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Discussion paper No. 57

PRELIMINARY RESULTS OF  
A SURVEY OF THE LABOR FORCE ON MIXED FARMS IN TRANS-NZOIA\*

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September 1967

This paper is in two continuous parts. The first part, dealing with the labor market, was originally presented in the Rural Development Research Series of the Faculty of Agriculture at Makerere University in August, 1967. The second concentrates on supply and demand and is presented with the original paper for this Economics Seminar.

\*Research conducted between writings of this paper led to a recomputation of the average value of the agricultural wage paid in Trans-Nzoia. As the first part of the paper has not been redrafted, the reader will find this inconsistency as he compares both parts of the paper.

Any views expressed in this paper are those of the author. They should not be interpreted as reflecting the views of the Institute for Development Studies or of the University College, Nairobi.

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## THE SUPPLY OF LABOR

### Sources of Labor

The Trans-Nzoia is one of number of traditional centers that employ large numbers of agricultural laborers in Kenya.<sup>(1)</sup> 56% of the workers enumerated in this survey come from districts which surround Trans-Nzoia (including neighboring Uganda), and an additional 14% are from the district itself (see Table VII). In light of the fact that almost all of Trans-Nzoia has long been partitioned into large farms, it is not surprising that so small a percentage of the enumerated labor force was born in the district.<sup>(2)</sup>

The largest single source of labor is the Elgon Nyanza District in Nyanza Province (now Busia and Bungoma Districts in Western Province) which borders Trans-Nzoia. This is a small farming area inhabited by Luhya (76 %) and Teso (17%). About half of the land is high potential - arable, the other half low and medium potential land. An A.I.D. report, conducted in 1962 by Marco Surveys Ltd., indicated that 13% of the 700 households in the survey had one male absent (living in another area) and that an additional 6% had more than one male absent.<sup>(3)</sup> Although the average size of farm in the survey is reported as 17 acres, 10% of the households had no land, 10% had less than one acre and 17% had between one and two acres of land.

North Nyanza which borders Elgon Nyanza (now Kakamega District in Western Province) is another major source of agricultural labor. This area is also characterized by

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- (1) The other centers are the mixed farming areas of Uasin Gishu and Nakuru, and the large plantations in Central and Coast Provinces.
  - (2) The large percentage of total population born and currently residing in the district (48.5%) is probably largely accounted for by the fact that most of the people enumerated by the census are children (of less than working age) whose parents were born in other districts. The writer hopes to confirm this by examining census tabulations by age distribution for Trans-Nzoia.
  - (3) A.I.D. Survey, Elgon Nyanza, Vol. II, Marco Surveys Ltd. Nairobi, 1962.

TABLE NO. VII

TRANS-NZOIA POPULATION AND ENUMERATED LABOR FORCE  
BY DISTRICT OF BIRTH

	Population Density Per Square Mile (1962)	Percentage Distribution of African Population in Trans- Nzoia (1962)	Number of Workers Enumerated in Survey (1967)	Percentage Distribution of Workers Enumerated in Survey (1967)
RIFT VALLEY PROVINCE:				
Trans-Nzoia	78	48.5	56	14.2
Nandi (1)	166	2.2	24	6.1
Uasin Gishu (1)	58	0.8	4	1.0
West Pokot (1)	30	1.0	7	1.8
Other (2)	60	1.6	26	6.6
NYANZA PROVINCE:				
Elgon (1)				
Nyanza North (1)	231	21.4	106	26.9
Nyanza	506	8.7	46	11.7
Kisii	689	0.1	8	2.0
Other (2)	312	2.4	20	5.1
CENTRAL PROVINCE				
Fort Hall	490	1.1	15	3.8
Kiambu	552	2.8	20	5.1
Nyeri	424	1.1	9	2.3
Other (2)	173	0.4	-	-
SOUTHERN PROVINCE:				
Machakos	95	0.4	16	4.1
Other (2)	31	0.1	-	-
Other (2) Kenya	39	2.7	-	-
UGANDA (1) (2)	94	4.3	34	8.6
OTHER COUNTRY		0.4	2	1.0
TOTAL	-	100.0	393	100.0

Source: Kenya Population Census, 1962, Vol. III. October 1966,  
pp. 19, 20, 101, 102.

- (1) Areas that surround Trans-Nzoia.  
(2) Population Density for province or country.

TABLE NO. VIII

REASONS FOR LEAVING HOME BY EMPLOYEES DISTRICT OF BIRTH<sup>(1)</sup>

REASONS	RIFT VALLEY PROV.				NYANZA PROV.			CENTRAL PROVINCE.			UGANDA	TOTAL	
	TRANS- NZOIA	NANDI	WEST POKOT	OTHER	ELGON NYANZA	NORTH NYANZA	OTHER	FORT HALL	KIAMBU	NYERI			SOUTHERN PROVINCE MACHAKOS
No Land Available	1	1	1	2	6	1	-	3	4	2	-	-	21
To earn a living or poverty	8	4	5	5	27	5	3	2	6	2	8	7	82
Need of money for specific item:													
School Fees	2	-	-	5	7	1	-	2	1	-	2	-	20
Other	-	-	1	-	-	1	-	1	1	-	-	1	5
Other	2	-	1	1	1	-	-	1	4	-	1	1	12
Total number of respondents	13	5	8	13	41	8	3	9	16	4	11	9	140

(1) Only areas where responses are recorded are included in this table.

small farmers who are predominantly Luhya. However, North Nyanza is more than twice as densely populated as Elgon Nyanza (see Table VII). There is a relatively good transport network linking both Elgon and North Nyanza to the Trans-Nzoia.

Nandi District is a relatively fertile area where both food crops and cattle are raised. The major tribe is the Nandi (a Kalenjin tribe) whose traditional major economic emphasis is on cattle. West Pokot is a very dry cattle area inhabited by the Turkana, Suk and Pokot tribes. Both districts are less densely populated and generally more isolated than is the case in Nyanza.

