi-

ture distribution is more even in Kinshasa than it is in any other urban areas,

except those in the U.S., for which summary estimates are presented in Table 1.

The other summary measures of inequality (except for the Indian one) are based

on actual income, as opposed to expenditure distribution data. As pointed out

earlier, expenditure (including savings in the form of real commodities) may

be very close to income in the Kinshasa case. Further, most of the experts

agree that the measures of expenditure inequality in urban India substantially

understate the degree of income inequality. Financial savings is much more

important in this country than it is in Zaire, and it has been shown that finan-

cial savings rate is an increasing function of household income.[7] Hence, the

size distribution of household income in Kinshasa appears to be considerably

more even than that in the LDC's for which summary inequality measures appear

in Table 1 (i.e., India, Mexico, and Puerto Rico). The U.S., which is pre-

sumably the most economically advanced country, has the most even urban income

distribution. Note that for Zaire and India estimates are closer to those

for the U.S. than are those for other relatively mature LDC's in the sample.

This is consistent with Kuznet's hypothesis concerning the time path of the

Table 1

Summary Measures of Urban Income Inequality

for Five Countries

Country	Year	Gini Coefficient	Kuznet's Index
1. India:	1951-52 to 1959-60 (average)		
(household expenditure)		.38	56
2. Mexico:	1963		...
(household income)		.52	77
3. Puerto Rico:	1953		
(household income)		.44	
4. Puerto Rico:	1963		
(household income)		.43	
5. United States non-farm	1960-62		
(household income)		.35	49
6. Zaire:	1970		
(household expenditure)		.37	55

Sources: Line 1. Subramanian Swamy, "Structural Changes and the Distribution of
Income by Size: The Case of India," Review of Income and Wealth,
Series 13.2, (June 1967), Table 6, p. 165.

Line 2, in R. Weisskoff, "Income Distribution and Economic Growth: An
International Comparison" (unpublished Ph.D. thesis 1969) Harvard
University, Table 7.6, p. 146.

Line 3,4, R. Weisskoff, op. cit., Table 7.6, p. 143.

Line 5, R. Weisskoff, op. cit., Table 7.12, p. 157.

Line 6, University Nationale du Congo, IRES, "Resultats Partiels de
l'Enquete sur les Conditions de vie a Kinshasa," September 1971.

urban income distribution. He argues that the size distribution of urban income becomes more uneven during the intermediate stages of development, and that this trend is reversed when a country approaches economic maturity.[8]

One of the main reasons for relative equality at the highly underdeveloped end of the spectrum is the tendency for total household income to be more evenly distributed than wage income. In the Kinshasa case, the mean levels of expenditure were calculated for households whose heads had different occupational status including that of being unemployed. Based on the mean wage rates for each of these occupational categories, the share of total wage income earned by heads of household in the different occupational groups was estimated. This information is summarized in Table 2. The wage distribution by occupational status is derived under two different assumptions: one which includes wages of government workers in the mean wage of the employee group and one which does not. The Lorenz curves representing wage and expenditure distributions derived from these data are shown in Figure 2. When the wages of government workers are included, it is clear that the Lorenz curve for household expenditure lies entirely inside that for wage income, indicating that the expenditure distribution is unequivocally more equal than the wage distribution. This is less obvious in the case where government wages are excluded from the employee category since a segment of wage distribution lies inside the expenditure distribution curve. The summary measures indicate that the wage income is more unevenly distributed in both cases than is the expenditure distribution. When the government employees are included, the Gini ratio and Kuznet's index for the wage distribution are .246 and 32.9 respectively. When government employees are excluded, these ratios are .242 and 33.4. In both cases they are definitely above the Gini and Kuznet ratios for the expenditure distribution, which are .201

-9-

Table 2

Total Share of Consumption Expenditure, 1970,

and of Wage Income Earned by Head-of-Household,

1967, by Occupational Group; Kinshasa

Occupational Group	Households No.	%	Consumption Expenditure %	Wage Income Receipts[1]		
				Households %	Excluding Government Wages %	Including Government Wages %
Cadres	75	5.1	16.0	7.0	19.6	17.1
White-Collar	258	17.5	20.3	24.2	20.3	30.6
Skilled & Semi-Skilled Workers	429	29.2	24.3	40.3	44.4	38.7
Unskilled Workers	251	17.1	11.3	23.6	15.7	13.7
Independents	222	15.1	16.0			
Independent Women	114	7.7	6.5			
Unemployed	52	3.5	1.8	4.9	0.0	0.0
Others	70	4.8	3.8			
	1,471	100.0	100.0	100.0	100.0	100.0

[1]Wage income is calculated using Kazadi data, using the salary scale for Enterprise No. 29 (p. 454), computing the geometric average of salaries within each occupational group, unweighted; monthly and annual salaries are adjusted on a daily basis. To estimate the salary of while-collar workers, the wages of skilled workers were weighted by a factor determined by the relative salaries of white and blue collar workers in Enterprise No. 23. White-collar salaries were also estimated by including government salaries in the average, yielding a different distribution as shown above. No adjustment was made for differing numbers of wage-earners per family or for different distributions of occupations within the larger occupational groups.

