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We investigate the relationship between financial wealth, reservation wages, and labor market transitions. Wealth is assumed to affect the level of the reservation wage and the employment probability. We test for the validity of this assumption by estimating a simultaneous-equations model of reservation wages, labor market transitions, and wealth. The data used for the analysis relate to a sample of unemployed job searchers. We use subjective information on the reservation wage. Wealth is found to have a significantly positive impact on the reservation wage. The overall impact of wealth on the employment probability is negative though small.

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I. Introduction

The literature on labor market transitions is extensive.[1] However, there are very few studies that have looked at the relationship between asset holdings and labor market transitions. Within the standard search framework, the objective function is specified in terms of income maximization rather than utility maximization. This rules out any impact of wealth on job-search outcomes and implicitly assumes individual risk neutrality and no borrowing constraints.

Danforth (1979) shows that financial asset holdings and acceptance wages are positively correlated, under the assumptions of consumption maximization and decreasing absolute risk aversion. Blundell, Magnac, and Meghir (1997) investigate the relationship between savings and labor market transitions, deriving a negative relationship between initial wealth and the probability of staying or becoming employed, under the assumption that leisure is a normal good.

Financial assets are absent from most empirical models of labor market transitions. Bloemen (1995) estimates the impact of assets on labor market transitions, using a Dutch data set. He finds evidence of a negative relationship between savings and the probability of becoming employed. The significance of this negative relationship, however, depends on the specification chosen. He concludes that measuring the relation between the job-acceptance decision and wealth by means of measuring the relation between labor market transitions and wealth may be subject to measurement problems, as the probability of a transition comprises both individual preferences and demand-side factors. If, for example, wealth is correlated with unobserved individual specific characteristics that also affect the job-offer probability, the estimated effect of wealth on the transition probability may not represent solely the effect of wealth on individual preferences. This issue escaped the theoretical models put forward by Danforth (1979) and Blundell et al. (1997). Rendon (1997) models the interaction of borrowing constraints and job search, showing that initial wealth positively affects success in the labor market: wealthier people are more selective and obtain higher wages. The implications of the model are tested with data for the United States drawn from the National Longitudinal Survey.

Stancanelli (1999) estimates the impact of financial resources on the duration of the unemployment spell, using a survey of the inflow into unemployment for the United Kingdom, the Survey of Living Standards of the Unemployed. She estimates a reduced-form specification that assumes exogeneity of beginning-of-the-period individual assets and finds

[1] See, e.g., Atkinson and Micklewright (1991) or Devine and Kiefer (1991) for an account.

a small but significantly negative impact of financial assets on the probability of leaving unemployment.

In this article, we use subjective information on the reservation wage to investigate the impact of the job seeker's asset holdings on the reservation wage and the employment probability.

Subjective data on reservation wages have been used several times in the literature. Lancaster and Chesher (1983) use both information on subjective reservation wages and data on expected wages to test the predictions of the job-search model, bypassing the estimation of the model with transition data and data on accepted wages.[2] Van den Berg and Gorter (1997) use information on self-reported reservation wages as a dependent variable in a regression framework. Van den Berg (1990) uses data on subjective reservation wages to identify a structural nonstationary job-search model. The present study is, to our knowledge, the first that models and estimates the impact of wealth on self-reported reservation wages.

The data set we use contains information on individual asset holdings and labor market transitions. This allows us to test whether wealth affects the probability of a transition into employment via the reservation wage. This is an advantage as compared to previous empirical studies that measured the effect of wealth on job searchers' acceptance strategies only via labor market transitions.

The article is structured as follows: In the next section, the theoretical model is spelled out. The empirical model is specified in Section III. The data are described in Section IV. Results of estimation are discussed in Section V. In Section VI, conclusions are drawn.

II. The Theoretical Framework

Typically, job-search models have assumed that individuals are income maximizers. This implies that individuals are risk neutral. If this assumption is relaxed, individuals can be described as utility maximizers. In this case, financial assets must be taken into account. Here we show how financial wealth may enter a job-search model along the lines of the structural model put forward by Danforth (1979). The reader is referred to Danforth (1979) for a formal derivation.

We set up a model of unemployed job search. Individuals are assumed to maximize the utility they derive from consumption. They are faced by an intertemporal budget constraint defining the relations among consumption, income, and wealth accumulation. Utility is assumed to be intertemporally separable, and the utility functions are of the Von Neumann–Morgenstern type. Individuals' utility can be written as in Danforth (1979, p. 112):

[2] The reservation wages in their data are classified in 12 wage categories.

$$U(c_1, c_2, \cdots) = \sum_{t=1}^{\infty} \xi^t u(c_t), \tag{1}$$

where ξ^t is the discount factor. Utility is assumed to be twice differentiable and strictly concave. The assumption of strict concavity implies that individuals are risk averse.

Jobs are characterized in terms of the wage they offer. The probability of receiving a job offer is λ_t.[3] Job offers are characterized in terms of a stochastic wage-offer distribution $F(w)$ with density function $f(w)$. Jobs last forever, and no recall of job offers is allowed.

The budget constraint restricts individual assets at time t to be equal to assets the previous period plus income minus consumption goods purchased the previous period.[4] Defining A_t as wealth at the beginning of period t, b as unemployment income, w as the individual wage, c as consumption, and r as the constant interest rate, the budget constraint reads as

$$A_t = (A_{t-1} - c_{t-1} + b)(1 + r), \tag{2}$$

for the unemployed and as

$$A_t = (A_{t-1} - c_{t-1} + w)(1 + r), \tag{3}$$

for employed persons.

The employed person's maximum utility is given by

$$J(A, w) = \max_c \{u(c) + \xi J[(A - c + w)(1 + r), w]\}, \tag{4}$$

and the unemployed person's maximum utility is

$$S(A) = \max_c \; u\{(c) + \xi(1 - \lambda)S[(A - c + b)(1 + r)] + \xi\lambda \int_0^{\infty} \max \{S[(A - c + b)(1 + r)]; J[(A - c + b)(1 + r), w]\} dF(w)\}. \tag{5}$$

It follows that a job offer is accepted if $J(A, w) > S(A)$ and rejected otherwise. The reservation wage, w^*, can be defined as that wage offer at which individuals are indifferent about continuing to search or accepting the job offer, that is, as that wage at which $J(A, w) = S(A)$. As a result, the reservation wage will also be a function of individual asset holdings:

[3] Danforth assumes that the offer probability is constant in each time period and equal to one offer per period.

[4] Danforth sets a limit to the end of period borrowing capacity.

$w^* = w^*(A)$. In particular, reservation wages are increasing in financial assets under given conditions that rule out risk neutrality. For example, Danforth (1979) shows that this is true under the assumption of absolute decreasing risk aversion, requiring $-u''/u'$ to be a decreasing function of c_t.

The employment probability, θ, can be written as the product of the probabilities of receiving a given job offer and accepting it:

$$\theta = \lambda[1 - F(w^*(A))]. \tag{6}$$

III. The Empirical Model

The complexity of the dynamic programming problem (5) prevents us from finding an analytic solution for the reservation wage $w^*(A)$, which characterizes the individual's optimal search strategy. For this reason, applied work so far has concentrated on specifying the transition probability with wealth as a regressor. In doing so, much of the original model structure of (6) is lost. In particular, past work has ignored that wealth enters the structural probability (6), because of its effect on the reservation wage, which, in turn, affects the acceptance probability.[5]

In this article, we use data on reservation wages to exhibit the relations among wealth, reservation wages, and transitions. In order to do so, we estimate jointly the acceptance probability and the job-offer probability.

We specify our empirical model as a simultaneous-equation system. Job offers are characterized in terms of the attached wage. The wage-offer distribution is assumed to be lognormal and specified as follows:

$$\ln w_{it} = m'k_{it} + e_{it}e_{it} \sim N(0, \tau^2), \tag{7}$$

where i relates to individual i in the population of unemployed job searchers and k are individual characteristics. The parameters of the wage-offer distribution, m, are estimated from lognormal wage regressions for the population of the employed, corrected for selection into employment of labor force participants (see tables A1 and A2 in app. A).

Reservation wages are specified lognormally as a function of individual characteristics, R, indicating the logarithm of the observed reservation wage:

$$R_{it} = g(A_{it}) + \beta'X_{it} + \epsilon_{it}, \epsilon_{it} \sim N(0, \sigma_\epsilon^2), \tag{8}$$

[5] If reservation wages are in the lower tail of the wage distribution the effect of wealth on the transition probability may be hard to measure.

where X_{it} is a vector containing individual characteristics.[6] The functional form g is specified as a quadratic to allow for nonlinearities. The right-hand side of (8) can be interpreted as an approximation to the solution of a structural search model. The error term ϵ_{it} may represent approximation error, measurement error, and randomness in preferences.

To allow for possible correlation of wealth with the error of the reservation-wage equation, an equation for wealth is specified:[7]

$$A_{it} = \mu' q_{i,t-1} + v_{i,t-1}, v_{i,t-1} \sim N(0, \sigma_v^2), \tag{9}$$

where q includes individual characteristics.[8] Period $t-1$ values of characteristics are used, as A_{it} is decided upon in that period.