#### Causes of Movement

On the basis of the information currently available, there does not appear to be any obvious relationship between population density in the district of birth and the number of percentage of people in the enumerated labor force.<sup>(4)</sup> However, of workers who were asked their reasons for leaving home, the majority (74%) stated that there was no land available or that they needed to search for work to earn a living (see Table VIII). When those who left to obtain money for school fees are added to this group, one finds that 86% of the respondents are accounted for. These answers indicate that those people who have left the home district have in large part been "pushed" by economic necessity.

#### Employment Histories

Some general data on the background of the labor force is given in Table IX. The average age of workers in almost all wage classes is between 35-40 and the average amount of time spent in paid employment is about 10 years. A total of 1329 previous jobs were recorded for the 385 employees. The average number of jobs per worker was 3.4 and the average period of employment per job is 5.5 years.<sup>(4A)</sup>

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(4) This picture may change when available information on workers who were not interviewed is included.

(4A) Unfortunately, no further breakdowns or turnover by wage classification or previous type of position have been made to date.

About 80 percent of the previous jobs (1073) were lower paid and 9% (116) were higher paid than the present job. Actual differences in wage rates are available but have not as yet been analyzed. The overwhelming number of lower paying jobs suggest that most workers have benefited from increase in the level of wages over the past two decades. Support for this contention is given from responses from 32 out of 36 farmers who stated that they believed that labor costs have risen significantly in the past few years. Some farmers said that the imposition of minimum wage legislation had raised wage levels for most workers, while a number of others produced records which indicated that the cash value of wages had risen by more than 100% over the past 10 years.

To some extent, the effect on real income of increased wages has probably been negated by rising prices. Unfortunately, there is no rural price index. The Wage Earners Index of Consumer Prices in Nairobi shows a rise of seven points between 1959 and 1965. Assuming that this rise is about the same for prices in the Trans-Nzoia, there is little doubt that real agricultural wages have risen, particularly when it is remembered that most workers produce their own food crops on their shambas.

The data indicate that employees in all wage classes on both European and African farms have had some higher paying jobs in the past.<sup>(5)</sup> However, the available evidence (see Table IX) suggests that present jobs of skilled workers (in wage classes of \$60/ and above) on African farms have been lower paying than previous jobs more often than any other group. This is not surprising as 1) most African farmers, facing heavy debt obligations, cannot afford to pay as much as their European counterparts and 2) employees, with no obvious alternative sources of employment, would be expected to accept a lower rate of pay rather than face the prospect of unemployment and the loss of a home for themselves and their families.

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(5) Almost all employees indicated that they had no alternative employment opportunities and/or needed money badly when they accepted their present jobs. In addition, employee responses indicate that no worker had refused the offer of employment. Unfortunately this statement cannot be verified at this time.

TABLE NO. IX

## EMPLOYEE EMPLOYMENT HISTORY

Present Cash Wage	No of Respondents	Average Age (Years)	Average Level of Education (Years)	Average Number of Years in paid Employment	No of Higher paying jobs previously held	No of Lower paying jobs previously held
<u>African Farms</u>						
Less than shs 40/Mo.	80	41	*	19	15	164
shs 40/- 59/Mo.	65	41	*	26	17	187
shs 60/-79/Mo.	3	28	*	14	3	1
shs 80/Mo. and above	4	36	3	15	3	5
Total African Farms	152	40	*	21	38	357
<u>European Farms</u>						
Less than shs 40/Mo.	38	36	*	23	5	12
shs 40/-59/Mo.	142	38	*	17	51	395
shs 60/-80/Mo.	23	33	*	13	6	241
shs 80/Mo. and above	30	32	*	16	16	68
Total European Farms	233	36	*	17	78	716
Total All Farms	385	38	*	19	116	1073

\*Less than 1 year.

The average age of higher paid worker is in most cases lower than that of lower paid workers. This may reflect a situation where young bright people are advanced faster as the expected long run return from training a younger worker would be greater than the expected return of training an older worker. However, it does not appear that younger workers were selected because of higher education levels. An alternative explanation is that, although younger, the higher paid workers may have been resident on the farm for a longer period of time and be receiving higher pay either as a result of long service or simply/<sup>were</sup>available and worth training when higher paying jobs became vacant. There is no a priori reason to believe that the former is true. From Table IX it seems that although the average number of jobs for higher paid workers on African farms is low (e.g. less than 2), on European farms higher paid workers have had a higher average number of jobs in the past than lower paid workers. None of these explorations is convincing, and a satisfactory hypothesis must await further analysis of the available data.<sup>(6)</sup>

#### Elasticity of Supply

An attempt was made to obtain information on employee attitudes toward increased income earning possibilities. Of 393 employees in the sample, about 30% stated that they would be willing to work in the afternoon for about two to three hours more per day if the marginal rate of pay was increased by 50% (see Table X). In response to another question on willingness to work about 55% of the employees said that they would seek part time work if it was available and would accept this work at the prevailing wage in the area. From these responses it appears that more employees would be more willing to work at lower, rather than higher wage rates.<sup>(7)</sup> The abnormality of these responses may result from the fact that a specific time for working overtime was given in the first instance, but not in the second. Thus, an employee may feel adverse to working at the end on the institutional working day (1 or 2 p.m.) when he is tired, but may not be adverse to extra

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(6) Whether or not the apparent inverse relationship between age and wage is statistically significant will be tested in the future.

work at a time of his own choosing (e.g. Sunday).<sup>(8)</sup>

As seen in Table X, the average workweek on the farms is about 50 hours. This does not include the 6-8 hours per week spent on the shamba by the average worker, which brings total worktime up to about 56 hours per week. Yet, the discussion above indicates that between 30 and 55% of the labor force would be willing to increase the length of the workweek to about 70 hours in order to obtain additional income. The desire for higher income may reflect a desire to increase consumption standards. However, as Table X shows, out of their rather small income, 43% paid school fees, 33% helped to support others and 16% had outstanding debts, whereas relatively few employees had alternative sources of income.

In addition to a willingness to spend more hours in paid employment, 40% of the employees surveyed indicated that they would be willing to grow cash crops on their small shambas if prices were higher.

The degree of confidence one has in the "truth" of these responses is limited. There is not only the standard problem of the possibility of misinterpretation, but in addition, the questions were related to hypothetical, rather than actual situations. The writer believes that the probability that workers would not in fact act as they have said they would is quite high.