Sources: KAZADI wa Dile, Jacques-S. Politiques salariales et Développement en République démocratique du Congo, Editions Universitaires, Paris, 1970, pp. 446, 454. University Nationale du Congo, IRES, September 1971, "Resultats Partiels de l'Enquete sur les Conditions de vie a Kinshasa,"
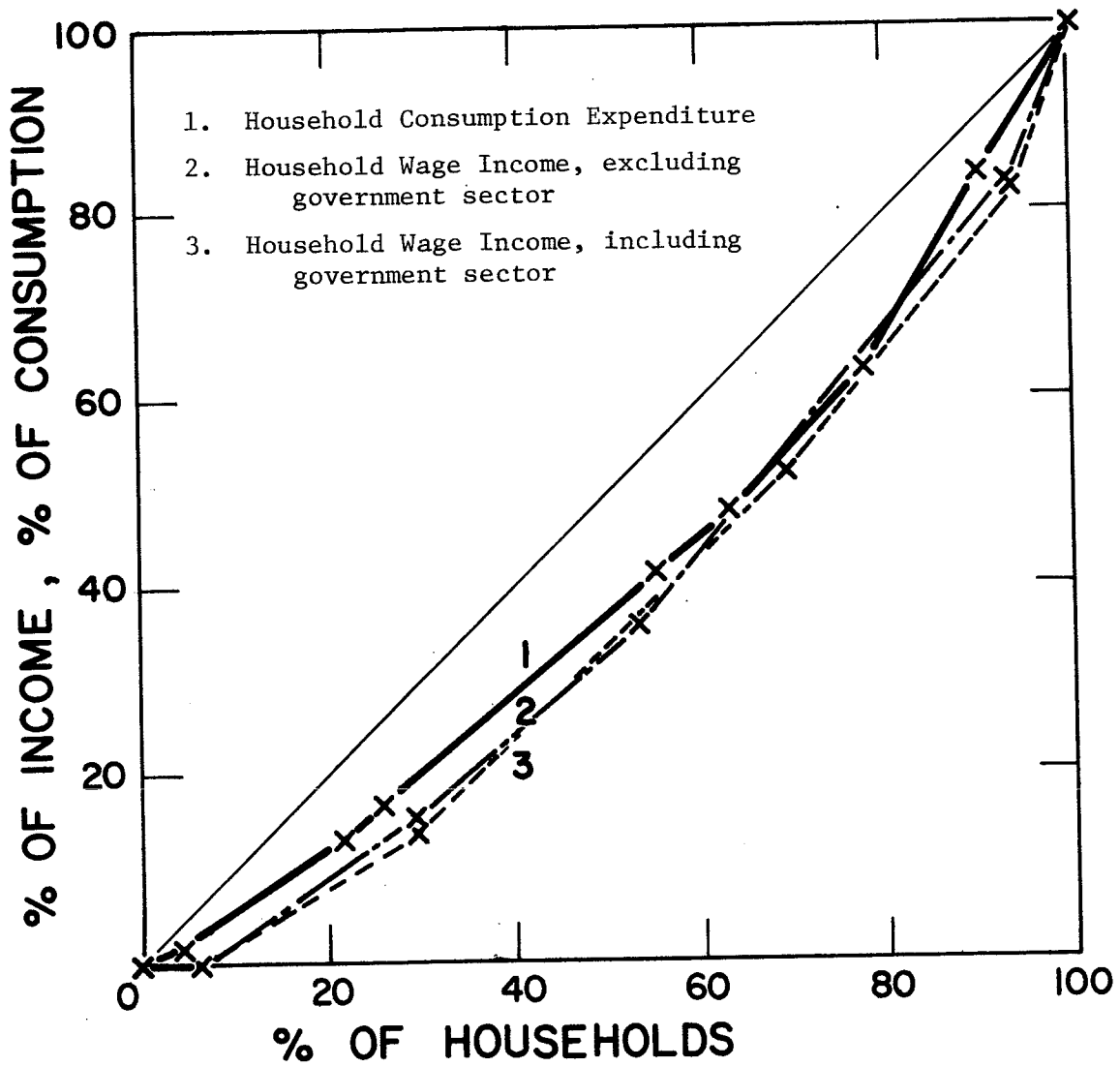
FIGURE 2

DISTRIBUTION OF WAGE INCOME AND CONSUMPTION
BY HOUSEHOLD, GROUPED BY EMPLOYMENT CATEGORY;
KINSHASA, 1970

and 29.3 respectively.

Given the lack of development of an urban capitalist class, the greater evenness of the expenditure distribution relative to the wage distribution may well be attributable to earnings obtained through non-wage employment. Based on his entire 1970 sample survey, Houyoux has estimated that such employment accounts for about 50 percent of family income. It seems clear from the available evidence on wage and expenditure distributions that this share is higher in the case of families with low than it is in the case of families with high wage income.