The probability of receiving any job offer is parameterized as

$$P(\text{job offer}) = \lambda_{it} = 1 - \exp(-\eta_{it}), \tag{10}$$

where η_{it} is a positive parameter. The larger its value, the higher will be the job-offer probability. The parameter depends on individual characteristics, z_{it}:

$$\eta_{it} = \exp(\gamma' z_{it}), \tag{11}$$

where γ is a parameter and z_{it} includes individual characteristics, among which may be elapsed unemployment duration at the time.

We assume joint normality of the error terms of the wage equation, the reservation-wage equation, and the equation for wealth. We define ρ_1 as the correlation coefficient between the wage errors e_{it} from (7) and the errors ϵ_{it} of the reservation-wage equation (8), ρ_2 as the correlation coefficient between wage errors and the wealth errors $v_{i,t-1}$ from (9), and ρ_3 as the correlation between wealth and reservation wages.

A job offer is accepted if the attached wage exceeds the reservation wage. Under the assumption of joint normality, the acceptance probability, conditional on wealth and the observed reservation wage, can be written as:

[6] We experiment with the inclusion and exclusion among the regressors of a measure of elapsed unemployment duration, as discussed below. The data available allow one to construct some broadly approximate measure of elapsed unemployment duration.

[7] Note that it follows from the theoretical model specified by Danforth (1979) that the value of wealth (in its role as state variable), prior to the period in which the transition may be observed, is used. So for the transition, wealth acts as a lagged endogenous variable. Correlations in errors may, however, occur due to random preferences, other types of unobserved heterogeneity, selectivity bias, or measurement error.

[8] An extension of the model includes elapsed unemployment duration, as discussed in the section on the results of estimation.

$$P(\ln w_{it} > R_{it}|R_{it}, A_{it}) = 1 - \Phi\left(\frac{R_{it} - m'k_{it} - \psi_{e|\epsilon,v}}{\sigma_{e|\epsilon,v}}\right), \qquad (12)$$

where $\Phi(.)$ is the standard normal distribution function and use has been made of the normality of the distribution of wages, conditional on wealth and reservation wages. The expression $\psi(e_{it}|\epsilon_{it},v_{i,t-1})$ refers to the part of the conditional mean that arises due to possible nonzero correlation between the errors of the equations, and $\sigma_{e|\epsilon,v}$ is the conditional variance of the wage error term.

The probability of observing a transition during period t can then be written as the product of the job-offer probability (10) and the acceptance probability (12):

$$[1 - \exp(-\eta_{it})]\left[1 - \Phi\left(\frac{R_{it} - m'k_{it} - \psi_{e|\epsilon,v}}{\sigma_{e|\epsilon,v}}\right)\right]. \qquad (13)$$

For each individual, the likelihood contribution is obtained by multiplying the transition probability (or one minus the transition probability if no transition occurs) by the joint density of wealth and reservation wages. For individuals whose reservation wage is not observed, we integrate over reservation wages.[9]

Wealth enters the model as one of the simultaneous equations and as a regressor (in quadratic form) in the reservation-wage equation. Therefore, wealth is allowed to affect the job-finding probability indirectly via the reservation-wage equation and via possible error autocorrelations.

The model so far has not accounted for possible effects of wealth on the offer probability, as these were ignored in the theoretical literature that forms the basis for our model. Wealth and the arrival rate may be correlated due to unobserved heterogeneity (the individuals with the higher levels of wealth may have the higher arrival rates). Moreover, economic models with endogenous search intensity predict a relationship between wealth and the arrival rate. Danforth (1979) and Blundell et al. (1997) assume that the arrival rate is given (exogenous) to the searcher. In models of job search with an endogenously determined search intensity (see Burdett and Mortensen 1978; Mortensen 1986) , the arrival rate depends on "search effort," the optimal level of which is determined by the model, and therefore will depend on the state variables in this model.[10] Although the theoretical models by Mortensen (1986) and Burdett and Mortensen (1978) do not contain wealth, on the basis of these models it

[9] For a few observations, we do observe the reservation wage, but not whether or not a transition occurred. For those observations the likelihood contribution is given by the joint density of reservation wages and wealth.

[10] Fougère, Pradel, and Roger (1997) and Bloemen (1999) estimate structural models of job search with endogenous search intensity. Their models, though, do not contain wealth.

seems reasonable to expect that a higher level of wealth would lead to a lower intensity of search and, consequently, to a lower arrival rate. Our empirical framework is suitable for testing for the presence of wealth in the arrival rate. The models of search intensity, however, imply that, not only wealth but also income variables should be included in the arrival rate. Therefore, in the empirical implementation, we will, by means of sensitivity analysis, also estimate a model variant in which we include wealth, income, other income, and a dummy indicating the possession of a house with a mortgage in the job-offer arrival rate.

IV. The Data

We use for the analysis a panel data set of the Dutch population, the Socio-Economic Panel (SEP) collected by Statistics Netherlands (Centraal Bureau voor de Statistiek). The SEP sample is drawn from the population of Dutch households and includes all household members aged 16 or over. The advantage of the SEP over alternative data sources is that the questionnaire covers a broad range of asset types. Furthermore, information on reservation wages was collected, though only in a few waves.

This survey was started in 1984. It was run two times per year, in April and October. Information on income was collected in October only. In 1987, Statistics Netherlands started collecting detailed information on asset and debt components once a year in the April survey. Beginning in 1990, there was a change in the setup of the SEP questionnaire and from then onward all information was collected once a year in May.

Data on (self-reported) reservation wages were collected only in a limited number of waves in 1988 and 1989.[11] Information on reservation wages was collected only for individuals who report to be searching for a job.

The Selection of the Sample for the Analysis

We make use of the SEP waves from 1987 to 1990. We select in each year the sample of the unemployed that reported to be searching actively for a job and for whom we observe wealth and other relevant information.[12] We use information on the labor market state in the subsequent waves to determine whether someone made a transition into employ-

[11] Information on reservation wages was collected in the surveys of October 1988, April 1989, and October 1989. The consequences for the estimation of the model have been mentioned already in the previous section: we integrate over reservation wages for those observations for which they are not available.

[12] Note, therefore, that in each year we select a random sample out of the population of unemployed searchers. We have selected searchers as data on reservation wages are collected only for survey respondents that report to be searching for a job.

ment.[13] All the observations thus obtained are pooled together for the analysis. By construction, we have a sample with multiple observations on some of the unemployed, as illustrated in table B1 in appendix B. We have included wave dummies in the model. One reason for this is to pick up changes in macroeconomic conditions. Wave dummies may also proxy differences in questionnaire design across waves.

We estimate the model separately for household heads and spouses.[14] Some of the household heads (36%) are women, but none of these women have children. Therefore, we assume that their behavior is comparable to that of male household heads.

The resulting sample consists of 552 observations on household heads and 474 observations on spouses. The number of transitions into employment observed for heads is 167. For spouses, we observe 129 transitions into employment. We observe reservation wages and expected hours for 284 of the household heads (which is about 50% of the heads) and for 230 of the spouses. As already mentioned, when estimating the model, we integrate over reservation wages for those observations for which reservation wages were not available.

Descriptive Statistics and the Quality of Wealth Data

Sample means and standard deviations for income and wealth variables are provided in table 1. These variables are measured in real terms in 1987 prices. We use monthly price indices to deflate the variables.[15] The unit of measurement is guilders. Wealth is defined as net financial assets. The following asset components are included: the balance on current accounts; the balance on savings and deposit accounts; the value of savings certificates; the values of stocks, bonds, and options; and the amount of money lent. The debt components included are any debt or loan, the value of hire purchase, and the value of other loans and debt. The SEP also contains information on the value of the house and the value of the mortgage. We did not include them in the calculation of net wealth. Due to the large number of missing observations on the value of the house, including them would lead to a further reduction of the sample size. Information on ownership of a house and a mortgage is, however, available for the sample,

[13] Observations on the same individual from the years 1988–91 are linked year by year to allow us to observe a change in the labor market state in a year.

[14] The selection on the basis of heads and spouses implies that we do not perform the analysis for other household members, like children living in the household.

[15] The source is Statistics Netherlands social economic monthly statistics.

Table 1
Asset Holdings, Unemployment Income, and Reservation Wages

Variable	Household Heads		Spouses	
	Mean	SD	Mean	SD
Household wealth	4,228.15	21,818.7	17,143.84	36,862.47
Reservation wage, monthly	1,521.6	603.1	827.90	542.70
Unemployment income, monthly	1,163.1	653.9	216.05	477.27
Unemployment income*	1,281.5	564.9	825.86	606.84
Other personal income	249.2	520.0	9.77	59.80
Other personal income*	366.0	500.1	87.38	160.04
Spouse's income	203.6	547.0	3,146.19	1,459.42
Spouse's income*	1,158.7	772.6	3,179.73	1,430.31
Expected hours	32.8	9.8	20.03	8.81
Age	35.9	10.3	35.24	7.4

NOTE.—The unit of measurement of the income variables is guilders per month in real terms at 1987 prices. The total number of observations for household heads is 552; for spouses, 474. The number of household heads (spouses) that report nonzero amounts is 97 (469) for spouse's income, 501 (124) for unemployment income, and 403 (53) for other personal income. The reservation wage is available for 287 observations on household heads and 231 on spouses. Expected hours are available for 290 observations on household heads and 250 on spouses. There are 284 observations on household heads and 230 on spouses for which both hours and reservation wages are observed.