Despite the weakness of the data, there does seem to be an underlining willingness to increase work time in order to increase income. From the information presently

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(7) Part time work would most probably involve task work. The average worker is able to pick a debe of coffee (20 lbs) in about 2 hours or harvest  $1\frac{1}{2}$  bags of maize in an hour. Payment for coffee picking ranges from 70-80¢/debe and workers are paid 25-30¢/bag for harvesting maize. This means that an average worker could earn between 35 and 45¢/hour. A permanent employee works a 50 hour week and usually earns between shs.60/-65/- per month, including the value of shamba and rations. This works out to a wage of 28-30¢/hour. The decision of the employee to accept casual work therefore involves a rise in the marginal wage rate of from 16.7 61% (the median rise is 38%) To the extent that the employee makes a similar calculation, his response to the question is quite understandable. On the other hand, the employee may simply be showing a desire to maximise cash income (see above).

(8) There is also the possibility that the initial calculations are in error. No further explanation will be attempted until the initial calculations are verified.

TABLE NO. X

EMPLOYEE OBLIGATIONS, ASSETS AND ATTITUDES TOWARD WORK

	European Farms No.	Per- cent	African Farms No.	Per- cent	All Farms No.	Per- cent
No. of Respondents	236	100.0	157	100.0	393	100.0
Average number of hours Per Week:						
In paid Employment	52	-	48	-	50	-
On own Shamba	6	-	7.5	-	6.5	
Would work more hours at higher pay (time specified)	69	29.2	44	28.0	113	28.7
Have part time work	2	*	1	*	3	*
Actually seek part time work	16	6.7	9	5.7	25	6.3
Would seek part time work if available (No time specified)	140	59.3	81	51.5	221	56.2
Grow cash crop other than maize	-	-	2	*	2	*
Would grow cash crops if price rose by 20% (1)	30	35.2	32	45.7	62	40.0
Pay school fees	101	42.7	68	43.3	169	43.0
Send help to others	85	36.0	45	28.6	130	33.0
Have outstanding debts	43	18.2	22	14.0	65	16.5
Own a farm	4	1.6	10	6.3	14	2.5
Own a business	2	*	3	1.9	5	1.2
Receive help from others	21	8.8	10	6.3	31	7.8
Are owed debts from others	49	20.7	21	13.3	70	17.8

\*Less than one percent

(1) Answers from 85 respondents on European farms and 70 respondents on African farms only.

available it is known that the value of the wage for the general employee on most farms in the district is between sh. 60/-65/-. We also know that the average worker spends from about 55 to 58 hours per week at work (in paid employment and on his shamba). If one assumes midpoint values for these two variables we end up with a single point on an "average employee" supply curve of labor (point A in Figure I).<sup>(9)</sup> If the worker were willing to work more hours at the same wage, his supply curve would be perfectly elastic and take the shape AC. If on the other hand, no increase in the wage could induce the employee to spend more hours at work his supply curve would take the shape AB (perfectly inelastic);<sup>(10)</sup> Unitary elasticity of supply in either direction is represented by the line OGAD.

Employees stated that they would make efforts to increase the supply of labor if the prices of cash crops (e.g. vegetables) rose by 20%. Assuming that a worker is willing to spend more than an additional hour and a half per week working on his shamba we find a case of an elastic labor supply in an upward direction. In contrast to this, responses indicate that about 55% of the workers would be willing to work at least 10 hours a week more (a 20% rise in the amount of time spent in paid employment) for a median increment in the wage rate of 37.5%. This indicates an inelastic supply of labor in an upward direction. Employees who stated that they were willing to work an additional 12-15 hours per week for a 50% increase in pay also exhibit an inelastic supply response. The writer does not feel that the evidence presented warrants the computation of labor elasticity coefficients. However, the evidence does suggest that the supply curve of employed labor is relatively inelastic in an upward direction, and the curve is likely to fall somewhere in the triangle BAD; more probably nearer to AD than AB (e.g. AE).

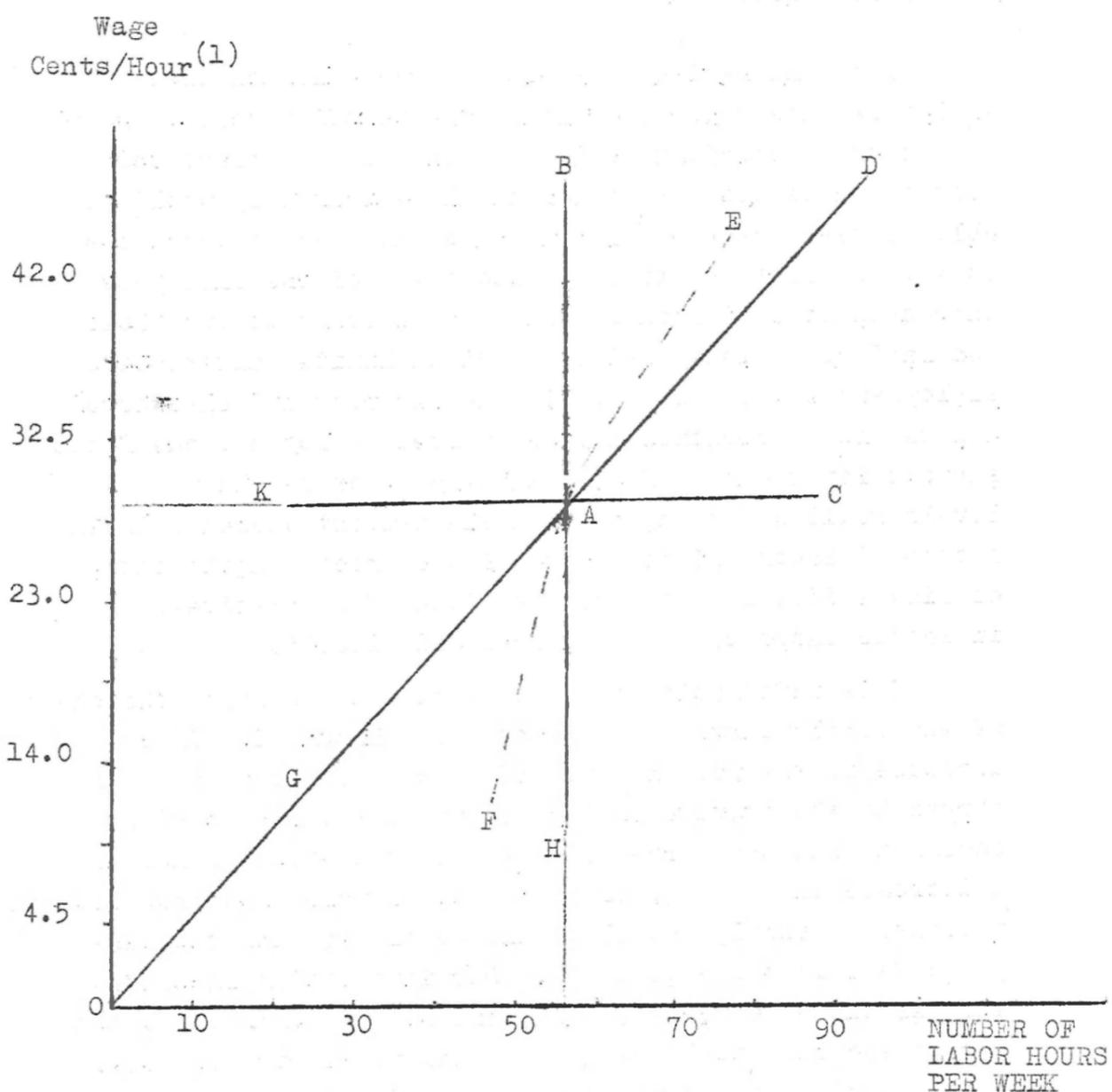
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(9) At this time only elasticity of supply with respect to an increase in the wage will be discussed. Elasticity with respect to wage decreases is discussed below.