II. The Economic Role of Women

The activities of the female seem to account for most of the non-wage income of the household according to Houyoux's estimates. These activities take three main forms: (1) agricultural labor which may provide urban family members with some food, (2) retailing, and (3) prostitution.

With regard to the amount of income generated, retail commerce seems to be by far the most important activity. Most of the detailed published information on this activity is based on a preliminary sample of 60 households (a pilot study for the 1970 survey) analyzed by the Houyouxs. This sample was separated into different categories on the basis of the head of household's occupational status. These included in order of mean wage income, the unemployed, semi-skilled, skilled workers, employees, teachers, and managers.[9] For the most part the higher the occupational status of household (generally of the male), the lower the amount of commercial activity on the part of the females. The effectiveness of commercial activity is based on high retail-wholesale price margins. Put more precisely, there are strong declines in per unit prices as amount of a commodity purchased increases. This is mainly attributable to an inadequate distribution system.

The Houyoux data involve a journal of daily wage receipts and expenditures of each household for an entire month. These data indicate that in the unemployed worker and employee categories, a large portion of the household wage income is received at the beginning of the month. (Households whose heads are unemployed frequently receive cash donations at this time from non-relatives in the same' location, as well as from relatives, especially employed children). The large amount of wage income received at the beginning of the month is then used by the female for bulk purchase of food at wholesale prices. A portion of this food is used for family consumption while the remainder is sold to person outside the household at retail prices. The Houyouxs estimated the profits obtained by such a transaction to be as much as 30 percent of the inventory.

Commercial activity among families where income is received at the beginning of the month tends to be greatest toward the end of the month. At this time, it is most needed in order to compensate for the lack of wage income to pay bills. The time pattern of income received from the household head among traders is nearly the mirror image of that of the unemployed, employee and worker groups. Since credit is extended by the trader to the latter persons during the month, his income receipts tend to be concentrated during the second half of the month when debts are repaid and purchases are made for cash. The Houyouxs indicate that females in trading households do engage in some retailing activity, but that it is somewhat less extensive than found in households where the mean income of the head is lower. In line with this pattern, the wives of the managers in the sample hardly engage in any commercial activity.

Hence, there seems to be an inverse relationship between wage or proprietary earnings of the household head and the extent of female employment in commerce, and, as a consequence, the share of total income attributable to female commercial

activity (a form of entrepreneurial income which is generally unrecorded). This relationship, substantiated by evidence collected at the micro level, constitutes the main reason why the distribution of household expenditure is more even than the distribution of recorded wage income. Moreover, due to female retail activity, the distribution of real expenditure may be considerably more even than that of money expenditure. (It is only for the latter distribution that we have data.) Since a portion of food bought at bulk prices is consumed by the family itself, the female provides retail service within the family unit. Part of the returns to her pooling of family members income and transporting bulk purchased food from a central marketplace takes the form of a reduced price of food per physical unit. Therefore, the food prices faced by families with relatively low wage income (as conventionally recorded) and with relatively high female commercial activity should be less than that faced by families with relatively high wage earnings received by a male household head.

III. The Frequency Distribution of Sharing Units by Employment Rate

The frequency distribution of sharing units by employment rate is very important in determining the relationship between the aggregate employment rate and the size distribution of wage income. Suppose, for example, that the frequency distribution of the economic unit is binomial, i.e., all the economic units in the sample have employment rates which are either 0 or 1. Then, other thing equal, it is clear that the degree of inequality in size distribution of income will be directly related to the aggregate unemployment rate. In the case where each unit has the same number of active laborers and faces the same wage rate, the percentage units receiving no wage income will be exactly equal to the aggregate unemployment rate, which implies a Kuznet's index of inequality equal to twice the aggregate unemployment rate. However, when the

observed unemployment rate per economic unit is no longer either 0 or 1 the

relationship between the aggregate unemployment and the degree of wage income

inequality is no longer this obvious. Further, it may well be that wage income

per economic unit associated with a given aggregate unemployment rate is a good

deal more even when the frequency distribution of the economic units by employ-

ment rate is more continuous than in the binomial case.

The city of Kinshasa is cadastrally divided into "parcels," multi-dwelling

plots housing several nuclear families, usually blood-related. There are in-

dications that the parcel may have as much significance as a sharing unit as

the household. There seems to be a definite tendency for nuclear families with low

unemployment rates to be associated in the same parcel with hose having rela-

tively high unemployment rates. Moreover, the frequency distribution of parcels

by employment rate is a great deal more continuous than the distribution of

household by employment rate which is almost binomial. This is seen by comparing

the histograms shown in Figures 3 and 4. Under the assumption that each economic

unit faces the same wage and has the same number of active laborers, the implicit

wage distribution by parcel is considerably more even than the implicit wage

distribution by household. For example, the Kuznet index is 16.83 when parcels

are chosen as the basic economic unit and 22.22 when households are chosen as

the basic economic unit.