* Indicates the distribution recomputed excluding the zeros.

so we can include a dummy variable for ownership, to check whether this affects the results.[16]

From table 1, it emerges that the mean value of household wealth for the sample of unemployed household heads is much lower than the mean value for the sample of unemployed spouses. This signals that at least in this respect the two samples are not homogenous. To gain more insights into the distribution of wealth for the two samples, we report in table 2 the quantiles of the two distributions. From inspection of this table, it can be concluded again that households where the head is unemployed appear to have lower wealth than households where the spouse is unemployed. In table 1, we also show the distribution of wealth for all households in the SEP, pooled over the periods selected for our analysis.

[16] The phrasing of the SEP questionnaire is such that first the respondent is asked whether he or she owns a certain asset or debt category. If ownership applies, then the respondent is asked to report the corresponding value. Thus, information on ownership may be available while information on the value is not.

Table 2
Distribution of Wealth (in Dutch guilders)

	Household Heads	Spouses	Socio-Economic Panel
10%	−4,679	−3,132	−1,033
25%	−793	1,069	2,305
50% (median)	998	8,411	1,144
75%	6,409	20,669	28,916
90%	17,871	43,442	69,076
Number of observations	552	474	18,049

This shows that while households in which the spouse is unemployed have slightly lower wealth quantiles than all households in the SEP, households in which the head is unemployed have much lower wealth quantiles than all households in the SEP.

The quality of the wealth data in the SEP has been the subject of several studies. Alessie, Pradhan, and Zandvliet (1993) compared the distribution of wealth in the SEP with information on wealth from a survey run by some Dutch banks (Collectieve Banken Onderzoek). They also constructed an aggregate measure of savings based on the wealth data in the SEP and compared it with aggregate (macro) information on household savings at the national level. Their overall conclusion is that the wealth data in the SEP are of reasonable quality (see also Alessie and Zandvliet 1993). However, they also concluded that the value of savings and deposits may be underreported. A study by Statistics Netherlands (see Meuwissen 1994) concludes also that savings, and especially deposits, are underestimated. To correct for underreporting of savings, Meuwissen combines information from the SEP with administrative income and tax data from another survey (Inkomens Panel Onderzoek). The resulting corrected distribution still shows that for households of various composition the 10% quantile is negative. Only households in the highest income group and the retired have a positive 10% quantile. The 25% quantile is found to be positive for most categories of households, except for the group of those who are inactive in the labor market. On the basis of this evidence, we can reasonably assume that the negative 10% quantile found in table 2 is not the result of underreporting. Moreover, the negative 25% quantile for household heads in our sample is not at variance with the findings of Meuwissen (1994).

We define unemployment income as including all unemployment benefits, either unemployment insurance or social assistance. Other income includes any other social security benefits—such as, for instance, child benefit—the income of the partner (when not given separately), and any other income. All income variables are defined in guilders per month.

We show frequencies of the discrete variables in table 3. The educational

Table 3
Discrete Background Variables

Variable	Household Heads, Sample %	Spouses, Sample %
Education level 2	27.4	32.9
Education level 3	31.1	33.5
Education level 4	19.1	20.0
Education sector 2	23.4	2.7
Education sector 3	18.1	28.7
Education sector 4	15.7	31.6
Any children	42.8	78.7
Woman	35.8	100.0
Single	40.0	8.0
Unemployment duration, 0–6 months	22.8	14.3
Employment duration, 7–16 months	13.9	12.0
Employment duration, > 16 months	58.5	70.3
House owner	17.4	62.4
With mortgage	15.0	61.7
Inheritance	1.6	2.5

NOTE.—Education level and sector dummies are defined in the text. The number of observations is 552 for household heads and 474 for spouses.

level dummies are defined in increasing order from the lowest, primary school level (level 1), to the highest, university and vocational colleges training (level 4). The education-sector dummies in table 3 are defined as follows: Sector 1, the reference sector, relates to individuals without skill-specific education. Sector 2 includes mathematics, chemistry, biology, and other technical skills. Sector 3 refers to medical and economic or administrative skills. Sector 4 includes agriculture, transportation, and social skills.

Unemployment duration can only be measured in broad intervals given the available information. A striking feature of the data is the large percentage of the unemployed in the sample that experience long-term unemployment. In the period of time considered, the level of unemployment in the Netherlands was very high, and the long-term unemployed were over 50% of the unemployed pool, as shown in table B2, in appendix B, which compares information on this statistic from different sources. The observation that the percentages of long-term unemployed women in this table are lower than in our sample of spouses (table 3) stems from the fact that the figures in table B2 refer to both single and married women.

Subjective Reservation Wages and Consistency Checks

Reservation wages and hours constitute "subjective information" in the sense that they are self-reported by the survey participants—like any other information in the survey. First, the respondents were asked how many

hours they expected to work each week in a new job. Then, they were asked to report the level of the minimum acceptable net monthly income for a job with a number of working hours equal to their expected hours of work. In the estimation of the model, we have to take into account that the reported reservation wage is conditioned on the reported number of expected working hours. Therefore, to estimate the reservation wage (eq. [8]), we must either transform the reservation wage to an hourly reservation wage or include the number of expected hours of work among the regressors or possibly both. We come back to this issue in the next section.

To check whether the values of the reported reservation wages are reasonable, we have proceeded as follows: First, we have compared the mean value of the reservation wage in table 1 with the mean value of the benefit income from the same table. For household heads, the mean unemployment income is 1,163 guilders per month, and the mean reservation wage is 1,522 guilders per month. The standard deviations of the two are of comparable size. For spouses the mean unemployment income is 216 if we incorporate observations with a zero unemployment income, and 826 if observations with a zero unemployment income are excluded. The mean reservation wage for spouses is 828. Since one may expect that individuals wish to have a higher income when they work than when they do not,[17] these findings suggest that reservation wages are reasonable.

Next, we have compared the distribution of reservation wages to the distribution of wages at the same point in time. The unemployed are bound to have a reservation wage that is comparable to the wages of employed individuals with similar characteristics at the same point in time. Therefore, we have compared the quartiles of the distribution of reservation wages with those from the distribution of wages, disaggregated by age groups and education levels. This comparison was performed separately for household heads and spouses, and for two different years, 1988 and 1989 (more details can be found in app. C). We found that the quartiles of the distribution of reservation wages were always lower than the corresponding quartiles of the wage distribution. Therefore, we concluded again that the reported reservation wages seem to be reasonable.

Finally, we have compared the reservation wage with the wage observed after acceptance of a job and the wage observed before the reported reservation wage (the wage of the previous job). If an individual accepts a job, the attached wage is bound to be higher than his or her reservation wage. For individuals who reported their reservation wage in October 1988 or October 1989 and who accepted a job within a year after this date, the value of the accepted wage can at earliest be observed 1 year

[17] Unless there are considerable nonfinancial benefits to working or working serves as an investment.

after the reporting of the reservation wage, due to the construction of the questionnaire. Similarly, for individuals who reported their reservation wage in April 1989 and who accepted a job within 6 months, the value of the accepted wage can at earliest be observed 6 months after the reporting of the reservation wage. Therefore, we do not observe both the reservation wage and the wage at the time of job acceptance. This is important since reservation wages may fall over time. Another drawback of this comparison for our sample is that the number of observations for which we observe both a reservation wage in one wave and an accepted wage in the nearest wave thereafter is not too large. In appendix C, we show that the median difference between the accepted wage and the reservation wage is positive for household heads in the 2 periods for which the comparison is performed. For spouses, the median difference is positive in 1 period of comparison, but equal to -0.36 in the second.[18] The comparison with the wage before unemployment shows a positive median for the difference between the previous wage and the reservation wage. Although there is no theoretical argument for this difference to be positive, it feels intuitively comfortable if it is.

On the basis of this analysis (comparison with the benefit level, with the distributions of wages of similar individuals and with the wage before and after unemployment), we conclude that the reservation-wage data are of reasonable quality.

The reported values of expected hours seem to take plausible values. The mean of the distribution is about 33 hours for household heads and 20 hours for spouses.

V. Results of Estimation

In this section, we discuss the results of estimation of the model. First, we present single equation estimates of the reservation-wage equation. Next, maximum likelihood estimates of the joint model of reservation wages, wealth and transitions are discussed. Finally, wealth elasticities are calculated for different groups of the unemployed.

The Reservation-Wage Equation

In this section, we discuss the results of estimation of the reservation-wage equation (8). First of all, attention should be paid to the definition of an hourly reservation wage. We have described in the previous section information on expected hours of work and reservation wages that is available in the SEP. The survey respondents are first requested to report their expected number of hours of work. Next, they are asked to report their minimum acceptable monthly net wage income for those hours of

[18] In an earlier version of the article, this finding motivated us not to perform the analysis for spouses.

work. On the basis of this construction, it seems reasonable to assume that the expectation of the error of the reservation-wage equation, conditional on the expected number of hours, is zero.

However, since expected hours may also proxy individual's preferences, unobserved individual specific preferences may cause hours to be correlated with the error term (see discussion in app. D). To correct for this one should specify an hours equation.[19] In particular, instrumental variables estimation or a joint estimation procedure could be used to test and correct for the possible endogeneity of hours in the reservation-wage equation. There are no theoretical insights on the identifying variables for this relationship, as reservation wages and hours appear to be determined by the same variables. One possibility would be to use observed working hours in the previous jobs as an instrument (for those observations for which this variable is available). However, by the same kind of reasoning, this variable is also likely to be correlated with unobserved random preferences. Therefore, we confine ourselves to present results of estimation of the reservation-wage equation with and without expected hours on the right-hand side of the equation. The first model is based on the assumption of no correlation of expected hours with the disturbance term. The second one can be interpreted as a reduced-form reservation-wage equation.[20] This allows us to infer the sensitivity of the impact of wealth on the reservation wage, with respect to the inclusion of working hours.

