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URBAN, MALE WAGE-EARNERS AND MOONLIGHTING IN TURKEY¹

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Abstract

This study examines the characteristics of urban, male wage earners and their probability of simultaneously holding a second job. A model of participation into second job holding is developed. Within this framework a Probit model of choice into second job holding is estimated. The results indicate that wage earners at all levels of education participate in second job holding and probability of doing so increases with education. A typical moonlighter had larger land holdings than a non-moonlighter and his chances of moonlighting increases with land holdings. He is likely to be engaged in farming or marketing of farm products as his moonlighting activity. Having a working wife reduces the probability of moonlighting. Probability of moonlighting increases as primary job earnings decrease, while experience is found to increase chances of moonlighting activities. Policy implications of these findings are discussed.

ملخص

تبحث هذه الدراسة في سمات العاملين بالأجر من الذكور في الحضر واحتمال قيامهم بعمل إضافي في نفس الوقت. كما تقدم الدراسة نموذج القيام بعمل اضافي، يقدّر في إطاره نموذج "بروبيت" للجوء إلى هذا الخيار. وتشير النتائج إلى أن هناك عمالاً بأجر على كافة المستويات يقومون بأعمال إضافية، وأن احتمال ذلك يزيد مع ارتفاع مستوى تعليمهم. ومن سمات نموذج الشخص القائم بعمل إضافي أنه يملك من الأراضي أكثر مما يملكه العامل الذي ليس لديه إلا عمل واحد، وأن احتمال قيامه بعمل إضافي يزيد مع زيادة رقعة الأرض التي يمتلكها، كما أنه من الأرجح أن يكون عمله الثاني هو في مجال الزراعة. وينخفض احتمال قيامه بعمل إضافي إذا ما كانت الزوجة عاملة كما يزيد الاحتمال إذا ما انخفض دخله من عمله الأصلي، في حين يلاحظ أن الخبرة من شأنها أن تزيد من فرص نجاحه في مجال أعماله الاضافية. وتناقش الدراسة كذلك آثار هذه النتائج في السياسات الاقتصادية.

I. INTRODUCTION

This paper is concerned with second job holding among wage earners in Turkey. Moonlighting activities of the wage earners are believed to be a response to the decline in real wages and in the share of wages in gross domestic product which started in the late 1970's and picked up pace in the 1980's. The stabilization program introduced on January 24, 1980 sought to reduce the fiscal deficit. Since the government wage bill was a high proportion of recurrent public spending, salaries were allowed to erode through inflation while levels of employment were more or less maintained^{1,2}. The real gross wage index for government employees fell from 100 in 1978 to 64 in 1981-84 and further to 51 in 1985-88 (Celasun and Tansel, 1993). Real wage reductions were not limited to the public sector. Private firms also achieved real wage reductions during this period.³ The resulting enormous shifts in the factor shares in the nonagricultural sector of the economy were unprecedented. For instance, the share of wage income in the nonagricultural product declined from 48 percent in 1975-77 to a mere 21 percent in 1985-88.⁴ Although there was no hard evidence to support it, the widely held view was that households responded to this erosion in wage earnings by resorting to various measures, moonlighting by the primary earner or by the other household members being one such measure.

There is no systematic study about second job holding by wage earners and the self-employed in Turkey. Moonlighting or second job holding is thought to be more common in developing countries than in the developed world. The percent of the labor force holding more than one job in Europe ranged from a low of 1.5 in the United Kingdom to a high of 3.6 in Luxembourg (Alden and Spooner, 1982). It was 3 percent in Australia (Cameron, 1982) and 6 percent in the U.S. (Mishel and Bernstein, 1995). In Malaysia, in 1976, 27 percent of the married men held multiple jobs (Schaffner and Cooper, 1991). In 1987-88, in rural Gujarat, India, 50 percent of those working were engaged in multiple income earning activities (Unni, 1992). Van der Gaag et al. (1989) find that moonlighting is more prevalent among civil servants in Lima, Peru where 27 percent of the public sector and 14 percent of the private sector employees held second jobs. The figures in Côte d'Ivoire were 10 and 5 percent, respectively in the public and private sectors. They also find that wage disadvantage of the civil servants is an important factor in greater prevalence of moonlighting among civil servants than among private sector wage earners. In Ghana, 30 percent of working men and women held multiple jobs (Beaudry and Sowa, 1990).

Recently, there was an attempt to officially recognize the moonlighting activity of the teachers in Turkey. A bill was proposed in the parliament by the ministry of education on granting primary and secondary school teachers the right to hold a second job in addition to their primary job of teaching. The bill did not pass⁵. Moonlighting is believed to be widespread among other civil servants also. Therefore, it would be useful to understand the factors that contribute to the incidence of moonlighting. For example, how does it respond to reductions in the primary wage?

This study explores the extent and nature of second job holding among urban, male wage earners in Turkey in 1987. A Probit model of choice into second job holding is estimated. Contributions of various factors including primary wage, educational attainment and labor market experience to the probability of moonlighting are examined. Organization of the paper is as follows. Section II presents a theoretical framework for analyzing second job holding. Section III examines the incidence of second job holding among various occupational groups

over time from 1988 through 1994. Section IV discusses the data used in this study. Estimation results appear in Section V. Section VI concludes.