This income distribution change goes beyond the fact that the theoretical

variance of the sampling distribution involving a variable assumed to be

binomially distributed decreases with the size of the sample. In the

parcel case, it does not appear that the employment of each individual in

the economic unit can be viewed as the result of an independent binomial

trial. In other words, the probability of each active laborer

No.   %
774   100

620   80

465   60

310   40

155   20

0   20   40   60   80   100
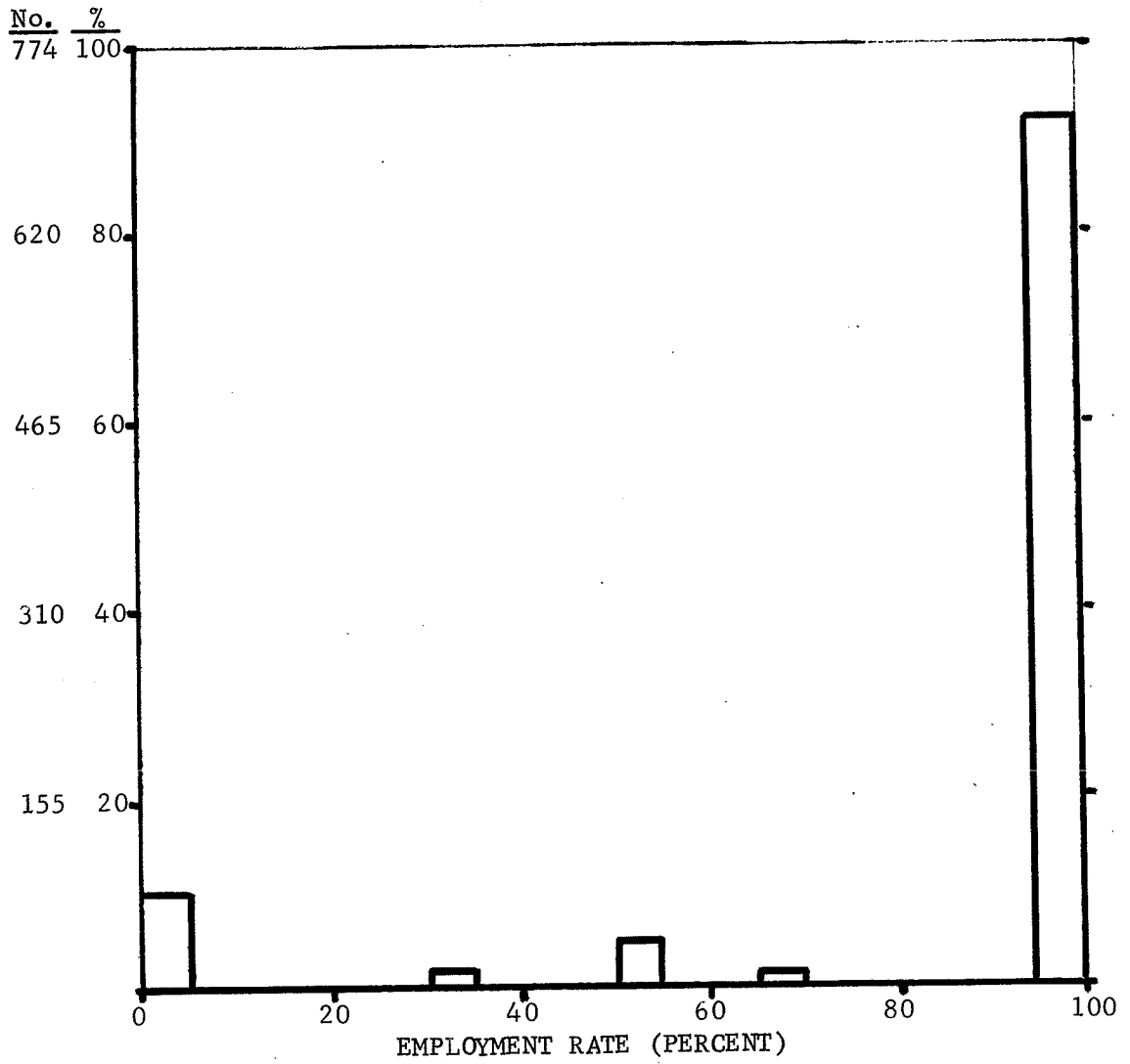   EMPLOYMENT RATE (PERCENT)