We are faced with similar considerations concerning the possible correlation of wealth and the disturbance term, because of individual specific unobserved heterogeneity that may determine both the level of wealth and the reservation wage. However, finding appropriate instruments is less problematic here. Since wealth enters the reservation-wage equation as a predetermined variable, we can use lagged values of the right-hand-side variables as instruments for wealth. The strongest source of identifying information is lagged income. We test whether the correlation between wealth and the disturbance term is zero by means of a Hausman test.[21]

Results of the estimation are presented in table 4, for the specification that includes hours among the regressors. We present separate estimates for household heads and spouses. The function $g(A_{it})$ has been specified as a quadratic form. Our findings indicate that individual wealth has a

[19] In this case we could think of a semistructural hours equation that would be a function of the (expected) wage, other income, and the level of wealth.

[20] "Reduced form" with respect to expected working hours.

[21] In the next subsection, a separate wealth equation is included and jointly estimated in the simultaneous-equations model. We carry out a likelihood ratio test of the null hypothesis that the correlation coefficient of the disturbances from the reservation-wage equation and the wealth equation is zero.

Table 4
Reservation-Wage Equation: Estimation by OLS of the Specification with Hours

Variable	Household Heads		Spouses	
	Coefficient	SE	Coefficient	SE
Constant	−4.91*	2.52	−10.30	7.43
Any child	.084**	.036	−.10	.10
Woman	−1.14**	.27		
Log (age)	4.95**	1.45	7.75*	4.22
[Log (age)]^2	−.67**	.20	−1.09*	.60
Unemployment income, 1,000 fl	.044*	.025	.090	.070
Other household income	−.0000027	.000026	−.000025	.000031
Log (hours)	−.15**	.06	.094	.070
Education level 2	.018	.044	.093	.094
Education level 3	.14**	.04	.12	.10
Education level 4	.20**	.06	.36**	.11
Woman by log (hours)	.31**	.08		
Wealth, 10,000 fl	.029**	.01	.052**	.019
Wealth^2	−.0012**	.0004	−.0019**	.0010
House with mortgage	.010	.047	−.060	.069
Wave 2	−.0011	.032	−.12**	.06
σ_ϵ	.26		.43	
Adjusted R^2	.27		.13	

NOTE.—The dependent variable is log (reservation wage per hour). OLS = ordinary least squares. Household heads include single women (lone mothers are not included). Spouses include only women. The dependent variable is the logarithm of the (net) hourly reservation wage per month, in Dutch guilders (fl). The number of observations for which both the reservation wage and the expected hours were available is 284. All the financial variables (income, wealth, unemployment income) are measured in real terms in 1987 prices for all years. One wave dummy appears (wave 2, 1988) since reservation wages are observed in 1988 and 1989. Education levels are the individual education levels measured from the lower level up. The base for the dummy is education level 1. Education level 4 corresponds to higher education.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

significant positive impact on the reservation wage for both household heads and spouses. This is in line with the predictions of the theory. The estimated effect of wealth on the reservation wage is larger for spouses. For household heads, a 100% increase in the level of financial assets, at the mean level of assets (see table 1), is found to increase the reservation wage by 1.2%. For spouses, a 100% increase in the level of financial assets, at the mean level of assets (see table 1), raises the reservation wage by 7.7%.

Overall, our results are very plausible. For male household heads, we find that the reservation-wage rate decreases with expected hours, whereas

for women it increases. This may reflect male preferences for full-time work and female preferences for part-time work—that is, women must be compensated more for working longer hours. For spouses, we find that the effect of hours on the reservation-wage rate is not significant. For them, the adjustment of the reservation wage for hours by taking the (log) reservation wage per hour as a left-hand-side variable is sufficient.

Women who are household heads have significantly lower reservation wages than men. The impact of gender on reservation wages is modeled in the equation for household heads with the gender dummy and the interaction variable of hours and gender. We ran an F-test for the null hypothesis that pooling of observations on household heads of different genders is to be preferred to separate estimations for men and women. On the basis of this test statistic ($F = 1.10$), the null could not be rejected.

Higher unemployment benefits have a significant positive impact on the reservation wage of household heads. Other income has a negative though not significant impact on the reservation wage. For spouses, the effects of unemployment benefits and other income are both insignificant.[22]

Higher educated household heads have significantly higher reservation wages, which is plausible. Also the highest educated spouses have significantly higher reservation wages. The dummies for the sectors of education are found to be insignificant. Age has a significant and nonlinear effect on the reservation wages of household heads: the effect is positive until age 38 and negative thereafter.[23] For spouses, both coefficients on age are significant at the 10% level: the effect is positive until the age of 34 and negative thereafter.

Since neither the value of the house nor the mortgage capital outstanding are included in our measure of net wealth (see previous section), we entered among the regressors a dummy for house ownership with a mortgage.[24] This was statistically insignificant for both household heads and spouses.

Instrumenting Wealth

In order to apply ordinary least squares (OLS) to equation (8), the explanatory variables, X_{it} and A_{it}, must be uncorrelated with the distur-

[22] As shown in table 1, 74% of the spouses report zero unemployment insurance income. We have experimented with including a dummy variable for reporting zero unemployment benefits, but this turned out to be not significant either.

[23] Interactions of age and wealth did not improve on the performance of the model.

[24] We experimented with entering separate dummies for house ownership and for having a mortgage, but these were found to be almost perfectly collinear and also insignificant. Indeed, in the Netherlands those who buy a house are bound to take a life-long mortgage.

bances ϵ_{it}. Individual effects may cause correlation between A_{it} and ϵ_{it}. Similarly, measurement error in wealth may introduce correlation with ϵ_{it}. In these cases, OLS is inconsistent, and instrumental variables (IV) may be the more appropriate method of estimation. To test for this possibility, we have carried out a Hausman test. This test statistic is based on the difference between the OLS estimator and the IV estimator of the reservation-wage equation. The choice of the variables to be used as instruments was made on the basis of the performance of first-stage regressions of wealth and wealth squared on different sets of possible instruments.[25]

For the sample of heads, we use as instruments, in addition to all variables included in the reservation-wage equation (except for wealth), a quadratic in other income and cross-effects of age and other income. On the basis of the value of the test statistic (0.53), we cannot reject the null hypothesis of no correlation.

For the sample of spouses, first-stage regressions of wealth and wealth squared did not perform very well, and very few of the explanatory variables were significant. We included as instruments, in addition to all explanatory variables from the reservation-wage equation, the income of the spouse and its square.[26] On the basis of the value of the test statistic (0.22), we cannot reject the null hypothesis of no correlation.

Finally, we have estimated the reservation-wage equation dropping the (logarithm of) expected hours from the right-hand side of the equation. The results of estimation of the single equation model without hours are given in table 5. We focus the discussion here on the estimates of the impact of wealth. For household heads, we still find a positive and significant effect of wealth on the reservation-wage rate. Moreover, the size of the estimated coefficients on wealth and wealth squared does not change much. A 100% increase in financial assets is found to increase the reservation wage by 1.1%. For spouses, we also find again a positive effect of wealth on the reservation wage. A 100% increase in financial assets leads to an increase in the reservation wage by 7.2%, somewhat smaller than in the specification with hours. Therefore, we can conclude that excluding expected hours of work from the set of regressors does not

[25] The practice of selecting instruments on the basis of a first-stage regression is adapted to avoid serious bias as a result of weak instruments (cf. Bound, Jaeger, and Baker 1995; Staiger and Stock 1997). Moreover, the number of instruments is held modest (cf. Bekker 1994).

[26] The spouse's own income turned out not to be a significant determinant of the value of wealth. Therefore, possible endogeneity of household wealth in the reservation-wage equation seems to be less of an issue for spouses.

Table 5
Reservation-Wage Equation: Estimation by OLS of the Specification without Hours

Variable	Household Heads		Spouses	
	Coefficient	SE	Coefficient	SE
Constant	−5.00**	2.54	−10.06	7.44
Any child	.075**	.037	−.13	.10
Woman	−.10**	.04		
Log (age)	4.72**	1.44	7.80*	4.23
[Log (age)]^2	−.64**	.20	−1.11*	.60
Unemployment income, 1,000 fl	.037	.025	.12*	.07
Other household income	−.000011	.000026	−.000021	.000031
Education level 2	.018	.044	.069	.093
Education level 3	.16**	.04	.097	.097
Education level 4	.22**	.06	.34**	.11
Wealth, 10,000 fl	.028**	.010	.048**	.019
Wealth^2	−.0013**	.00044	−.0018*	.0009
House with mortgage	.0064	.048	−.072	.068
Wave 2	.0013	.033	−.12**	.060
σ_ϵ	.27		.44	
Adjusted R^2	.23		.13	

NOTE.—The dependent variable is log (reservation wage per hour). OLS = ordinary least squares. Household heads include single women (lone mothers are not included). Spouses include only women. The dependent variable is the logarithm of the (net) hourly reservation wage per month, in Dutch guilders (fl). The number of observations for which both the reservation wage and the expected hours were available is 284. All the financial variables (income, wealth, unemployment income) are measured in real terms in 1987 prices for all years. One wave dummy appears (wave 2, 1988) since reservation wages are observed in 1988 and 1989. Education levels are the individual education levels measured from the lower level up. The base for the dummy is education level 1. Education level 4 corresponds to higher education.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

affect substantially the significance, the sign, nor the size of the impact of wealth on the reservation wage.[27]

Joint Model of Transitions and Reservation Wages

Results of estimation of the joint model of transitions, reservation wages and wealth, described in equations (13), (8), and (9), are given in table 6

[27] For the specification without hours, we also computed a Hausman test of the null that wealth is not correlated with the error term. The null is not rejected, neither for household heads (test statistic, 0.51) nor for spouses (0.23).