II. THEORETICAL FRAMEWORK

According to the neoclassical static model of labor supply the decision to work a second job depends on the number of hours one is allowed to work at one's primary job and whether these hours enable the satisfaction of income goals at this job's wage rate. Wage earners may take up a second job if there is an upper bound on hours on their main job or a rationing of hours on the main job. Association of contemporaneous nonwage benefits (such as subsidized lunch or subsidized housing) or future income benefits (such as social security) with the main job may lead wage earners to continue to hold on to their main job even when earnings on the main job are below the income goals and the hours they can work on this job are restricted. Such an underemployed individual would be willing to hold a second job in order to smooth current consumption or income (Shishko and Roster, 1976; O'Connell, 1979; Killingsworth, 1983; Krishnan 1990). Short-term liquidity constraint as a cause for moonlighting is examined by Abdukadir (1992). Conway and Kimmel (1994) propose that costs and benefits of different jobs are more complex than could be measured by the monetary wages, and this job heterogeneity could lead to long-term moonlighting⁶. As for the self employed, a declining marginal return to labor on the main job is proposed as a rationale for holding a second job (Schaffner and Cooper, 1991). Hallberg et al. (1991) volume concentrates on multiple job holding among farmers. Seasonal employment which restricts the desired hours of work, low levels of household income and uncertainty with respect to future income streams are cited as reasons for multiple job holding. Farmers may then diversify into jobs where risks are uncorrelated with the main job. Each of these explanations underlie different kinds of imperfections in the capital or labor markets as the conditions leading to multiple job holding.

Consider an individual who maximizes a utility function in the arguments of a composite consumption good c and leisure ℓ . The strictly concave utility function is assumed to be increasing in both of its arguments and maximized subject to the budget and time constraints. The individual's static budget constraint restricts consumption through:

$$c = w_1 h_1 + w_2 h_2 + v$$

where v denotes his nonlabor income, h_1 and h_2 are hours worked in the main and second jobs respectively, and w_1 and w_2 are the corresponding wage rates. The price of the consumption good is set equal to one. The time constraint states that the hours spent on work ($h_1 + h_2$) and on leisure (ℓ) equals total available time (T). Finally, nonnegativity of the hours of work (h_1 and h_2) and of the consumption good (c) are also postulated. The equilibrium position of an individual who has no unearned income is illustrated in Figure 1. Note that hours of work is measured with respect to the right side of the leisure axis. At the wage rate of w_1 the individual will supply h^* hours of work and consume c^* units of the consumption good as determined by the equilibrium point E at the tangency of the wage line (AB) and the indifference curve I_0 .

Suppose that there is an upper bound ($\bar{h}$) on the hours of work such that at the wage rate w_1 he can only work $h_1 = \bar{h}$ hours on his main job which is less than his optimal (or desired) hours of work, h^* . Figure 1 illustrates that the individual would like to work $(h^* - \bar{h})$ additional hours at

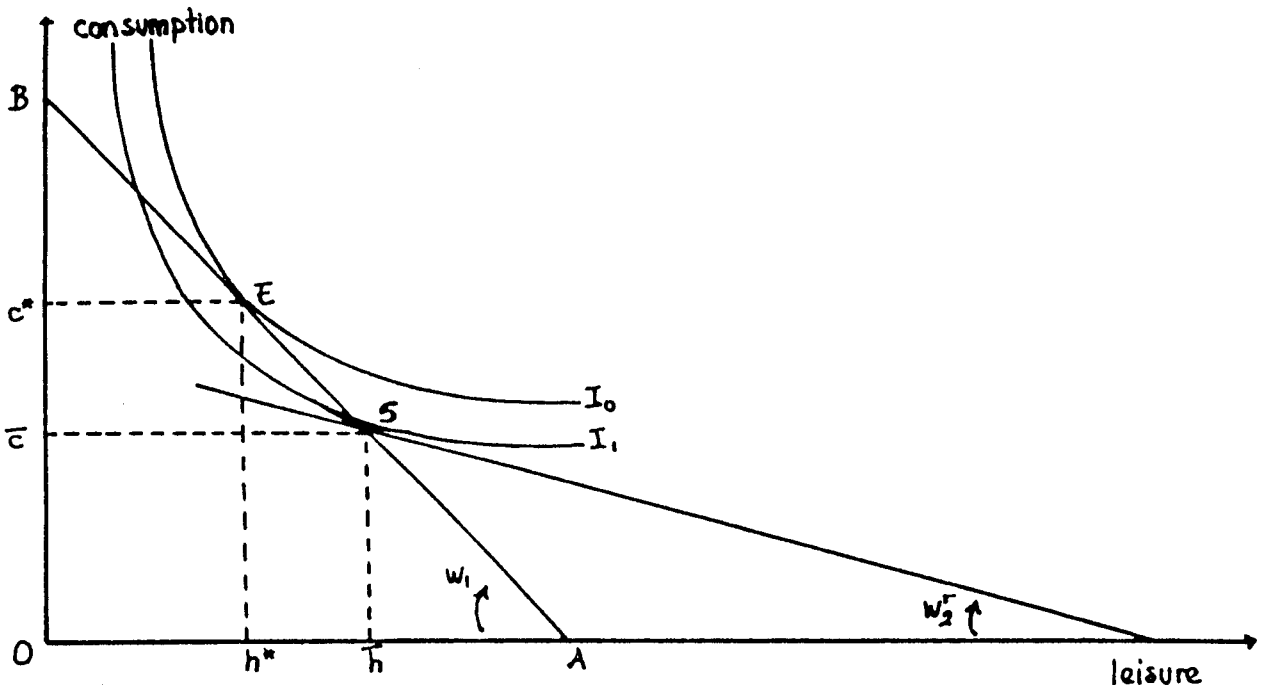
the wage rate w_1 . The upper bound $\bar{h}$ on hours of work forces the individual to indifference curve I_1 at point S and restricts consumption to $\bar{c}$. A second job will be held if the wage rate (w_2) is above the second job reservation wage (w_2^r) which is the marginal rate of substitution of income for leisure at point S. The optimum amount of hours spent at the second job will be determined by the tangency of a second budget line with slope $w_2 \geq w_2^r$. If the second job is self employment, the marginal returns would be a decreasing function of the hours spent on this work (h_2) and the optimum will be determined by a tangency with an indifference curve that lies between I_0 and I_1 . The condition for participation in a second job, which we term moonlighting, can thus be expressed as,