(10) This would be the case of fixed income target worker.

FIGURE NO I:

SUPPLY CURVE OF AN AVERAGE EMPLOYEE



- DAC - Elastic segment in an upward direction
- DAK - Inelastic " " " " "
- KAG - Elastic " " a downward "
- GAH - Inelastic " " " " "
- OGAD - Unitary elasticity.

(1) The figures on the vertical axis correspond to wages in sh/month; from top to bottom sh 90/-, 70/-, 50/-, 30/-, 10/-.

There is little direct evidence with regard to the elasticity of labor supply in a downward direction. As noted above, 9% of the jobs previously held by the labor force were at lower rates of pay than those currently held. This suggests a relatively inelastic labor supply curve in a downward direction.

Table XI reviews answers to a question on what employees expect to be doing in the next few years. About 68% of the respondents said that they had no plans and most of these also expressed the hope that they would be able to keep their present jobs as they had no where else to go. In contrast to this, about 28% of the employees expressed hope of accumulating enough money to buy their own land or go into business. Given limited alternative employment opportunities, (in the district and elsewhere) and the low aspiration levels of most employees, one finds support for the belief that a 10-15% decrease in wage levels would not bring about a significant decrease in the amount of labor offered at the lower price. Again then, we find evidence to support the idea of a relatively inelastic labor supply in a downward direction.

This information can now be used to estimate the shape of the supply curve below point A on Figure I. If a decrease in the wage had no effect on the amount of hours worked by the average employee, supply would be perfectly inelastic and the curve would assume the shape of AH. If a decrease in the wage brought about a more than proportional decrease in supply, supply would be elastic and the curve would fall in the region KAG. Our information indicates that if the wage were to fall, the average employee would not be inclined to leave his job and would probably have little ability to reduce the number of hours worked (although he might attempt to reduce the effort involved in each hour of work). This would mean that his supply curve below point A would be closer to AH than AG (e.g. AF). In summary, employee responses indicate that the average workers supply curve is inelastic in the both the region above and below the prevailing wage. Diagrammatically, the supply curve will assume a shape similar to EAF.

TABLE NO. XI

EMPLOYEE EXPECTATIONS

No. of Respondents	No Plans for Future	Buy land to live on	Go into Business	Other
African Farms 157	98	42	13	4
European Farms 236	169	44	11	12
All Farms 393	267	86	24	16

### The Aggregate Supply Curve of Employed Labor for Trans-Nzoia

The previous section discussed the probable shape of the supply curve of the average employee in the survey. If one assumes that the random sample selected is truly representative of the district, <sup>(11)</sup> we can now estimate the position and shape of the supply curve of the employed workers in Trans-Nzoia. The total number of employees enumerated on all farms in the 9.1% sample is 1148. Therefore, there should be 12,615 employees on all farms in the district. If one allows a five percent margin of error, total agricultural employment in the district should be between 11,984-13,246. Using a 56 and one half hour work week, the number of labor hours supplied per week at the prevailing wage (sh.62.5/month) is about 712,800 (see Figure II). Assuming that the employees interviewed are representative of all employees in the district, the shape of the aggregate supply curve, S-S, will be the same as that of the "average employee" in the survey.

The above analysis is limited in that it only takes employed workers into account. Given the evidence of unemployment in the district, any individual employer probably faces a perfectly elastic supply of labor at the prevailing wage (see Figures III).

However, even if an employer wanted to increase his labor supply he might prefer to make fuller use of the stock of available labor on the farm (permanent employees and their families who do a large part of the casual work) rather than hire additional permanent workers. Despite the fact that the elasticity of supply of employed labor is inelastic, the marginal cost of getting the presently available stock of labor to work more hours may be lower than the marginal cost of increasing the labor hours by adding to the stock of labor. For instance, additions to stock may involve 1) costs of training 2) provision of land for shambas which could yield a higher return if used for other purposes, 3) increased costs of supervision, 4) a feeling of responsibility for the welfare of workers once they have been taken on as permanent employees, 5) higher tax payments, etc.

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(11) See section II of the original paper.