Table 6
Results of Estimation of the Model for Household Heads and for the Specification with Hours

Variable Name	Reservation-Wage Equation		Offer-Probability Equation		Wealth Equation	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Constant	−6.31**	2.33	4.41	19.4	48.1**	12.4
Any child	.083**	.033				
Woman	−1.14**	.26	.13	.26	−.11	.19
Log (age)	5.76**	1.34	.43	11.1	−27.6**	7.1
[Log (age)]^2	−.78**	.19	−.47	1.57	3.94**	1.02
Unemployment income, 1,000 fl	.035	.022				
Unemployment other income, 1,000 fl	−.012	.023				
Log (hours)	−.16**	.06				
Education level 2	.04	.04	.46	.36		
Education level 3	.13**	.04	.80**	.34		
Education level 4	.22**	.05	.47	.37		
Woman by log (hours)	.31**	.08				
Wealth, 10,000 fl	.029**	.010				
Wealth^2	−.0011**	.0004				
House with mortgage	.028	.044				
Wave 1987 or 1988	−.03	.03				
Wave 1 (1987)			−.15	.47	−.23	.30
Wave 2 (1988)			−.96*	.57	.10	.30
Wave 3 (1989)			−1.96**	.64	−.19	.31
Any child ($t-1$)					−.37*	.20
Education level 2 ($t-1$)					.14	.26
Education level 3 ($t-1$)					.26	.26
Education level 4 ($t-1$)					.09	.34
Other income ($t-1$), 1,000 fl					13.9**	3.0
Other income ($t-1$)^2					.32**	.08
Ln (age) other income ($t-1$)					−3.43**	.78
Spouse income ($t-1$), 1,000 fl					−3.76	2.35
[Spouse income ($t-1$)]^2					−.25**	.12
Ln (age) spouse income ($t-1$)					1.42**	.67
σ_ϵ	.26**	.008				
σ_v	2.01**	.045				
$\rho 1$	.089**	.045				
$\rho 2$						
$\rho 3$						

NOTE.—The model estimated is specified in eqq. (8), (9), and (13). The value of the log-likelihood is −1,473.42. The correlation coefficients $\rho 1$, $\rho 2$, and $\rho 3$ relate, respectively, to correlations of the errors of eqq. (7) and (8), (7) and (9), (8) and (9). In this version $\rho 2$ and $\rho 3$ are restricted to zero.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

for household heads, and in table 7 for spouses. Expected hours are included among the regressors of the reservation-wage equation.[28]

The correlations terms between the errors of the wealth equation and the errors of, respectively, the reservation-wage equation and the job-offer probability were found insignificant for both household heads and spouses. Therefore, we have reestimated the model assuming zero error correlations of wealth and the reservation wage and of wealth and the offer probability. Also on the basis of a likelihood ratio test this restriction could not be rejected ($\chi^2 = 1.2$; see table 8).

Generally, all the variables in the reservation-wage equation have the expected sign and are significant as in the single equation model in the previous subsection (table 4). An exception is the coefficient on unemployment benefits that was significant at the 10% level in the single equation specification and is now insignificant, though still positive. The results of estimation confirm the finding that wealth has a significant positive effect on the reservation wage.

With respect to estimation of the job-offer probability, it should be mentioned that the separate coefficient estimates of age and age squared are found to affect insignificantly the offer probability. However, the two age variables are jointly significant. If the term in age squared is dropped from the model, age becomes significant, and the negative effect dominates. The education dummies are generally not very significant, though positive, for household heads. Household heads with an intermediate level of education have significantly higher chances to receive a job offer. For spouses, all education dummies are statistically significant and positive. The chances of receiving a job offer increase significantly with the level of education for women. For both household heads and spouses, we find that observations drawn from the 1988 and 1989 waves of the survey have lower probabilities of receiving a job offer. This might be explained by the worse economic conditions in 1988–89 relative to 1990 (the base for the wave dummies), as recovery was slowly taking place after the big rise in unemployment during the economic depression of the mid-eighties.

With respect to the wealth equation, the following comments are in order. The choice of regressors is made on the basis of first-stage regressions that were performed to test for endogeneity of wealth in the single run of the reservation-wage equation, for household heads and for spouses. Most explanatory variables in the wealth equation are lagged 1 period, since wealth is measured 1 period earlier than transitions. Other income and income of the spouse are measured a time period earlier than the corresponding variables in the reservation-wage equation. Other household income has a significant positive impact on wealth for house-

[28] Expected hours of work have been set equal to the sample mean when such information was not recorded.

Table 7
Results of Estimation of the Model for Spouses and for Specification with Hours

Variable	Reservation-Wage Equation		Offer-Probability Equation		Wealth Equation	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Constant	−9.76	6.60	30.9	28.4	74.8	35.2
Any child	−.03	.09				
Log (age)	7.41**	3.77	−16.7	16.1	−45.8**	20.1
[Log (age)]^2	−1.05**	.53	2.15	2.28	6.93**	2.85
Unemployment income, 1,000 fl	.065	.061				
Unemployment other income, 1,000 fl	−.025	.027				
Log (hours)	.11	.07				
Education level 2	.09	.09	.95**	.43		
Education level 3	.12	.09	.96**	.43		
Education level 4	.37**	.11	.95**	.46		
Wealth, 10,000 fl	.060**	.017				
Wealth^2	−.0024**	.0010				
House with mortgage	−.077	.061				
Wave 1987 or 1988	−.12	.06				
Wave 1 (1987)			.34	.37	−.60	.58
Wave 2 (1988)			−.26*	.48	.04	.56
Wave 3 (1989)			−1.52**	.53	−.59	.58
Education level 2 $(t-1)$					.03	.53
Education level 3 $(t-1)$					.57	.55
Education level 4 $(t-1)$					.47	.62
Other income $(t-1)$, 1,000 fl					9.45	11.21
Other income $(t-1)^2$					−23.6	41.3
Spouse income $(t-1)$, 1,000 fl					.91**	.41
[Spouse income $(t-1)$]^2					−.07	.05
σ_ϵ	.43**	.021				
σ_v	3.53**	.12				
$\rho 1$	.16	.10				
$\rho 2$						
$\rho 3$						

NOTE.—The model estimated is specified in eqq. (8), (9), and (13). The value of the log-likelihood is −1.615.46. The correlation coefficients $\rho 1$, $\rho 2$, and $\rho 3$ relate, respectively, to correlations of the errors of eqq. (7) and (8), (7) and (9), and (8) and (9). In this version $\rho 2$ and $\rho 3$ are restricted to zero.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

Table 8
Likelihood Ratio Tests

Hypothesis	Value Test Statistic	df	Critical Value 5%
Household heads, specification with hours:			
Wealth, search income, other income, dummy for house ownership with mortgage not in arrival rate	4.5	4	9.5
$\rho 2 = \rho 3 = 0$	1.2	2	6.0
Duration dummies not in model	33.4	6	12.6
Household heads, specification without hours:			
Wealth, search income, other income, dummy for house ownership with mortgage not in arrival rate	3.8	4	9.5
$\rho 2 = \rho 3 = 0$	1.1	2	6.0
Duration dummies not in model	32.6	6	12.6
Spouses, specification with hours:			
Wealth, search income, other income, dummy for house ownership with mortgage not in arrival rate	4.5	4	9.5
$\rho 2 = \rho 3 = 0$	4.4	2	6.0
Duration dummies not in model	17.3	6	12.6
Spouses, specification without hours:			
Wealth, search income, other income, dummy for house ownership with mortgage not in arrival rate	4.8	4	9.5
$\rho 2 = \rho 3 = 0$	3.4	2	6.0
Duration dummies not in model	20.7	6	12.6

hold heads. Significant nonlinearities in the impact of household income on wealth are detected, as the squared term is also statistically significant and positive. An interaction variable of age and other income has a significantly negative impact for household heads. Age itself is found to have a significant nonlinear impact on wealth. Wealth is found to increase significantly with age, though at a decreasing rate, for both household heads and spouses. The income of the spouse has a significant nonlinear impact for heads, which is, however, written out by the significantly positive interaction with age. The income of the partner has a significantly positive linear effect for spouses. The quadratic term is not significant. Education-level dummies are insignificant for both household heads and spouses.

Sensitivity Analysis

We conduct a tentative empirical test of the impact of wealth on the offer probability by including wealth in z_{it} and carrying out a likelihood ratio test for the statistical significance of the additional regressors. Models

with endogenous search intensity (see the discussion in Sec. III), however, imply that not only wealth, but also income variables, should be included in the arrival rate. Therefore, we estimated a model specification that, in addition to the variables included in table 6, includes the following variable in the arrival rate: wealth, income, other income, and the dummy indicating the possession of a house with a mortgage. We computed the likelihood ratio test statistic for testing the null that the coefficients of these additional variables are jointly zero. The value of the test statistic is 4.5 (see table 8). The null is not rejected.