$$M = \begin{cases} 1 & \text{if and only if } w_2^* - w_2^r \geq 0 \\ 0 & \text{otherwise} \end{cases} \quad (1)$$

where w_2^* is the market wage on the second job and w_2^r is the second job reservation wage. While w_2^r is unobservable w_2^* is observed only when the individual works in a second job. We can write an observability condition for the second job wage rate as follows:

$$w_2^* = \begin{cases} w_2 & \text{if and only if } M=1 \\ 0 & \text{otherwise} \end{cases} \quad (2)$$

Figure 1: Equilibrium of the Moonlighter



Since consumption $\bar{c}$ is a function of total income (which is the sum of the restricted hours worked times the wage rate on the primary job and the property income) and leisure (which is the difference between total time T and the restricted hours of work) the reservation wage can be written as a function of the primary job wage, restricted hours of work, property income and tastes.

It is then straightforward to show that if leisure is a normal good, an increase in unearned income (v) as well as increases in w_1 and h_1 will all increase the second job reservation wage. (Killingsworth, 1983, p. 52).

To provide the model with empirical content, the second job reservation wage may be expressed as:

$$w_2^r = \alpha' H + \epsilon \quad (3)$$

Here H is a vector of variables such as primary wage rate, property and other unearned income, occupation and the sector in which the individual works; α is a vector of unknown parameters, and ϵ is a zero mean, finite variance disturbance term representing tastes.

Next, we may specify the wage equation on the second job as,

$$w_2^* = \beta' X + u \quad (4)$$

where X is a vector of variables such as education, experience, individual or household characteristics and variables that control for the differences in labor market conditions. Combining the equations (3) and (4) we obtain:

$$w_2^* - w_2^r = \tau' Z + \mu \quad (5)$$

where the vector Z is an appropriate transformation of X and H ; the vector of unknowns τ includes α and β and the error term μ includes $\epsilon - u$. The equations (1), (2) and (5) provide a reduced form model of participation in the second job. Assuming normality of the error term μ , this model may be estimated using Probit maximum likelihood method.

As human capital (such as education and experience) is likely to raise the reservation wage as well as the actual wage its effect on second job holding is ambiguous and needs to be empirically determined. Ownership of physical assets that contribute to unearned income - will increase the reservation wage- but not influence wage on the second job. Thus moonlighting will be less likely when unearned income is high. Similarly, higher earnings at the primary job are likely to decrease the probability of moonlighting.

III. INCIDENCE OF SECOND JOB HOLDING

This section provides information on the incidence of second job holding in Turkey among wage earners, casual employees, employers, self employed and unpaid family workers over time during 1988 through 1994. The earliest evidence on the incidence of moonlighting is provided by Tunalı (1993). According to the 1973 Hacettepe Institute of Population studies survey used by him 7.7 percent of the men aged over 18 held two jobs. Of these 32.8 percent were self-employed in both jobs, while 24.3 percent had their main job in the public sector and were self employed in their second job.

The Household Labor Force Survey conducted by the State Institute of Statistics in 1985

(SIS, 1985) included several questions about second job holding status of the individuals such as the kind of second occupation held, the organization or firm worked at and the kind of production involved as well as the number of hours worked in the second job during the last week. However, these answers were never tabulated and results could not be accessed. Starting with the 1988 Household Labor Force Survey, (such surveys are now conducted biannually since October 1988) questions are included on the second job holding. In these surveys question number 27 asked "In addition to the job you just described were you engaged in any other activity to earn cash or noncash income during last week?". The question number 28 followed with "How many hours do you usually work in your additional job". The results were tabulated according to the geographic location (urban versus rural which are defined as over 20 000 and 20 000 and under respectively) gender and occupational status. This information obtained from the survey results is summarized in Tables 1-5.

Table 1 gives the proportion of the wage earners who hold a second job according to the recent surveys. The proportion of urban wage earner women who moonlight remains less than one percent throughout 1988-1994 surveys, while the same for urban wage earner men somewhat fluctuates with peaks in April 1989, April 1991 and October 1992. The proportions of rural men and women wage earners who moonlight seems substantially higher than those for their urban counter parts. For rural men wage earners it ranges around 10 percent with peaks at April 1989, April 1991 and October 1992 surveys and similarly for women wage earners. These fluctuations are undoubtedly related to the macro economic environment and may also be reflecting a seasonal pattern in particular in the case of rural women wage earners. We conclude that moonlighting is more prevalent among rural wage earners than among urban wage earners and among men than among women wage-earners.