Figure II

AGGREGATE SUPPLY CURVE OF EMPLOYED LABOR  
IN TRANS-NZOLA

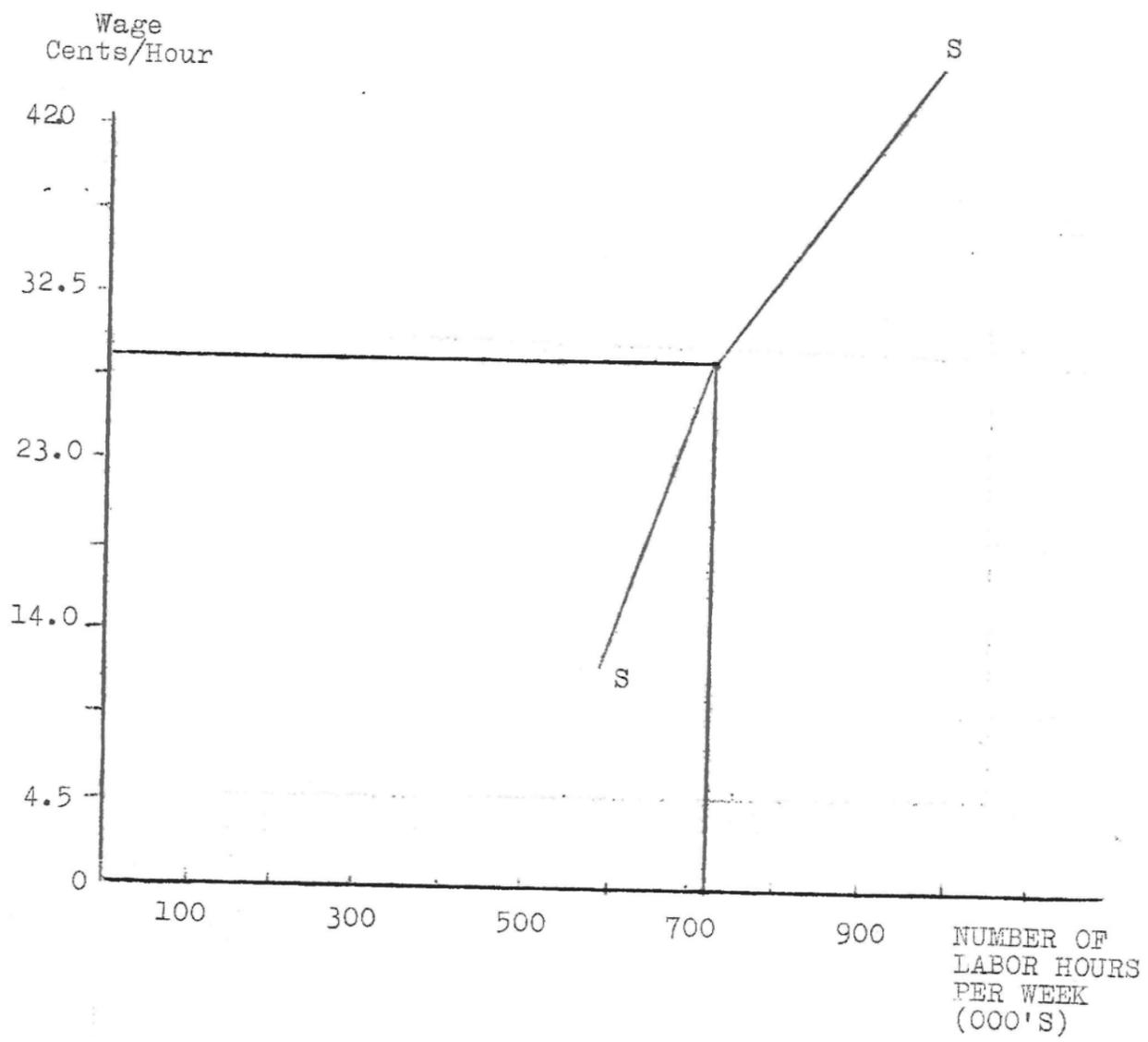
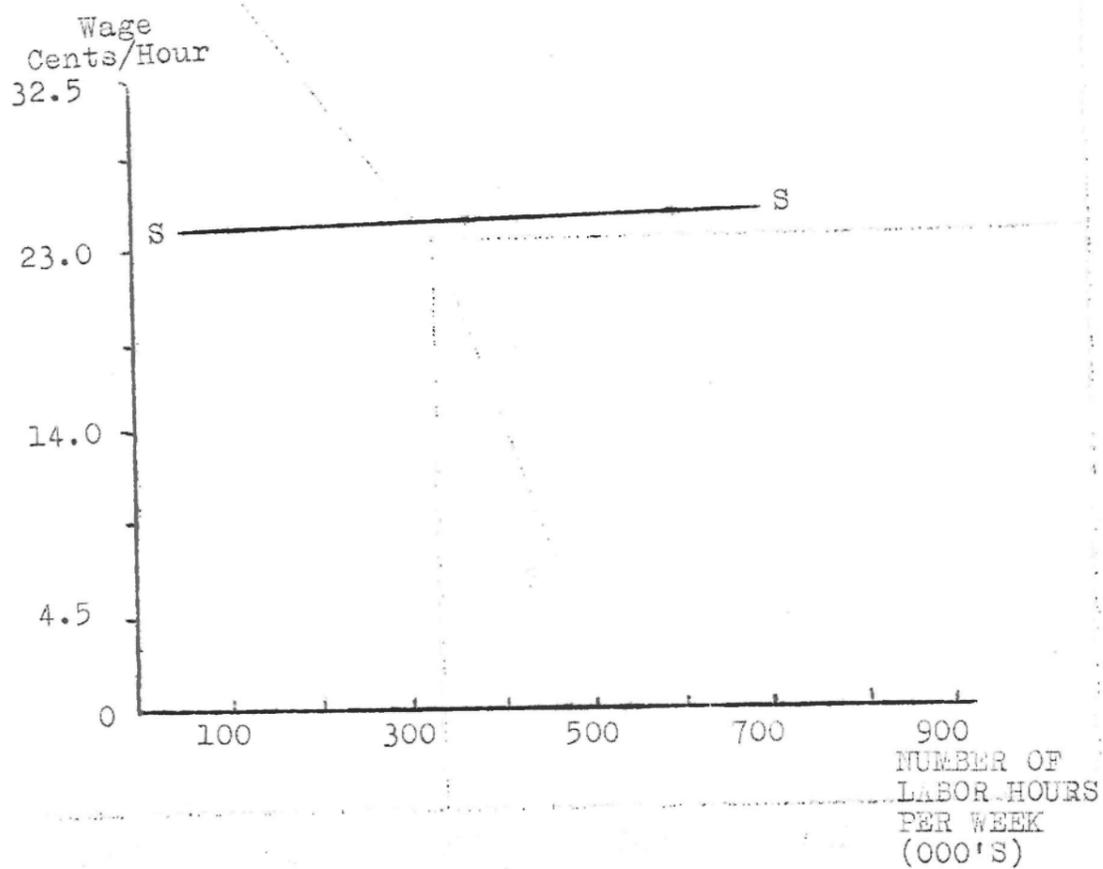