Results of estimation of the model excluding hours from the regressors of the reservation-wage equation are given in table 9 for household heads and in table 10 for spouses. The two sets of results do not differ substantially.

We have also estimated a model variant that includes dummies for elapsed unemployment duration (backward recurrence times) in the job-offer arrival rate, the reservation-wage equation, and the wealth equation for completeness. These dummies may correlate with unobserved heterogeneity, as discussed in the layout of the empirical model. For this reason, they are not included in our preferred specification. The reference group for the elapsed unemployment duration dummies are individuals who have been unemployed for less than 6 months. The results of estimation are presented in table 11 for household heads and in table 12 for spouses. We find that elapsed duration plays a significant role in explaining the individual probability of receiving a job offer. Elapsed duration is statistically significant and negative. This finding is also in line with the assumption made by Blanchard and Diamond (1994) in their matching model, where it is assumed that job seekers are ranked by employers only according to their unemployment duration. Those with longer unemployment durations are assumed to be the last to receive a job offer.[29] The likelihood ratio test statistic for testing the null that the dummies are not to be included in the model takes the value 33.4 (see table 8). The null is rejected. Note that rejection of the null is caused by the significance of the duration dummies in the arrival rate, while the dummies do not add to the explanation of the reservation-wage rate or the wealth equation.

Elasticities

To gain more insights on the relation between wealth, reservation wages, and labor market transitions, we have calculated some elasticities. The maximum likelihood estimates of the parameters in table 6 for household heads and in table 7 for spouses are used to calculate the elasticity of the

[29] Moreover, models with endogenous search intensity (e.g., Mortensen 1986) imply that individuals with a lower job-offer probability have lower returns from searching and therefore will search less intensely.

Table 9
Results of Estimation of the Model for Household Heads and for the Specification without Hours

Variable	Reservation-Wage Equation		Offer-Probability Equation		Wealth Equation	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Constant	−5.86**	2.32	29.9	25.2	48.1**	12.4
Any child	.074**	.034				
Woman	−.10**	.03	−.05	.28	−.11	.19
Log (age)	5.21**	1.32	−13.2	13.9	−27.6**	7.1
[Log (age)]^2	−.71**	.19	1.36	1.91	3.94**	1.02
Unemployment income, 1,000 fl	.028	.022				
Unemployment other income, 1,000 fl	−.020	.023				
Education level 2	.03	.04	.44	.37		
Education level 3	.15**	.04	.74*	.38		
Education level 4	.23**	.05	.48	.39		
Wealth, 10,000 fl	.027**	.009				
Wealth^2	−.0012**	.0004				
House with mortgage	.025	.045				
Wave 1987 or 1988	−.03	.03				
Wave 1 (1987)			−.19	.46	−.23	.30
Wave 2 (1988)			−.93*	.51	.10	.30
Wave 3 (1989)			−2.15**	.62	−.19	.31
Any child (t − 1)					−.37*	.20
Education level 2 (t − 1)					.14	.26
Education level 3 (t − 1)					.26	.26
Education level 4 (t − 1)					.09	.34
Other income (t − 1), 1,000 fl					13.9**	3.0
[Other income (t − 1)]^2					.32**	.08
Ln (age) other income (t − 1)					−3.43**	.78
Spouse income (t − 1), 1,000 fl					−3.76	2.35
[Spouse income (t − 1)]^2					−.25**	.12
Ln (age) spouse income (t − 1)					1.42**	.67
σ_ϵ	.26**	.009				
σ_v	2.01**	.045				
$\rho 1$	.082**	.037				
$\rho 2$						
$\rho 3$						

NOTE.—The model estimated is specified in eqq. (8), (9), and (13). The value of the log-likelihood is −1479.58. The correlation coefficients $\rho 1$, $\rho 2$, and $\rho 3$ relate, respectively, to correlations of the errors of eqq. (7) and (8), (7) and (9), (8) and (9). In this version $\rho 2$ and $\rho 3$ are restricted to zero.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

Table 10
Results of Estimation of the Model for Spouses and for the Specification without Hours

Variable	Reservation-Wage Equation		Offer-Probability Equation		Wealth Equation	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Constant	−10.0	6.60	28.8	27.8	74.8	35.2
Any child	-.06	.08				
Log (age)	7.76**	3.76	−15.3	15.8	−45.8**	20.1
[Log (age)]^2	−1.10**	.53	1.92	2.24	6.93**	2.85
Unemployment income, 1,000 fl	.090	.059				
Unemployment other income, 1,000 fl	−.021	.028				
Education level 2	.07	.09	.94**	.44		
Education level 3	.09	.09	.93**	.44		
Education level 4	.34**	.10	.94**	.46		
Wealth, 10,000 fl	.056**	.017				
Wealth^2	−.0022**	.0009				
House with mortgage	−.11	.058				
Wave 1987 or 1988	−.11	.06				
Wave 1 (1987)			.34	.37	−.60	.58
Wave 2 (1988)			−.16*	.45	.04	.56
Wave 3 (1989)			−1.45**	.50	−.59	.58
Education level 2 $(t-1)$					.03	.53
Education level 3 $(t-1)$					.57	.55
Education level 4 $(t-1)$					.47	.62
Other income $(t-1)$, 1,000 fl					9.45	11.21
[Other income $(t-1)$]^2					−23.6	41.3
Spouse income $(t-1)$, 1,000 fl					.91**	.41
[Spouse income $(t-1)$]^2					−.07	.05
σ_ϵ	.43**	.021				
σ_v	3.53**	.12				
$\rho 1$	.16	.10				
$\rho 2$						
$\rho 3$						

NOTE.—The model estimated is specified in eqq. (8), (9), and (13). The value of the log-likelihood is −1616.98. The correlation coefficients $\rho 1$, $\rho 2$, and $\rho 3$ relate, respectively, to correlations of the errors of eqq. (7) and (8), (7) and (9), (8) and (9). In this version $\rho 2$ and $\rho 3$ are restricted to zero.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

Table 11
Results of Estimation of the Model for Household Heads and for the Specification with Hours and Duration Dummies

Variable	Reservation-Wage Equation		Offer-Probability Equation		Wealth Equation	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Constant	−6.30**	2.34	−8.00	18.2	48.1**	12.6
Any child	.087**	.034				
Woman	−1.14**	.26	.16	.26	−.11	.19
Log (age)	5.74**	1.34	7.22	10.4	−27.7**	7.2
[Log (age)]^2	−.78**	.19	−1.33	1.46	3.95**	1.03
Unemployment income, 1,000 fl	.033	.023				
Unemployment other income, 1,000 fl	−.010	.023				
Log (hours)	−.16**	.06				
Education level 2	.02	.04	.26	.35		
Education level 3	.13**	.04	.61	.33		
Education level 4	.20**	.05	.11	.38		
Woman by log (hours)	.31**	.08				
Wealth, 10,000 fl	.028**	.010				
Wealth^2	−.0012**	.0004				
House with mortgage	.019	.044				
Wave 1987 or 1988	−.03	.03				
Elapsed duration 6–16 months	.079	.049	−.44	.39	.36	.28
Elapsed duration > 16 months	−.037	.039	−1.41**	.30	.07	.22
Wave 1 (1987)			−.18	.38	−.24	.30
Wave 2 (1988)			−.67	.43	.12	.30
Wave 3 (1989)			−1.63**	.49	−.18	.31
Any child ($t - 1$)					−.37*	.20
Education level 2 ($t - 1$)					.13	.26
Education level 3 ($t - 1$)					.26	.26
Education level 4 ($t - 1$)					.06	.34
Other income ($t - 1$), 1,000 fl					13.7**	3.0
[Other income ($t - 1$)]^2					.32**	.08
Ln (age) other income ($t - 1$)					−3.37**	.78
Spouse income ($t - 1$), 1,000 fl					−3.78	2.36
[Spouse income ($t - 1$)]^2					−.24*	.12
Ln (age) spouse income ($t - 1$)					1.41**	.68
σ_ϵ	.25**	.008				
σ_v	2.01**	.045				
$\rho 1$	.035**	.043				
$\rho 2$						
$\rho 3$						

NOTE.—The model estimated is specified in eqq. (8), (9), and (13). The value of the log-likelihood is −1456.72. The correlation coefficients $\rho 1$, $\rho 2$, and $\rho 3$ relate, respectively, to correlations of the errors of eqq. (7) and (8), (7) and (9), (8) and (9). In this version $\rho 2$ and $\rho 3$ are restricted to zero.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

Table 12
Results of Estimation of the Model for Spouses and for the Specification with Hours and Duration Dummies