Table 2 gives the proportion of casual employees with a second job. As in the case of wage earners the proportion of rural casual workers with a second job is larger than those of urban casual workers. This is consistent with the observation that casual workers include mostly farm hands and other seasonal employees. Again, as in the case of wage earners the proportion of women casual employees with a second job is less than those for men casual employees. October 1990, April 1991, April 1992, October 1992 seem to be the months with highest proportion of rural men casual workers are involved in a second income earning activity. We are not able to observe the seasonality clearly probably because casual workers were only about 8-9 percent of the male labor force and about 8 percent of the urban female and 4 percent of the rural female labor force in 1988 (see the Table in Note 7).

Table 3 gives the proportion of employers with a second job. The proportion of rural men employers with a second job is larger than the proportion of urban men employers with a second job. April 1991 and April 1992 indicate the peak months. Practically, there are no women employers with a second job as the proportion of urban women employers is less than one and the proportion of rural women employers is almost nill (Note 7). Table 4 gives the proportion of self employed engaged in a second income earning activity. There are more rural self employed men with a second job than there are urban self employed men. This is also true for self employed women. The proportions of self employed rural men and rural women indicate clear seasonality where October proportions are consistently larger than April proportions. Table 5 gives the proportion of unpaid family workers with a second job. Again as before, there are more rural unpaid family workers with a second job than there are urban such workers. Among rural unpaid family workers there are more men than there are women. The Table in Note 7 indicates that unpaid family workers are more common in the rural areas

where 87 percent of women are unpaid family workers.

In general, we can say that holding a second job is more prevalent among men than among women and more prevalent in rural areas (defined as population 20 000 and under) than in urban locations. Rural men wage earners, rural men casual workers, rural men employers and rural men self employed were the largest groups, in this order, engaged in a second activity. Similarly, a larger proportion of the rural women wage earners and rural women casual employees hold a second job compared to other groups. A comparison of Table 1 through Table 4 indicates that moonlighting is more common among wage earners and casual workers than among other occupational groups. This indicates that, moonlighter wage earners and casual workers are possibly constrained on the hours they would like to work in their primary job whereas employers, self employed and unpaid family workers could possibly adjust the number of hours of work in their primary activities.

It is difficult to say if second job holding has increased over time from 1988 to 1994. We can conclude that there has been a slight increase in second job holding in all occupational status groups. There was a marked jump in the proportion of second job holding in April 1992. Further, among all occupational status, location and gender groups considered second job holding is most common among rural wage earner men followed by rural casual employee men.

IV. DATA

The data used in this study came from a nationwide household income and expenditure survey implemented by the State Institute of Statistics (SIS) in 1987. A 10 percent random sample was acquired from this survey. Since it included only a few rural wage earners, the sample was further restricted to urban individuals, who reside in locations with 20,000 or more in population.⁷

Table 6 shows the distribution by employment status of the urban male wage earners in the 15-64 age group and the extent of second job holding⁸. Wage earners were about 60 percent of all prime age working men. Wage earners who were secondarily employed were about 10 percent of all wage earners. About 11 percent of the self employed worked at a second job.⁹ The fact that a larger percentage of the moonlighters were wage earners (62 percent for the wage earners compared to 38 percent for the self employed) suggests that our conceptualization of wage earners as being "hours constrained" is correct¹⁰. Self employed are able to adjust their hours on their primary job, and are therefore less likely to hold a second job. The following analysis is restricted only to male wage earners. Women wage earners are not included in the analysis. Although, in our sample 46 percent of the working women were wage earners, only a few of them held a second job simultaneously. This is not surprising because, women wage earners at the same time do housework and care for children.

Moonlighting hours do not have to conflict with primary work hours. Individuals typically work on the second job after the regular day hours, during the weekend, or during the summer vacation. However, it is believed that percentage of moonlighting wage earners is higher than the 10 percent indicated in the survey used in this study. Since moonlighting is illegal for civil servants, it is possible that the respondents were reluctant to reveal their moonlighting activities to the interviewer. Probably, for the same reason, only an average of 1.49 percent of the urban male wage earners seem to be engaged in moonlighting according to the

Household Labor Force Survey results, 1988-1994, as the discussion of the Table 1 indicated. This discussion on the incidence of moonlighting indicated that moonlighting is more common among rural wage earner men than among urban wage earner men. According to the 1988-1994 Household Labor force Surveys an average of about 11.89 percent of the rural wage earner men and 1.49 percent of the urban wage earner men were engaged in moonlighting.¹¹

In the 1987 survey used in this study wage earners in the public sector were not distinguished from those in the private sector. Therefore, it was not possible to analyze incidence of second job holding separately for public and private sector employees. However, an examination of the occupational codes of the wage earners in our sample indicated that a minimum of 55 percent worked in various capacities ranging from drivers to upper level managers in the public sector.¹² Further, an examination of the occupational code of the second jobs held indicated that 82 percent of their activities were concentrated in grain, vegetable or fruit farming or marketing. The sector of second activity of moonlighters was predominantly agriculture in the early 1970's according to Tunali (1993) who reported that 50 percent of the male wage earners held their second jobs in agriculture. In the 1987 survey this number seems to have increased to 82 percent. In spite of the migration, structural change and the loss in real wages between the two periods one would expect a move in moonlighting to sectors other than agriculture. On the other hand, this does not necessarily have to be the case. If we consider the fact that urban population as percentage of the total population increased by 77 percent¹³ from 1965 to 1989 and a greater proportion of the urban population are first generation migrants from rural areas who have organic ties with their rural roots, it should not be surprising to observe that 82 percent of the second income earning activity was in farming or marketing of farm products.¹⁴