FIGURE 3

DISTRIBUTION OF HOUSEHOLDS BY EMPLOYMENT RATES
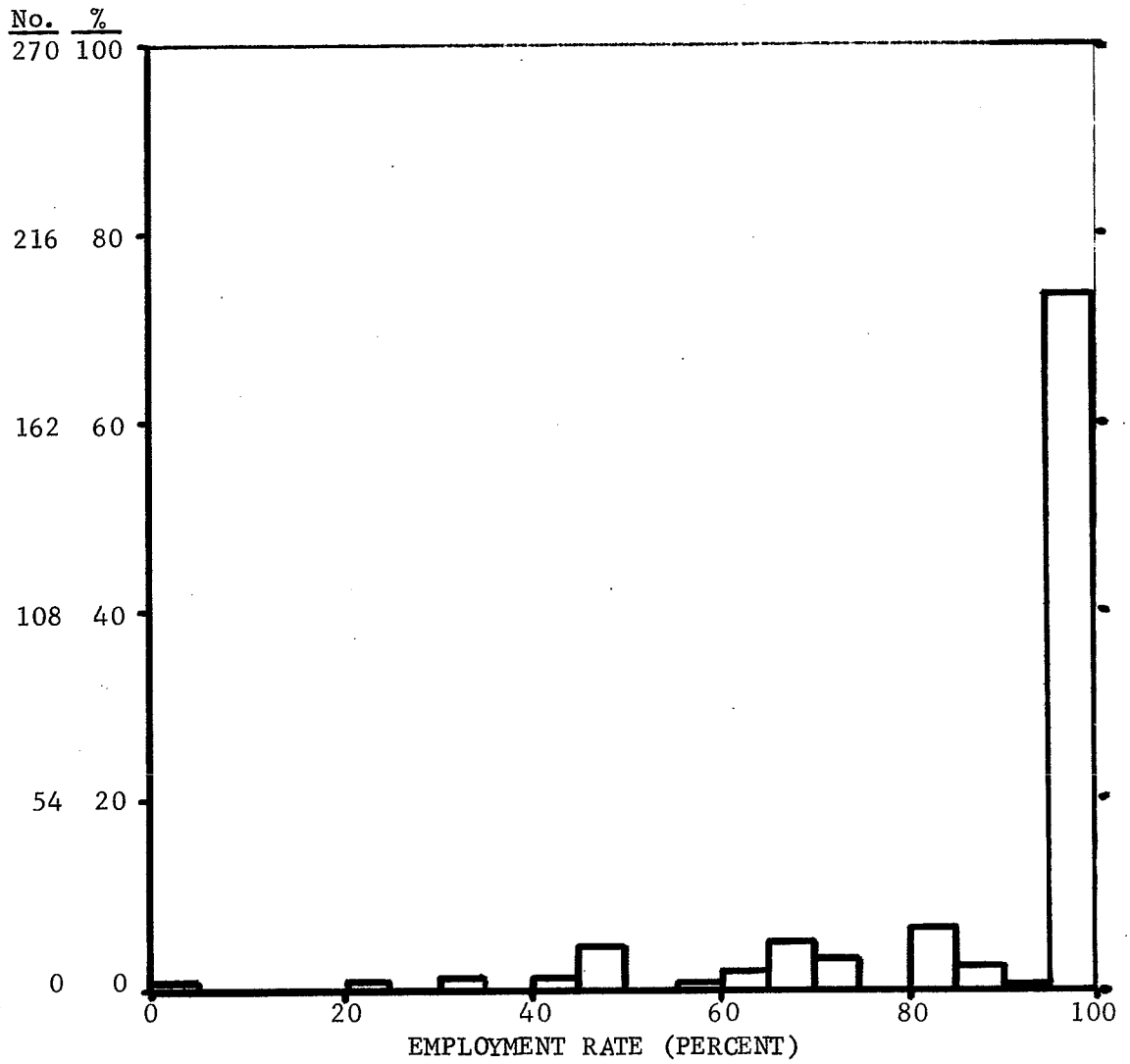
St. Jean, Kinshasa, 1967

FIGURE 4

DISTRIBUTION OF PARCELS BY EMPLOYMENT RATES

St. Jean, Kinshasa, 1967

finding a job is not constant and independent of the success or failure of other active laborers within the same unit finding a job. The shape of the histograms in Figure 4 is such that the proportion of parcels with employment rates less than 40 percent is a great deal less than what would be expected on the basis of independent binomial trials with a constant probability of being employed of .88, which is the estimate of the mean individual employment rate. One is led to the conclusion that trials are not independent for the simple reason that, in some cases persons with a relatively low probability of being employed tend to live in the same parcel with persons having a relatively high probability of being employed.

It is important to distinguish the aggregate employment rate from the mean of the frequency distribution of the economic units by employment rate. Economic units may vary in size and the aggregate employment rate is a weighted, rather than simple arithmatic, average of the employment rates of the economic units. The arithmatic mean of the parcel employment rates, .91, is a good deal higher than that of the individual employment rates, .88, in the sense that it implies a mean open unemployment rate by parcel which is 25 percent lower than the mean open unemployment rate of individuals (i.e., the aggregate open unemployment rate).

IV. Lifetime Earnings Inequality and Migration

In Section I, a comparison was made of summary measures of income inequality for Kinshasa with those for urban areas in other countries. These measures are based on estimates of annual, as opposed to secular or lifetime, earnings of individual households. The distribution of the present discounted value of lifetime earnings may differ considerably from that of annual earnings. In cases where there is rapid upward mobility in employment status and income from physical capital assets is insignificant, we would expect the present value of lifetime earning per economic unit to be distributed considerably more evenly

than observed annual earnings. We would expect the opposite to be the case in
a situation where: (a) earnings from physical capital make up a large portion
of income (given that the rate of capital accumulation is an increasing function
of household income); and (b) there is very little upward mobility in employment
status.