FIGURE III

ADDITIONS TO THE EMPLOYED SUPPLY OF PERMANENT  
LABOR IN TRANS-NZOIA



With evidence of unemployment, unless there was a sharp and sustained rise in the demand for labor, one would expect the individual employer to continue to face a perfectly elastic supply of labor, in terms of the availability of additional permanent employees. Given the high rate of population growth and concomitant high levels of entry into the labor force, one would expect that this general situation will probably prevail for the foreseeable future.

#### THE DEMAND FOR LABOR

In the original paper it was shown that African farmers have a more labor intensive production function than Europeans.<sup>(12)</sup> It was also demonstrated that European farms are more developed (i.e. use a greater amount of total land area for productive purposes) and therefore exercise a greater total demand for labor.<sup>(13)</sup> In light of these and other differences, discussed below, the demand for labor for each group of farms will be discussed separately.<sup>(14)</sup>

#### Employer Attitudes - African

It appears that African farmers are more concerned with movements in the price of labor than Europeans and a few believe that there is a positive relationship between increased wages and increased output. (see Table XII). The former attitude is not surprising given the relatively tight economic position of the African farmer who tries to minimize operating costs to assure that he will have sufficient funds available to meet loan repayments and a moderate income for himself.

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(12) See pp. 18-20 of the original paper.

(13) European farmers employ one worker for every 30.6 acres of total farmland, while African farmers currently employ one worker for every 35.5 acres of total farmland, despite a more labor intensive production function.

(14) The information presented in this section is in many ways incomplete, and will be supplemented by additional data being collected.

TABLE NO. XII

EMPLOYER ATTITUDES BEARING ON THE PRICE ELASTICITY  
ON DEMAND FOR LABOR

<u>Category</u>	African (18 Farms)	European (18 Farms)	All Farms (36 Farms)
No who would increase labor force if minimum fell to \$4 50/month.	6	2	8
Estimated increase in employment	57	10	67
No who believe labor costs have risen	16	16	32
No who have cut labor force due to rising labor costs	-	-	-
No who mentioned mechanization in response to rising labor costs	4	8	12
No who believe increased wages would increase output	3	1	4
No who feel they could raise wage levels by 10%, cut labor force by 10% and maintain output	2	0	-

Currently available information indicates that African employers price elasticity of demand in a downward direction is inelastic, but close to unity. Although no specific information is presently available on price elasticity in an upward direction, the writer believes that most African employers would try to respond to a price increase by cutting labor costs when possible. (15 )

#### The African Employers Demand for Labor

The data indicates that African employers are currently employing about 35% of the total agricultural labor force at work. Based on estimates of total time in paid employment compiled in the previous section, African employers exercise a demand for about 251,600 work hours per week..

If, for purposes of exposition, one assumes that African employers are paying their workers an average wage of sh62/50 per month (29 cents/hour) we derive point A on the African employers demand curve. (see Figure IV). AD represents the case of perfectly inelastic demand in a downward direction. The case of perfect elasticity is given by BAC. AF represents the case of unitary elasticity in a downward direction (GA in the upward direction). Our data indicate that elasticity of demand is inelastic, but close to unity in a downward direction. Therefore we would expect the African employers demand curve to fall in the area DAF, closer to AF than AD (e.g. AH).