Earnings include both cash and in-kind payments for wage employment. In-kind payments were valued at the sales price at the nearest market to the household. Since the households were interviewed at different months throughout 1987, during which the annual rate of inflation was about 50 percent, earnings and unearned income figures were deflated by the local monthly consumer price index (CPI). Households in 14 major cities were assigned the monthly CPI's for those cities, and households in other locations were assigned the urban CPI for one of the five regions in which they are located.

Unearned income includes rental and interest income. The nominal figures were adjusted in the manner described in the previous paragraph. Two unearned income concepts were differentiated: The unearned income of the individual and the unearned incomes of the other household members. Twenty-six percent of those in the working sample reported having unearned income. Table 7 shows the mean values for various variables for the moonlighter and nonmoonlighter groups. Mean monthly unearned income of the individual is 8.61 T.L. for moonlighters and somewhat higher than the mean monthly unearned income of the nonmoonlighters which is 7.48 T.L. There is a substantial difference in the amount of the unearned incomes of the other household members between nonmoonlighter (5.19 T.L.) and moonlighter (.492 T.L.) groups. Table 7 also reports on the land ownership of the moonlighter and nonmoonlighter groups. The amount of land measured in "dekar"¹⁵ owned by the household is divided by the number of adults in the household to obtain the per capita land figures reported in Table 7. The mean per capita land owned by the moonlighters (.666 dekar) is substantially larger than that for nonmoonlighters (.064 dekar).

It is observed in Table 7 that larger percentage of moonlighter wage earners had only primary school diplomas, although there were moonlighters at every level of education. A moonlighter wage earner had on average 1.5 years less education than a nonmoonlighter wage earner (7.48 years versus 6.94 years). The average worker in both groups had years of education beyond the compulsory primary school level of five years. Moonlighters were on average older than nonmoonlighters and had about 7 years more experience. They lived in households where other household members had substantially less unearned income and larger per capita land holdings. Moonlighters had lower average primary earnings. The primary earnings were 45 T.L. per month for moonlighters versus 52 T.L. per month for nonmoonlighters.

In the Probit analysis reported in the next section dummy variables for cohort effects and for geographic locations of residence are also included to control for the locational differences in the labor market conditions. The majority of the moonlighters were located in cities other than Ankara, Istanbul and Izmir as were nonmoonlighter wage earners. About 45 percent of the moonlighter wage earners lived in the Marmara-Aegean region as were 35 percent of the nonmoonlighter wage earners. Thus moonlighting was most common in the Marmara-Aegean region (about 45 percent of the total) and least common in the less developed East-South East region (about 6 percent of the total) keeping in mind that data refers to urban areas with populations over 20 000.

V. ESTIMATION RESULTS

This section presents the estimation results of a Probit model for the choice of moonlighting for the urban male wage earners. The theoretical discussion in Section II concludes that the equations (1) and (5) provide a reduced form model of participation in the second job. Z is a vector of variables influencing this choice including the restricted amount of hours in the main job, second job wage rate, unearned income and individual or household characteristics. M is the observed binary variable, which is equal to 1 if $w_2^* - w_2^f$ is positive and the individual chooses to hold a second job and zero otherwise. μ is assumed to have a standard normal distribution. Denoting the standard normal cumulative density function by F we have the following Probit specification

$$\text{Prob}(M = 1) = \text{Prob}(\mu > -\tau'Z) = F(\tau'Z)$$

The Probit maximum likelihood estimates are given in Table 8. The dependent variable takes on a value of one if the wage earner holds a second job simultaneously and zero otherwise. The Table gives the means and the standard deviations of the explanatory variables in column one. The implied marginal effects of each explanatory variable on the probability of becoming a moonlighter evaluated at the mean values of all the variables are given together with the asymptotic t-ratios of the marginal effects.

In addition to the variables in Model 1, Model 2 also includes the amount of earnings in the primary wage employment¹⁶. As predicted by the theoretical model, the coefficient of the primary earnings is negative and significantly different from zero. The probability of moonlighting declines by 79 percent as earnings in the primary wage employment increases by a thousand T.L. Further, as predicted by the theory, the larger is the unearned income of the other household members, the lower is the probability of moonlighting. This coefficient

is significant. A hundred T.L. increase in unearned household income reduces the probability of moonlighting by 58 percent. However the coefficient on the unearned individual income, although negative (as predicted by the theory), is insignificant. The coefficient on landownership is positive and significant implying that landownership increases the probability of engaging in a secondary income earning activity. This is expected since grain, vegetable or fruit farming or marketing are the major moonlighting activities. Home ownership also increases the probability of moonlighting significantly which is difficult to interpret. The cohort effects were insignificant.

Experience is measured as age minus years of education minus six. A moonlighter has about 25 years of experience versus 18 years of experience for a nonmoonlighter. Experience enters the Probit equation together with a quadratic term. The more experience a wage earner has the larger is his chances for moonlighting possibly because he has not only more job experience but also because more information about job possibilities. The linear and the quadratic terms enter with positive and negative signs respectively. However, both coefficient estimates are insignificant.