A strong argument may be made that at its current stage of development, the
distribution of the present value of lifetime earning relative to that of observed
annual earning is more even in Kinshasa than it is for other urban areas re pre-
senting substantially greater economic maturity. In the case of St. Jean Commune,
there is some evidence supporting the point that the open unemployment rate is
higher among migrants from the country than it is among the rest of the active
labor force (which include migrants from other parts of Kinshasa and Zaire as a
whole). But this evidence is not conclusive as indicated by the contingency
matrix and accompanying Chi-Square statistics presented in Table 3. The unemploy-
ment rate for rural-urban migrants does not exceed that for the rest of the
population by enough to make them significantly different at the five percent
level when the one-tail Chi-Square test is used, although they are significantly
different at the 20 percent level.[10] Moreover, there is considerable evidence

to the effect that, for cultural reasons, males strongly resist employment in
village agriculture and that, therefore, their real wage in this sector is
effectively zero. Hence, almost unequivocally, a single male will increase his
expected lifetime earnings by migrating to the city. Despite the declines in
real urban minimum wage during the 1960s, the ratio of this wage to that in the
village is a great deal higher than the expected value of the employment rate
for single male migrants.

An analogous situation exists in the case of married males who migrate to
the city without wives and children. In this case, the expected lifetime earnings

Table 3

Contingency Table of Employment for Migrants and Non-migrants
Commune of St. Jean, Kinshasa, 1967

		Previous Residence:		
		Kinshasa and Institutions	Country	Total, excl. Unknowns
EMPLOYED	Actual Number	591	101	692
	Expected Value	585.7	106.3	
UNEMPLOYED	Actual Number	81	21	102
	Expected Value	86.3	15.7	
TOTAL		672	122	794

Chi-Square statistic: 2.46 (with one degree of freedom)

Source: Unpublished data sheets for the 1967 Socio-Demographic survey of
         Kinshasa provided by the National Statistics Institute (INS),
         National Office of Research and Development (ONRD).

)

of the sharing unit (defined to include the nuclear family of the migrating male

and the urban parcel to which he migrates) will generally increase given the

estimated probability distribution of the urban unemployment rate. Of course,

the economic benefit of migration is less clear if wives and children accompany

the migrating males since women definitely seem to be productively employed in

agriculture and earning a significant real wage in that sector. Most of the

available evidence indicates that, for the most part, wives migrate only after

their husbands have found employment and hence behave in a way consistent with the

maximization of lifetime earnings of the sharing unit. The lag of female behind

male migration is consistent with the time profiles of migration by sex given in

Table 4, which is based on the St. Jean sample.

In addition, the evidence collected for St. Jean Commune supports the hypo-

thesis that considerably more upward mobility exists among male migrants in

Zaire than exsits in other LDC's, particularly those in Latin America. First

the migration process seems to be more rapid than in Latin America where it

takes on a step-wise pattern. A much greater percentage of migrants to St. Jean,

which is located in the center of Kinshasa, come directly from the countryside

than come from the squatter communes surrounding the city. See Table 5. In

addition, there is evidence that, within a single generation, some migrants

move out of the service sector where at least in other countries much of urban

underemployment seems concentrated. On the basis of the St. Jean sample, the

proportion of males employed in the service sector appears to be a decreasing

function of the length of time spent in the city. The evidence of this re-

lationship presented in Table 6, is not based on panel data but rather on a

cross section sample of male migrants taken at the same point in time. Hence,

the possibility that sector of employment by year of migration across space

Table 4

Year of Migration to Kinshasa, by Sex: Commune of St. Jean, 1967

Year		Non-Migrant	1913-1922	1923-1932	1933-1942	1943-1952	1953-1957	1958-1961	1962-1965	1966-1967	pre-1960	post 1960	Un-Known	Total
Male	No.	836	12	59	80	126	116	161	254	132	29	3	1,973
	%	51.3	92.3	73.8	56.7	58.1	60.4	51.9	52.0	49.6	60.4	75.0	53.3%
Female	No.	795	1	21	61	91	76	149	234	134	19	1	1,727
	%	48.7	7.7	26.3	43.3	41.9	39.6	48.1	48.0	50.4	39.6	25.0	46.7%
Total	No.	1,631	13	80	141	217	192	310	488	266	48	4	3,700

Source: Unpublished data sheets for the 1967 Socio-Demographic survey of Kinshasa provided by the National Statistics Institute (INS), National Office of Research and Development (ONRD).

Table 5

Migration to St. Jean from Country and from Other Communes

Previous Residence:		Indigenous & Old Cite	Country	Peripheral "Squatter" Communes	Other "Established" Communes	Unknown
Male	No.	1,324	262	10	192	160
	%	67.2	13.3	0.5	9.7	8.1
Female	No.	1,148	275	7	153	141
	%	66.6	16.0	0.4	8.9	7.2
Total	No.	2,494	537	17	345	301
	%	67.5	14.5	0.5	9.3	8.1

Source: Unpublished data sheets for the 1967 Socio-Demographic survey of Kinshasa provided by the National Statistics Institute (INS), National Office of Research and Development (ONRD).