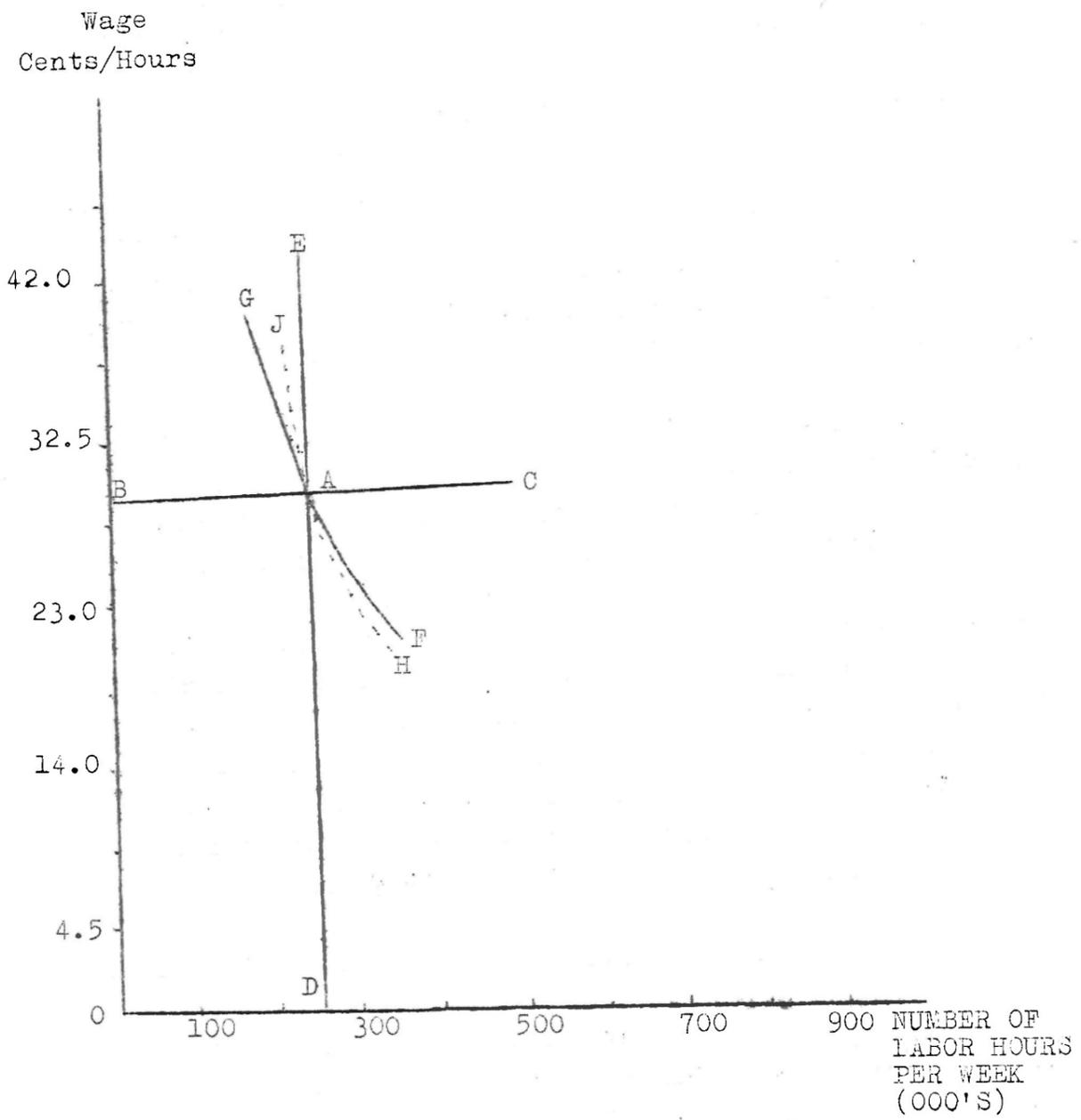
Given the current state of information, it is assumed that the African employers demand curve is inelastic in an upward direction. The upper portion of the demand curve will fall in the area GAE (e.g. AJ) and the demand curve now takes the shape JAH.

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(15) For example, a farmer may hire contract labor for land preparation, and in general, only employ people for the most pressing and immediate economic activities. This would mean that the employer would have to operate without the convenience of a permanent labor force and it is also likely that many of the less important jobs on the farm would be eliminated or postponed.

FIGURE IV

A - AFRICAN EMPLOYERS DEMAND CURVE TRANS-NZCIA



#### Employer Attitudes -- European

From the information available it appears that European employers have a highly inelastic demand for labor in downward direction. Only 2 out of 18 employers said that they would increase their labor force if labor costs fell, (see Table XII). However, eight employers indicated that they would consider increasing the level of mechanization on their farms if labor costs rose. It is difficult to evaluate the full meaning of this response as 1) most employers are unsure of what jobs could be effectively and profitably mechanized and 2) given their present economic position it appears that most European employers could afford to absorb a wage increase of sh. 10/month. Of course, the greater the rise in wages and the longer the period allowed for a change factor proportions in response to a rise in wages, the higher will be the elasticity of demand. Given the limited amount of information in the short run it seems most probable to anticipate an inelastic demand response on the part of European employers to a modest rise (e.g. sh. 10) in the wage level.

#### The European Employers Demand for Labor

European employers are currently employing about 65% of the total labor force in the district. This means that European employers account for about 461,200 out of a total of 712,800 agricultural labor hours worked each week. Applying the same methodology used with African farmers, point R on figure IV-B is the initial point on the European employers demand curve. As the above analysis (based on the limited information at our disposal) indicates that demand is inelastic in both an upward and downward direction, one would expect the demand curve to take a shape similar to NRM.

#### Demand and Supply Curves for Employed Labor

African and European employers demand curves are summed in Figure V and presented with the aggregate supply curve of employed labor. It should be stressed that these curves are the result of preliminary analysis. The reader is also reminded that for purposes of this paper a single

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(16) see page 14 of the original paper