The coefficients on various education levels (indicating holding a diploma at that level) are all positive and significant. These coefficients indicate that a diploma holder is more likely to moonlight as compared to a nongraduate. Further, these coefficients increase in size as one moves to higher levels of education. For instance, while the contribution of a primary school diploma to the probability of moonlighting is only about 6 percent, the contribution of a university diploma ranges between 10 to 13 percent. These results indicate that moonlighting is prevalent among wage earners of all levels of education. In the context of Model 2 these could be considered as partial effects. More education raises second job wage-rate and has some direct effects on the probability of moonlighting. But more education also raises the wage-rate on the main job and hence effects the probability of moonlighting through the "primary earnings" variable. We also note that the education coefficients do not change significantly when primary earnings variable is added. In another version of the model years of education of the individual is included as an explanatory variable rather than the dummy variables indicating diploma holding status at various levels of education. The coefficient estimate on the years of education of the individual was positive and highly significant indicating positive contribution of education to chances of moonlighting. Further, the hypothesis that the primary wage earner may feel less forced to hold a second job in the presence of a secondary income earner in the family is tested in the context of presence of a working wife. A dummy variable included which equalled one if the wage earner has a working wife and zero otherwise. The coefficient estimate was significantly negative while the other coefficients did not alter. This indicated that having a working wife significantly reduced the probability of moonlighting.

We find that probability of a wage earner holding a second job is significantly less in Ankara as compared to the other cities while Istanbul and Izmir do not differ much from other cities in this respect. The majority of wage earners in Ankara are thought to be civil servants who may feel the need not to disclose their moonlighting activities due to illegality of such activities for them. It is also possible that most wage earners in Ankara may have working wives which may be reducing their need for moonlighting.¹⁷

IV. CONCLUSION

This paper developed a model of participation into second job holding and examined the characteristics of urban prime age male wage earners who simultaneously hold a second job and their probability of doing so within the framework of a probit model.

We find that moonlighting is prevalent among wage earners of all levels of education and education increases the chances of moonlighting. University graduates are twice as likely as primary school graduates to moonlight. A typical moonlighter has a smaller earning in his primary wage earning activity than a nonmoonlighter and the probability of moonlighting increases as primary earnings decrease. Thus, we can safely say that wage earners respond to the erosion of their primary earnings with an increase in their moonlighting activities. Moonlighter is more likely to be in a household where there is significantly less household unearned income. The larger is the unearned income of the other household members the lower is the probability of moonlighting. Although moonlighters have larger unearned individual incomes than nonmoonlighters unearned individual income is found to be insignificant in determining the chances of moonlighting. The moonlighter has larger average land holdings than a nonmoonlighter. Per capita land owned by a moonlighter is about 10 times larger than by a nonmoonlighter. Land ownership is found to significantly increase the probability of moonlighting and the moonlighter is possibly more likely to be engaged in farming or marketing of farm products as his moonlighting activity. The presence of a secondary income earner in the household is hypothesized to reduce the probability of moonlighting. This is tested with the presence of a working wife which is found to reduce the probability of moonlighting significantly. A typical moonlighter had somewhat more experience than a nonmoonlighter and there is some evidence that job experience may be increasing the chances for moonlighting. This may suggest that moonlighters may be taking away jobs from new labor market entrants. On the other hand, it also suggests that it takes job experience and information about job possibilities to be able to moonlight. Thus, a relevant government policy for reducing unemployment as well as underemployment would be to disseminate information about labor market job possibilities and possibly to provide training.

ENDNOTES

1. Personnel expenditures were about 70 percent of the total public expenditure in 1980 (State Planning Organization, 1992).
2. Layoffs and dismissals were banned during the 1980-84 period in public and private sectors alike.
3. Accordingly, the share of nonwage income in nonagricultural product increased from 52 to 79 percent during the same period. See Celasun and Tansel (1993).
4. The declining trend of real wages was reversed in the late 1980's. Sharp increases are observed in both public and private sector real wages since 1989. As a result, there have been recent layoffs in the private sector. In the public sector more emphasis is placed on reducing employment through natural wastage by abolishing the positions vacated due to deaths, retirements or resignations and through privatization of State Economic Enterprises (Şenses, 1993).
5. The proposed legislation would have legalized the moonlighting activities of the teachers, although restricting the kind of second job to teaching-related activities such as private tutoring. Obviously, this restriction involves various problems. The news about the introduction of this bill in the parliament was reported in Cumhuriyet, December 4, 1992.
6. They analyze moonlighting due to both primary job hours constraints and heterogenous jobs. Their results with U.S. data produce higher primary job labor supply elasticity than in the previous studies.
7. The fact that wage earners account for only about nine percent of the total agricultural labor force justifies our exclusion of rural wage earners. The differences in the sectoral distribution of wage earners is striking. The distribution of wage earners were .86, 41.09 and 58.01 percent respectively, into the agriculture, manufacturing and services sectors in 1988 (State Institute of Statistics, 1990, p. 103).
8. Employment status distribution of the male and female labor force (economically active urban and rural population 12 years of age and older) according to the 1988 Household Labor Force Survey is as follows (%): (Urban and rural refer to locations with population over 20 000 and 20 000 and under respectively).