Variable	Reservation-Wage Equation		Offer-Probability Equation		Wealth Equation	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Constant	−10.1	7.39	7.58	26.0	71.8	36.4
Any child	−.07	.09				
Log (age)	7.77*	4.21	−2.96	14.8	−44.0**	20.7
[Log (age)]^2	−1.11*	.59	.19	2.10	6.68**	2.94
Unemployment income, 1,000 fl	.068	.067				
Unemployment other income, 1,000 fl	−.022	.028				
Log (hours)	.08	.07				
Education level 2	.13	.09	1.09**	.48		
Education level 3	.16*	.09	1.19**	.47		
Education level 4	.37**	.11	.85*	.45		
Wealth, 10,000 fl	.061**	.018				
Wealth^2	−.0024**	.0010				
House with mortgage	−.090	.063				
Wave 1987 or 1988	−.13	.06				
Elapsed duration 6–16 months	−.19*	.11	−1.11**	.51	−.22	.63
Elapsed duration > 16 months	−.10	.09	−1.34**	.39	−.20	.46
Wave 1 (1987)			.36	.31	−.60	.58
Wave 2 (1988)			.12	.36	.01	.55
Wave 3 (1989)			−1.12**	.41	−.59	.57
Education level 2 $(t-1)$					.04	.50
Education level 3 $(t-1)$					.59	.55
Education level 4 $(t-1)$					.48	.62
Other income $(t-1)$, 1,000 fl					9.01	11.22
[Other income $(t-1)$]^2					−22.0	41.3
Spouse income $(t-1)$, 1,000 fl					.92**	.41
[Spouse income $(t-1)$]^2					−.07	.05
σ_ϵ	.42**	.021				
σ_v	3.53**	.12				
$\rho 1$	.049	.092				
$\rho 2$						
$\rho 3$						

NOTE.—The model estimated is specified in eqq. (8), (9), and (13). The value of the log-likelihood is −1606.79. The correlation coefficients $\rho 1$, $\rho 2$, and $\rho 3$ relate, respectively, to correlations of the errors of eqq. (7) and (8), (7) and (9), (8) and (9). In this version $\rho 2$ and $\rho 3$ are restricted to zero.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

Table 13
Estimated Elasticities

Model for Elasticity	Household Heads with Hours		Household Heads without Hours		Spouses with Hours		Spouses without Hours	
	Value	SE	Value	SE	Value	SE	Value	SE
Reservation wage to wealth (1)	.012	.0037	.011	.0038	.12	.034	.11	.033
Reservation wage to wealth (2)	.0062	.0020	.0059	.0020	.038	.011	.036	.011
Reservation wage to wealth (3)	.013	.0041	.012	.0042	...	...	...	...
Transition probability to reservation wage (1)	−.91	.075	−1.00	.068	−.65	.079	−.81	.095
Transition probability to reservation wage (2)	−1.36	.094	−1.45	.084	−.45	.053	−.60	.065
Transition probability to reservation wage (3)	−1.30	.085	−1.31	.072	...	...	...	...
Transition probability to wealth (1)	−.011	.0034	−.011	.0038	−.077	.024	−.091	.030
Transition probability to wealth (2)	−.0085	.0027	−.0086	.0029	−.017	.0053	−.021	.0069
Transition probability to wealth (3)	−.017	.0053	−.016	.0055	...	...	...	...

NOTE.—The elasticities defined as 1, 2, and 3 relate, respectively, to the high skilled, the low skilled, and women. The elasticities are computed using the sample means of the other variables for each group, 1, 2, and 3.

reservation wage with respect to wealth, the elasticity of the transition probability with respect to the reservation wage, and the elasticity of the transition probability with respect to wealth. We have calculated these elasticities for representative individuals who differ by gender and education level.[30]

The elasticities are also computed for the model without hours, based on the results in table 9 for heads and table 10 for spouses. The estimated elasticities and their standard errors are reported in table 13.

For household heads, the elasticity of the reservation wage with respect to wealth is significantly positive for all the subgroups considered. It takes the largest value for women and the smallest for the lower educated. The size of the elasticity is rather small. A 100% increase in the level of wealth would result in a 1.2% increase in the reservation wage of the higher educated. The value of these elasticities does not change much if they are computed on the basis of the specification without hours instead of the specification with hours.

For household heads, the elasticity of the transition probability with

[30] The other explanatory variables take average values for the corresponding samples defined by education level and by gender.

respect to the reservation wage is significantly negative, and it shows the largest value, in absolute terms, for the lower educated. The size of the impact is rather large: for the lower educated, we find that a 10% increase in the level of the reservation wage would lower by 13.6% the employment probability for this group. We also find that the specification without hours shows a slightly larger sensitivity of the elasticity of the transition probability with respect to the reservation wage. The differences in the elasticities between the specifications are not too high, and the values are within the range of each other's 5% confidence interval.

Finally, for household heads, the elasticity of the transition probability with respect to wealth is significantly negative, though small for all the three groups. The impact of wealth is found to be the largest in absolute value for women. An increase of 100% in the level of wealth would lower a woman's employment probability by 1.7% on average. We find hardly any difference in the elasticities from either specification with hours or without hours.

For spouses, we computed the elasticities for both the higher and the lower educated. For spouses, the elasticity of the reservation wage with respect to wealth is estimated to be significantly positive for both the higher and the lower educated. It is the highest for the higher educated. A 100% increase in the wealth of the higher educated leads to an increase in the reservation wage of 12%. There is hardly any difference between the values of the elasticities when we compare the specifications with and without hours.

For spouses, the transition probability is less sensitive with respect to the reservation wage than for household heads. For both higher and lower educated spouses, the estimate of this elasticity is significant and negative. The impact of the reservation wage is the largest for the higher educated spouses. A 10% increase in the reservation wage leads to a 6.5% decrease in the transition probability. We see relatively large differences when we compare the specification with hours with the specification without hours. For the lower educated, the estimated elasticities for the different specifications are even outside each other's 5% confidence intervals. This difference must be due to the differences in the estimated wage-offer distribution with and without hours, since the estimated reservation wage is hardly different for the two specifications.

Finally, the estimated elasticity of the transition probability with respect to wealth is negative and significant. The impact of wealth is the largest for the higher educated. A 100% increase in the level of wealth leads to a 7.7% decrease in the transition probability of the higher educated spouses. The model specification without hours shows a larger sensitivity to the transition probability with respect to wealth, but the estimated values for the different specifications are within each other's 5% confidence intervals.

VI. Conclusions

In this article, we have investigated the impact of financial asset holdings on the employment probability, using individual data for the Netherlands. Theoretical work in the area of structural models of job search (Danforth 1979) indicates that financial wealth has a positive impact on the reservation wage. Previous applied work in this field restricted attention to the impact of savings on the employment probability (Bloemen 1995) and the duration of the unemployment spells (Stancanelli 1999). An original feature of the current study is the attempt made to estimate the impact of wealth on the reservation wage and, via this channel, on the reemployment probability. Subjective reservation wages are used for this purpose. The analysis is carried out with separate samples for household heads and spouses.

On the basis of the estimation of a reservation-wage equation, we are able to conclude that wealth has a significant positive effect on the reservation wage. Overall, our findings concerning the reservation-wage equation are very reasonable and in line with the theoretical expectations. Age is found to have a significant effect on the reservation wage. We reject the possibility of measurement error or endogeneity of wealth on the basis of a Hausman test.

Next, we have estimated a simultaneous-equations model of transitions into employment, reservation wages, and wealth. In this model, the employment probability is equal to the product of the acceptance probability (job offers are accepted when the reservation wage exceeds the mean of the wage-offer distribution) and the offer probability. We find no significant correlation of the errors of the wealth equation and the errors of, respectively, the reservation-wage equation and the offer-probability equation.

We conclude that financial wealth has a positive impact on the reservation wage and a negative impact on the employment probability. Higher levels of wealth result in higher reservation wages, and higher reservation wages are associated with a lower employment probability.

We have estimated elasticities of the reservation wage with respect to the level of wealth and of the transition probability with respect to the reservation wage and to the level of wealth. We have computed these elasticities for the lower educated, the higher educated, and women. The estimates of the elasticities show that the overall impact of wealth on the transition probability is small. The impact of wealth on the reservation wage and the transition probability is larger for spouses than for household heads.

An interesting question that we have not addressed here is whether higher levels of wealth reduce the employment probability but increase the quality of job matches.

Appendix A

The Wage-Offer Distribution

Table A1 shows the estimation results of the reduced-form wage-participation model for household heads. Both a specification with hours and a specification without hours have been estimated. Table A2 gives the results for the spouses.

Appendix B

Additional Details about the Data

In this appendix we provide some additional background information with respect to the data. Given the fact that we use longitudinal data and observations are selected at different points in time and pooled together (see Sec. IV for details), multiple observations on the same individual at different points in time are used for some individuals. Table B1 shows

Table A1
Wage-Offer Distribution and the Selection Equation for Household Heads

			Wage-Offer Distribution			
	Selection Equation		Hours Included		Without Hours	
Variable	Coefficient	SE	Coefficient	SE	Coefficient	SE
Constant	11.39**	3.31	−6.85**	.06	−5.9**	.61
Any child	.16**	.06				
Woman	−.51**	.06	−1.07**	.08	−.14**	.02
Log (age)	−5.73**	1.86	6.31**	.33	5.06**	.34
[Log (age)]^2	.80**	.26	−.82**	.05	−.64**	.05
Education level 2	.18**	.08	.080**	.02	.085**	.02
Education level 3	.49 **	.08	.16**	.02	.17**	.02
Education level 4	.52**	.08	.43**	.02	.45**	.02
Education sector 2	.11**	.07	−.035**	.01	−.054**	.01
Education sector 3	.26**	.7	.06**	.01	.036**	.01
Education sector 4	.22**	.08	−.06**	.01	−.08**	.01
Single	−.29**	.07				
Spouse income	.17**	.04				
Other income	.085**	.06				
Wave 1987	−.09	.05	−.001	.009	−.002	.01
Wave 1988	−.02	.05	.010	.009	.01	.01
Log hours			−.36**	.06		
[Log hours]^2			.002	.010		
Woman by log hours			.25**	.002		
Heckman's correction			−.02	.093	.0004	.10
Log-likelihood	−1,865.9					
τ			.33		.34	
R^2			.34		.29	

NOTE.—Education level and sector dummies are defined in the text. The selection equation is specified as a probit of the probability of being employed. The probability is estimated over the sample of unemployed job searchers (552 persons) and employed individuals (9,230 persons). The wage-offer equation is estimated by ordinary least squares controlling for sample selectivity along the lines of Heckman's two-step procedure. Heckman's correction is computed as the inverse of Mill's ratio. The dependent variable is the logarithm of the wage per hour.