Table 6

Employment By Industry in Services Classified by

Date of Migration, St. Jean, Kinshasa, 1967

		Non-Migrant	1913-1922	1923-1932	1933-1942	1943-1952	1953-1957	1958-1961	1962-1965	1966-1967	Pre-1960	Post 1960	Total
Industry	No.	23	2	6	8	29	19	20	30	3	7	1	149
	%	21.7	33.3	15.4	11.9	25.7	20.7	24.7	23.6	10.3	26.9	33.3	20.0
Construction	No.	3	1	3	9	14	10	6	7	3	3		60
	%	2.8	16.7	7.7	13.4	12.4	10.9	7.4	5.5	10.3	11.5		8.1
Commerce & Banking	No.	20	2	12	14	27	12	12	18	6	4		127
	%	18.9	33.3	30.8	20.9	23.9	13.0	14.8	14.2	20.7	15.4		17.0
Transport & Communication	No.	10		5	10	12	21	9	18	2	2		89
	%	9.4		12.8	14.9	10.6	22.8	11.1	14.2	6.9	7.7		11.9
Services	No.	46	1	13	21	31	28	31	51	14	9	2	301
	%	43.4	16.7	33.3	31.3	27.4	30.4	38.3	40.2	48.3	34.6	66.7	40.4
Other & Undefined	No.	4			5		2	3	3	1	1		19
	%	3.8			7.5		2.2	3.7	2.4	3.4	3.8		2.6
Total		106	6	39	67	113	92	81	127	29	26	3	745

Source: Unpublished data sheets for the 1967 Socio-Demographic survey of Kinshasa provided by the National Statistics Institute (INS), National Office of Research and Development (ONRD).

is determined by changes in the composition of labor demand over time, rather than inter-sectoral labor mobility, cannot be completely rejected.

Only to a small degree, however, does time series employment data applying mainly to the post-independence era support this alternative explanation. Data for employment by sector over time is presented for the 1958-68 period in an article by Dupriez and Ngoie.[11] These data show a marked decrease in industrial employment of Africans during the 1958-61 period and significant growth during the 1962-65 and 1966-67 periods. By contrast, the proportion of 1958-61 migrants employed in industry is greater than the proportion of 1962-65 migrants and still greater than the proportion of 1966-67 migrants. Further evidence supporting the point that migrants were absorbed into their present sector of employment with some (but not an extensive) lag is brought out in the case of construction. In this sector, there was a marked reduction in the employment of Africans during 1958-61 for Kinshasa as a whole which was succeeded by a substantial increase during the 1962-65 interval. Again, while the rate of growth of labor demand was an increasing function of time, the proportion of migrants employed in the construction sector was a decreasing function of the year of migration. The proportion migrating during 1958-61 employed in that sector in 1967 is much greater than the proportion migrating during 1962-65 in the St. Jean sample.

The Dupriez and Ngoie data indicate thatservice sector employment of Africans grew at roughly a constant annual rate throughout the entire 1958-68 period. At the same time, there may have been higher turnover rates in services than in industry and construction simply because wage rates tend to be higher in the latter two sectors. The open unemployment among males who migrated to Kinshasa in 1958-61 is much higher than the open unemployment rate for those

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who migrated in 1962-65, although not quite as high for the 1966-67 group, who are the most recent migrants. Hence, the higher proportion of 1958-61 migrants employed in both industry and construction may well have been associated with movement out of service occupations rather than a decrease in open unemployment rate of the 1958-61 migrants during the 1962-65 period.

Tentative Conclusions

In this paper, we have produced evidence indicating that the distribution of real urban income per sharing unit tends to be considerably more even in Zaire than it does in other LDC's having substantially higher real wage rates and substantially or nearly equal (depending on comparability of definition) open unemployment rates. We have shown that such relative equality in the distribution of total income is partly attributable to a lack of imputation in that wage and employment statistics for Kinshasa are based on the assumption that only males are economically active. As a consequence, the returns to a great deal of self-employment on the part of females, along with the retailing services they provide the household, are not taken into account in the measurement of wage and employment rates.

Drawing mainly on data collected for St. Jean Commune, we have also presented evidence which supports the hypothesis that the distribution of expected lifetime income is more even relative to that of annual income in Kinshasa than it is in many other underdeveloped urban centers. The proportion of persons employed in non-service activities has been observed in the St. Jean case to an increasing function of total time spent in the city after migration. Despite the lack of panel data, we think that this can legitimately be interpreted as evidence of rapid upward mobility from service to non-service sector employment for at least some individuals in the sample. It is extremely dubious that many of the migrants now employed in non-service sector activity went directly into these activities upon entering the city. This was particularly true in

the case of those who entered in the 1958-61 period. Even though their share

of non-service employment is substantially higher than that of migrants who came

during the 1962-67 period, the time pattern of labor demand in the non-service

sector was one of major decline during the 1958-61 period and major increase in

the subsequent years up to 1967.