	<u>Urban</u>		<u>Rural</u>	
	Men	Women	Men	Women
Wage Earner	57.4	67.2	20.7	4.3
Casual Employee	8.8	7.1	7.9	3.8
Employer	7.8	0.86	2.2	0.06
Self Employed	21.1	10.5	44.3	5.26
Unpaid Family Worker	4.8	14.4	25.0	86.6
Total	100.0	100.0	100.0	100.0
Total Number in Thousands	6 165	1 093	6 837	4 814

State Institute of Statistics (1990, p. 106; p. 176).

9. Self employed are excluded from the analysis as it was not possible to identify the returns to their labor activities.
10. According to the 1988 Household Labor Force Survey about 20 percent of the urban underemployed men 12 years and over said that they are working less than 40 hours per week and therefore seeking job, while about 77 percent of the urban underemployed men 12 years and over said that their salary is insufficient and therefore seeking job (State Institute of Statistics,

over said that their salary is insufficient and therefore seeking job (State Institute of Statistics, 1990, p. 117).

11. The discrepancy in the proportion of urban male wage earners who moonlight according to the Household Labor Force Surveys and the survey used in this study may be due to differences in the enquiry styles used in these surveys.
12. The small sample size and the variety in the occupations held did not allow grouping of the observations into one or two homogenous occupational groups of sufficient size to perform separate probit analysis for these occupational groups.
13. Urban population as percentage of the total population was 34 percent in 1965 and increased to 60 percent in 1989 (World Bank, 1991, p. 264).
14. Further, a farming background is not necessary to market groceries. The author has run into several primary school teachers marketing groceries during weekends in local bazaars. Participating in the weekly bazaars does not require much capital except the outlays in acquiring the produce to be marketed.
15. One "Dekar" is thousand square meters or .247 acres.
16. The theoretical model uses the primary wage rate rather than the primary earnings which is a function of the wage rate and the hours worked. Data on hours were not available. Therefore, total primary earnings are used to control for the differences in earnings.
17. The city dummy variables possibly represent a number of factors including differentials in unemployment rates. Data on unemployment rates of different cities are not available therefore not included in the analysis. The cities do not differ with respect to social insurance schemes, although the social insurance schemes differ for the public and private sector wage earners and also for the self employed. Social insurance programs are not universal for the wage earners in the private sector and for the self employed. It was not possible to analyze the observed behavioral variation due to these factors because of lack of data. Unemployment insurance and universal income support programs do not exist in Turkey.

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Table 1
Proportion of Wage Earners who Moonlight

	<u>Urban</u>		<u>Rural</u>	
	Men %	Women %	Men %	Women %
October 1988	1.59	0.68	10.47	0.32
April 1989	2.49	0.41	11.08	3.97
October 1989	1.50	0.43	10.42	5.17
April 1990	1.08	0.46	8.90	1.99
October 1990	1.58	0.84	12.53	4.68
April 1991	1.61	0.25	13.77	2.92
October 1991	1.18	0.28	11.36	0
April 1992	1.23	0.29	12.58	0.68
October 1992	1.75	0.44	12.86	4.69
April 1993	0.87	0.23	8.70	0
October 1993	1.52	0.55	13.25	7.96
April 1994	1.35	0.78	15.83	2.53
October 1994	1.85	0.80	12.61	5.16

Source: State Institute of Statistics (1990) 1988 Household Labor Force Surveys and other years.

Table 2
Proportion of Casual Employees with Second Job

	<u>Urban</u>		<u>Rural</u>	
	Men %	Women %	Men %	Women %
October 1988	0.37	0	8.08	1.67
April 1989	0.96	3.82	9.65	1.80
October 1989	0	0	12.17	1.75
April 1990	0.30	0	6.45	13.41
October 1990	1.21	3.93	17.27	10.66
April 1991	0.78	0	12.12	1.68
October 1991	0.53	0	9.94	3.17
April 1992	0.31	0	15.97	3.04
October 1992	1.10	0	12.81	0
April 1993	1.39	1.36	5.95	7.64
October 1993	1.51	0.92	10.02	1.44
April 1994	0.96	0.88	9.77	0
October 1994	0.89	0.60	10.42	9.52

Source: State Institute of Statistics (1990) 1988 Household Labor Force Surveys and other years.

Table 3
Proportion of Employers with Second Job

	<u>Urban</u>		<u>Rural</u>	
	Men %	Women %	Men %	Women %
October 1988	1.38	0	5.76	0
April 1989	3.33	0	7.27	3.32
October 1989	1.11	0	13.88	10.0
April 1990	2.18	0	9.50	0
October 1990	2.33	0	4.12	0
April 1991	1.35	0	13.46	0
October 1991	1.23	0	7.22	0
April 1992	2.56	2.94	17.12	0
October 1992	2.00	0	6.63	0
April 1993	0.66	0	9.09	0
October 1993	1.16	0	6.23	0
April 1994	2.52	0	9.96	0
October 1994	2.08	0	12.14	20.0

Source: State Institute of Statistics (1990) 1988 Household Labor Force Surveys and other years.