FIGURE IV

B - EUROPEAN EMPLOYERS DEMAND CURVE TRANS-NZOLA

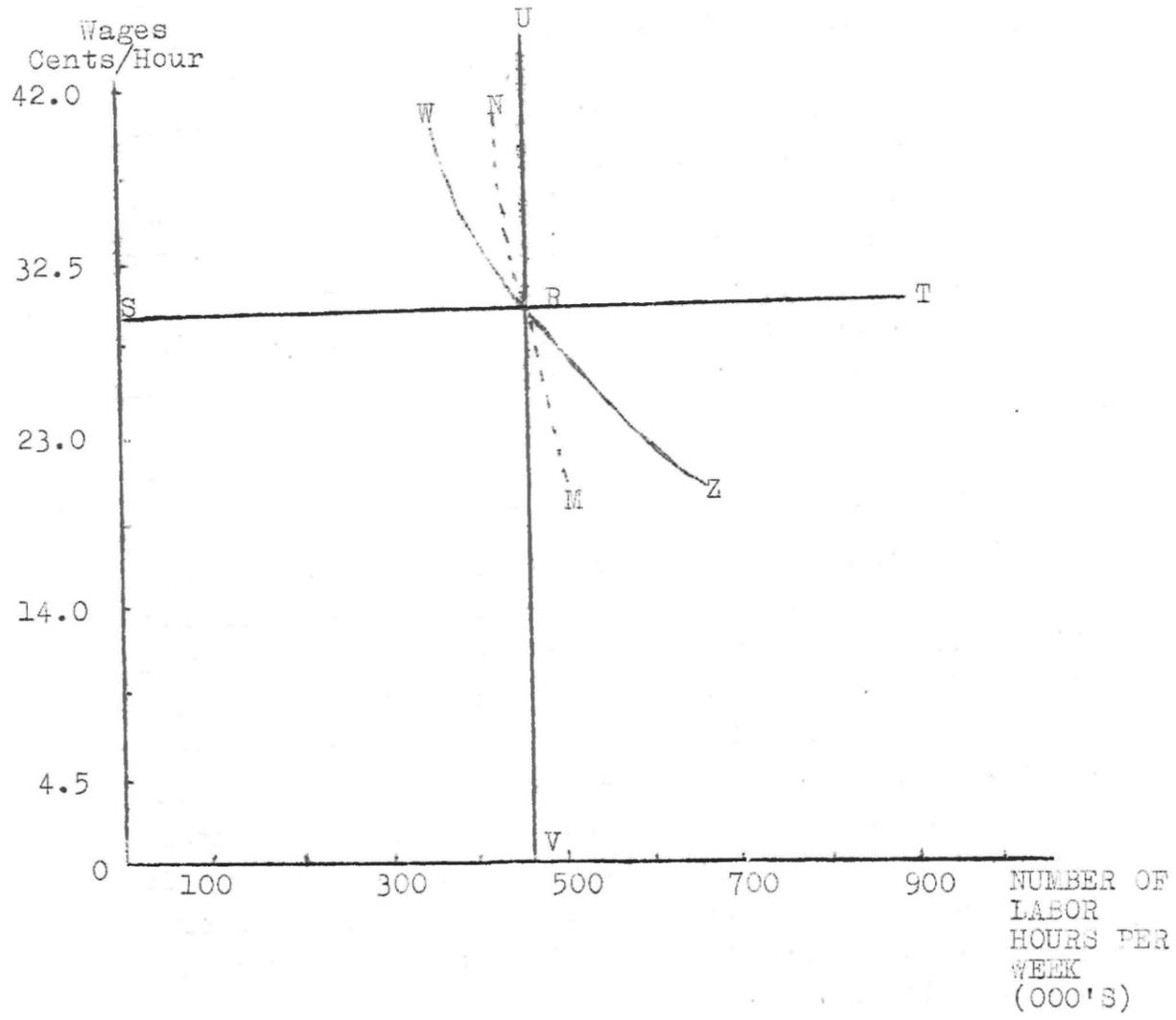
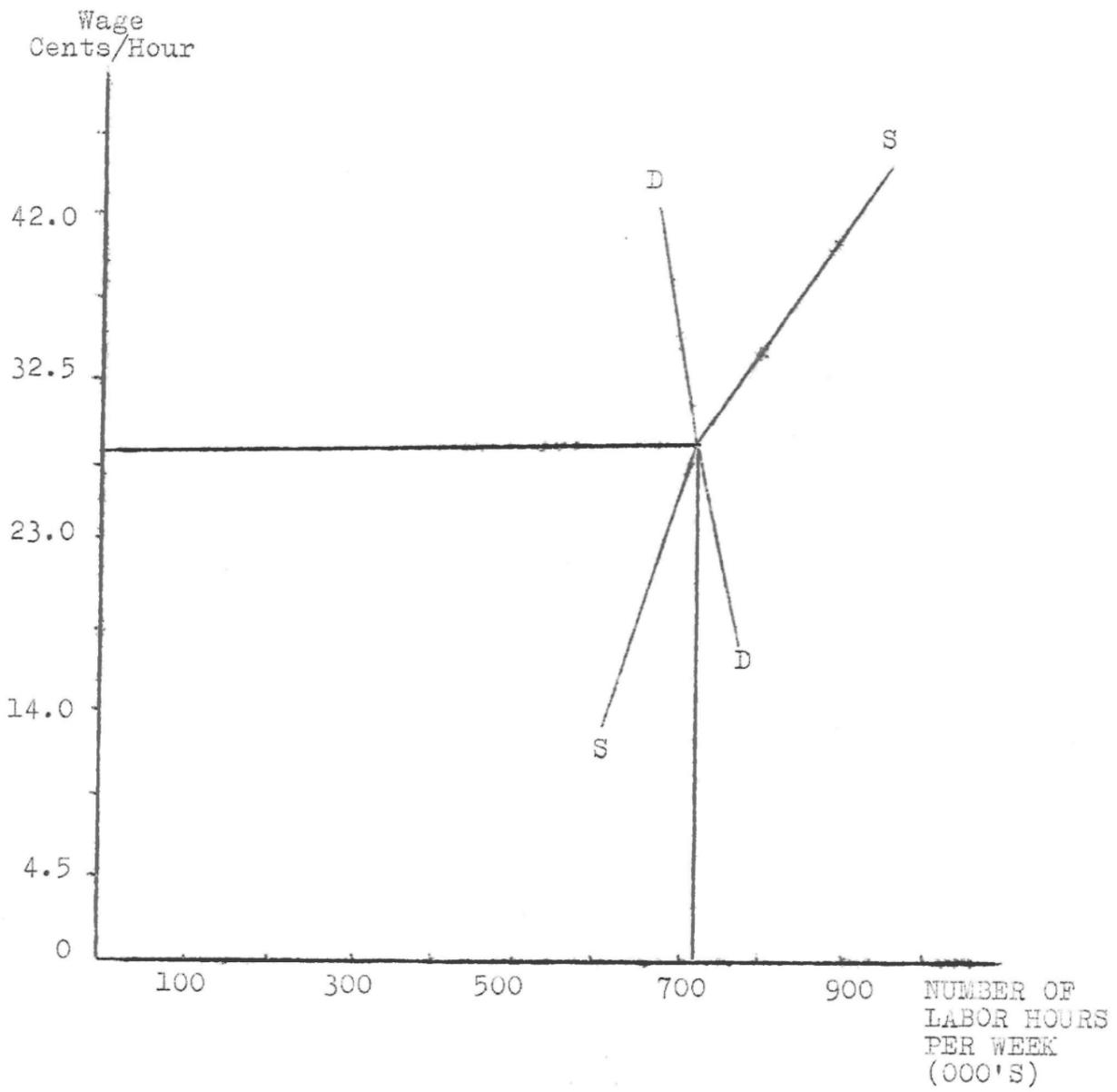


FIGURE V

DEMAND AND EMPLOYED LABOR SUPPLY CURVES IN  
TRANS-NZOIA



wage rate (\$62/50/month) was used to simplify the analysis, although the evidence indicates that there are a number of prevailing wage rates in the "equilibrium range". As so much of the available data has not as yet been tabulated, no further attempts of analysis will be made at this time.