When the dimension of the sharing unit is extended beyond that of the

nuclear family, there is evidence that the size distribution of wage income be-

comes more even, and that the expected value of the employment rate (i.e., the

mean of the distribution of sharing units by employment rates) is significantly

greater than the aggregate employment rate. The alternative sharing unit in

this case was the parcel as opposed to the household. Parcels are actually

plots comprising several households which may be related in some way. In this

case the choice of sharing unit is arbitrary, but there is evidence that at

least some sharing takes place among as well as within the households in the

parcel.

Much of this work is subject to the qualification that it is based entirely

on data from St. Jean, only one of 22 communes in Kinshasa. While it does en-

compass a large cross-section of migrants, there is no conclusive evidence that

this commune provides a representative sample of the sort of sharing pattern

that goes on in the rest of the city. At the same time, the comparative analysis

of wage and total expenditure distribution is based on a representative sample

for Kinshasa as a whole. Moreover, the evidence collected for St. Jean is con-

sistent with and does explain the difference between wage and expenditure dis-

tributions found in the more complete sample.

Footnotes

[1]Jurion and Henry present evidence that certain critical operations in the agricultural production process are not completed efficiently as a consequence of shortage of male laborers. Their evidence indicates that the marginal product of males in these operations is well above an institutional minimum wage based on subsistence requirements or on what one female can produce on the available surplus land. See F. Jurion and F. Henry, Del'Agriculture Itinerante a l'Agriculture Intensitee, publication of the INEAC, 1967.

[2]See David Turnham, The Employment Problem in Less Developed Countries: A Review of Evidence, Development Center of the OECD, Paris 1971.

[3]Many persons with unorganized employment in the so-called "murky" sector (e.g., shoe shiners) were undoubtedly counted as openly unemployed by the surveyors. Nonetheless, there is evidence that the estimates of unemployment, however defined, are reasonably accurate and that the existing errors are not magnified by residual calculation. The 1967 Socio-Demographic survey, upon which these estimates are based, asked directly in its questionnaire whether or not a person was unemployed. The residual (small in magnitude) was composed of those working age males who did not fit into a particular employment category. Further, the sample is very large (86,546 persons) and represents a 10 perce nt random drawing of all the "parcels" in Kinshasa. For a more detailed, critical description of the methodology used, see Leon de St. Loulin and Maurice Duceux "La Technique et le Devoulement de l'etude Socio-Demographique de Kinsha, 1967," de la Office National de la Recherche et du Developpement (ONRD), Etudes Congolaises 11:4 (IV/68), pp. 20-30. The published results of the Socio-Demographic survey are presented in Republique Democratique du Congo, Institut National de la Statisque (avec la Cooperation de l'assistance Technique Francaise), Etude Socio-Demographique de Kinshasa 1967, Rapport General 1969.

[4]See J. Kazadi, "Les Salaires," Cahiers Economiques et Sociaux, Vol. 7, September 1969, pp. 265-284, Institute de Recherches Economiques et Sociaux – Universite Lovanium, Kinshasa, Congo; and J. Ngoie, "Situation Salariare en Republique Democratique du Congo (1966-1970)," Cahiers Economiques et Sociaux Vol. 8, Juin 1970, pp. 195-241.

[5]University Nationale du Congo, IRES, "Resultats Partiels de l'Enquete sur les Conditions de Vie a Kinshasa," September 1971.

[6]See Simon Kuznets, "Quantitative Aspects of the Economic Growth of Nations: VIII, Distribution of Income by Size," Economic Development and Cultural Change, XI 2, Part II (January 1963), p. 19. The general explanation of Kuznet and Gini ratios is based on that of R. Weisskoff, "Income Distribution and Economic Growth: An International Comparison," (unpublished Ph.D. thesis 1969) Harvard University, pp. 35, 36.

[7]See Eva Mueller and J.R.K. Sarma, "Pattern of Income Distribution in an Underdeveloped Economy: A Case Study of India: Comments," American Economic Review, LV, 5 (1) December 1965), pp. 1173-1178. The real rate of interest on households savings deposits in Zaire at the time of the 1970 survey was highly negative and, as a consequence of this and general unreliability of savings institutions, the level of household saving deposits was very low.

[8]See Simon Kuznets, "Quantitative Aspects of the Economic Growth of Nations: VIII, Distribution of Income by Size," Economic Development and Cultural Change, XI, 2, Part II (January 1963), p. 54; Simon Kuznets, Economic Growth and Income Inequality," American Economic Review, XLV, (March 1955).

[9]C. and J. Houyoux, "Les Conditions de vie Dans Soixant Familles a Kinshasa," Cahiers Economiques et Sociaux, 8:1 3/1970, pp. 99-132.

[10]The critical values of the Chi-Square statistic with one degree of freedom are

3.891 at the 5 percent significance level and

1.642 at the 20 percent significance level.

[11]G. Dupriez and M. Ngoie, "Emploi dans la Secteur Prive et les Parastataux (1965-1968)," Cahiers Economiques et Sociaux, Vol. 8, Mars 1970, pp. 49-71.