Table 4
Proportion of Self employed with Second Job

	<u>Urban</u>		<u>Rural</u>	
	Men %	Women %	Men %	Women %
October 1988	1.46	1.46	7.37	4.39
April 1989	1.70	.84	4.74	0.36
October 1989	2.14	0	5.24	1.60
April 1990	1.77	0	4.49	0
October 1990	1.58	1.37	7.15	1.88
April 1991	1.11	0.74	5.35	1.26
October 1991	1.05	0	7.38	1.64
April 1992	2.01	0	5.87	2.01
October 1992	1.36	0	5.24	1.51
April 1993	0.46	0.80	3.36	1.08
October 1993	1.29	3.98	4.89	2.04
April 1994	0.62	1.31	3.72	0
October 1994	1.95	0.80	3.57	3.10

Source: State Institute of Statistics (1990) 1988 Household Labor Force Surveys and other years.

Table 5
Proportion of Unpaid Family Workers with Second Job

	<u>Urban</u>		<u>Rural</u>	
	Men %	Women %	Men %	Women %
October 1988	0.38	0	3.32	3.08
April 1989	0.25	0.92	0.66	0.24
October 1989	0	0	3.32	0.04
April 1990	0	0	0	0
October 1990	0.57	0	3.73	2.30
April 1991	0.31	1.51	1.16	0.12
October 1991	0	0	0.29	0.61
April 1992	1.63	0	1.99	0.25
October 1992	0	0.48	0.98	1.40
April 1993	0.21	0.51	1.80	1.51
October 1993	0	0.83	0.56	0.97
April 1994	0.59	2.27	0.63	0.40
October 1994	0.92	0.48	2.15	1.50

Source: State Institute of Statistics (1990) 1988 Household Labor Force Surveys and other years.

Table 6
Distribution by Employment Status of Urban Males, Aged 15-64, 1987 SIS Survey, Turkey

	Number	%	<u>Second Job Holders</u>		
			Number	%	Percent of All Moonlighters
Working					
Wage Earner	1,144	(59.6)	111	(9.7)	62.4
Self Employed	609	(31.7)	66	(10.8)	37.8
Unpaid Family Worker	167	(8.7)	1	(0.0)	0.0
Not Working	479	--	--	--	--
Total	2,390	(100.0)	178	--	100.0

Table 7
Characteristics of Moonlighter and Nonmoonlighter Urban, Prime Age
Male Wage Earners
1987 SIS Survey, Turkey

	Nonmoonlighter	Moonlighter
Age	32.5	39.2
Experience	18.0	25.3
Education:		
Non Graduate	.062	.069
Primary School	.498	.574
Middle School	.124	.109
High School	.144	.109
Vocational High	.054	.040
University	.117	.100
Years of Education	7.48	6.94
Unearned Income (T.L. per month)	7.37	8.61
Unearned Household Income (T.L. per month)	5.19	.492
Per Capita Land (<i>dekar</i>)	.064	.666
Homeowner	.513	.644
Primary Earnings (T.L. per month)	51.69	45.17
Secondary Earnings (T.L. per month)	--	4.98
Cities:		
Ankara	.094	.010
Istanbul	.096	.079
Izmir	.059	.020
Other	.751	.891
Regions:		
Marmara-Aegean	.351	.446
Mediterranean	.124	.109
Central Anatolia	.229	.198
East-South East	.108	.059
Black Sea	.188	.188
Sample Size	900	101

Notes : One *dekar* is thousand square meters or .247 acres.
T.L. stands for Turkish Liras.

Table 8
Maximum Likelihood Probit Estimates for Second Job Holding,
Urban Prime Age Male Wage Earners, Turkey, 1987

	Mean (S.D.) ^c	Model 1		Model 2	
		Marginal Effect	t-Ratio ^a	Marginal Effect	t-Ratio ^a
Constant	--	-.285	4.52	-.259	4.19
Experience (x 10 ⁻²)	18.8 (11.1)	.330	.95	.460	1.38
Experience Squared (x 10 ⁻⁴)	475.6 (527)	-.016	.02	-.185	.30
Education:					
Primary School	.505 (.50)	.057	1.83	.055	1.86
Middle School	.123 (.33)	.064	1.67	.069	1.88
High School	.140 (.35)	.074	1.96	.083	2.23
Vocational High	.053 (.22)	.073	1.60	.0812	1.87
University	.115 (.32)	.095	2.25	.127	2.91
Unearned Income (x 10 ⁻²)	7.49 (17)	-.099	1.59	-.065	1.16
Unearned Household Income (x 10 ⁻²)	4.72 (17.9)	-.584	3.22	-.553	3.20
Per Capita Land (x 10 ⁻²)	.125 (1.4)	.677	1.65	.656	1.68
Homeowner	.526 (.50)	.057	3.25	.047	2.84
Primary Earnings (x 10 ⁻³)	51.0 (42.8)			-.785	2.56
Age 25-44	.650 (.48)	.009	.26	.008	.25
Age Over 44	.148 (.36)	-.004	.09	-.006	.13
Ankara	.086 (.28)	-.125	2.81	-.117	2.77
Istanbul	.094 (.29)	-.001	.05	.004	.18
Izmir	.055 (.23)	-.059	1.50	-.058	1.51
-Log likelihood		277		274	
Chi-squared		99		108	
Number of Parameters ^b		28		29	
Sample Size	1,001	1,001		1,001	

Second Job Holders = 10.1 percent.

^aAbsolute value of the asymptotic t-ratio.

^bThe models also included dummy variables representing the months in which the interviews took place which are not reported for brevity.

^cThe means have not been scaled.

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