** Indicates statistical significance at the 5% level.

Table A2
Wage-Offer Distribution and the Selection Equation for Spouses

	Selection Equation		Wage-Offer Distribution			
			Hours Included		Without Hours	
Variable	Coefficient	SE	Coefficient	SE	Coefficient	SE
Constant	16.45**	5.28	−7.51**	1.23	−6.30**	1.23
Any child	−.41**	.07				
Log (age)	−9.18**	3.00	6.52**	.72	5.50**	.72
[Log (age)]^2	1.38**	.42	−.90**	.10	−.74**	.10
Education level 2	.12	.09	.093**	.024	.10**	.02
Education level 3	.30**	.10	.16**	.03	.18**	.03
Education level 4	.10	.10	.37**	.03	.37**	.03
Education sector 2	.11	.18	−.20**	.04	−.19**	.04
Education sector 3	.14*	.08	−.062**	.019	−.049**	.019
Education sector 4	.047	.074	−.13**	.02	−.11**	.02
Single	−.08	.10				
Spouse income	−.024	.020				
Other income	1.28**	.38				
Wave 1987	.06	.06	−.031*	.016	−.016	.016
Wave 1988	.02	.06	−.018	.015	−.010	.016
Log hours			−.10*	.06		
[Log hours]^2			.0019	.011		
Heckman's correction			−.78**	.12	−.38**	.11
Log-likelihood	−1,393.9					
τ			.36		.37	
R^2			.16		.14	

NOTE.—The selection equation is specified as a probit of the probability of being employed. The probability is estimated over the sample of unemployed job searchers (460 persons) and employed individuals (3,837 persons). The wage-offer equation is estimated by ordinary least squares controlling for sample selectivity along the lines of Heckman's two steps procedure. Heckman's correction is computed as the inverse Mill's ratio. The dependent variable is the logarithm of the wage per hour.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

how many observations are observed more than once. Table B2 contains information from different data sources about the occurrence of long-term unemployment in the Netherlands in the period covered by our sample.

Table B3 provides some information on the selection of the sample and the stages at which observations were lost due to attrition. First, individuals were selected from each wave on the basis of their labor market state and the requirement that wealth is observed (selection 1). Table B3 also shows the resulting number of observations. The next selection criterion adopted is that a labor market transition might be observed, that is, the individual should participate in more than one wave (selection 2). This is also necessary to be able to observe past values of the variables for estimation of the wealth equation (see text). In total, 85% of the heads and 88% of the spouses selected in stage 1 remain in the sample after application of this second selection criterion.

Finally, observations are selected for which relevant additional background characteristics are observed (selection 3). This keeps 99% of the

Table B1
Multiple Observations and Long-Term Unemployment

Frequency of Observation	Household Heads			Spouses		
	Multiple Observations (%)	Total Observations	Long-Term Unemployment (%)	Multiple Observations (%)	Total Observations	Long-Term Unemployment (%)
Observed once	208 (59.8)	208	81 (38.9)	237 (70.5)	237	156 (65.8)
Observed twice	85 (24.4)	170	91 (53.5)	74 (22.0)	148	104 (70.3)
Observed three times	34 (9.8)	102	73 (71.6)	21 (6.3)	63	53 (84.1)
Observed four times	21 (6.0)	84	77 (91.7)	4 (1.2)	16	15 (93.8)
Total number of (different) individuals	348 (100)			336 (100)		

NOTE.—Long-term unemployment is defined as lasting longer than 16 months, and it is measured with respect to all individuals, i.e., over multiple observations of the same individual when this is the case.

heads and 93% of the spouses selected at stage 2 in the sample. In addition to the observations selected as described above, individuals for whom reservation wages are observed and that were not selected on the basis of the second criterion applied at stage 2 are added to the sample.

Appendix C

Comparing Wages and Reservation Wages

We compare the distribution of wages with the distribution of reservation wages, using the October 1988 and October 1989 waves from the SEP. The reservation wages from the October 1988 and 1989 waves are compared to the wages from the same waves. To correct for differences due to differences in working hours, we base the comparison on hourly reservation wages and hourly wages. We base our comparison on wages and reservation wages disaggregated, first, by four different levels of education and, next, by three different age groups. These are defined as follows: age group a, up to 30; age group b, older than 30 and up to 40; age group c, 40 and older. Table C1 refers to household heads, and table C2 to spouses. For all cases considered, the quartiles of the distribution of wages are larger than the quartiles of the distribution of reservation wages.

Next, we compare the reservation wages with the wages observed before the unemployment spell and with the accepted wages for the same in-

Table B2
Long-Term Unemployment in the Netherlands: Different Definitions

Unemployment > 1 year	Men (%)	Women (%)	Total (%)
A. Statistics Netherlands:			
1986	56.2	50.7	54.2
1987	55.1	49.9	53.2
1988*			55.7
B. Incidence of long-term unemployment from survey-based data:			
1987	50.6	41.3	46.2
1988	56.0	44.6	50.0
1989	56.3	44.0	49.9
1990	55.5	42.4	48.4
C. Incidence of registered long-term unemployment:			
1987	57.5	52.4	55.6
1988	53.6	47.3	51.2
1989	59.6	51.7	56.7
1990	62.1	49.6	57.4

SOURCES.—Panel A, "Statistisch Yearboek," 1988 and 1990, Dutch national statistical offices (Centraal Bureau voor de Statistiek); panel B, "Employment Outlook," July 1992, Organization for Economic Cooperation and Development (OECD); panel C, "Employment Outlook," July 1992, July 1994, OECD.

* Information on the duration of unemployment is not available by gender in 1988 and not available for the 1990s in published statistics.

Table B3
Sample Selection

	Number of Observations Obtained by Selection				
	Wave 1987	Wave 1988	Wave 1989	Wave 1990	Total
Heads:					
Selection 1	163	151	148	147	609
Selection 2	149	134	122	113	518
Selection 3	144	136	122	113	515
Spouses:					
Selection 1	129	127	153	145	554
Selection 2	111	117	132	129	489
Selection 3	99	107	125	123	454

NOTE.—Selection 1 = nonworking individuals, searching for a job, assets observed; selection 2 = observed whether a labor market transition occurred between date of selection 1 and a year later; selection 3 = remaining background variables observed (final selection). In addition to the number of observation with transitions observed, there are 37 household heads and 20 spouses with an observation on the reservation wage, wealth, and the relevant background variables but not an observation on the labor market transition.

Table C1
Distribution of Hourly Wages and Reservation Wages of Household Heads by Education and Age

Sample	Number of Observations	Quartiles 1988			Number of Observations	Quartiles 1989		
		1	2	3		1	2	3
Wage, all	2,838	12.60	15.29	19.71	3,648	12.86	15.61	19.15
Reservation wage, all	142	9.15	10.72	12.69	143	9.23	10.65	12.69
Wage, education 1	370	11.55	13.48	16.62	314	11.44	13.85	16.18
Reservation wage, education 1	40	8.65	9.76	10.80	35	9.23	10.38	11.54
Wage, education 2	552	11.47	13.25	16.41	794	11.54	14.02	16.48
Reservation wage, education 2	40	8.94	10.65	11.84	37	7.5	10.02	11.54
Wage, education 3	1,277	12.79	15.24	18.77	1,659	12.98	15.46	18.31
Reservation wage, education 3	41	9.62	11.54	14.42	49	9.23	10.93	13.70
Wage, education 4	1,639	15.65	19.97	26.65	881	15.69	19.03	23.59
Reservation wage, education 4	21	10.10	11.54	16.52	22	9.81	12.40	17.31
Wage, age a	749	11.37	13.25	17.18	1,084	11.40	13.42	15.85
Reservation wage, age a	46	7.69	10.38	11.54	48	6.92	9.81	10.93
Wage, age b	1,009	13.20	15.75	19.75	1,269	13.88	16.19	19.48
Reservation wage, age b	55	9.23	10.82	12.69	48	9.81	11.25	12.82
Wage, age c	1,080	13.29	16.95	22.07	1,295	14.11	17.10	21.51
Reservation wage, age c	41	9.23	11.18	13.85	47	9.23	10.96	13.85

NOTE.—Age group a = up to 30; age group b = older than 30 and up to 40; age group c = 40 and older. The (reservation) wages are defined as hourly net (reservation) wages and measured in guilders. Our definition of household heads does not include lone parents.

dividual. A problem with this procedure is that reservation wages and accepted wages are not observed at the same point in time. Reservation wages were collected in three waves of the SEP: the October 1988 wave, the April 1989 wave, and the October 1989 wave. Information on income was collected in October of each year. From 1990, it was collected in May. Furthermore, in the eighties, net income (after tax) was asked, while in the nineties, the before-tax income in the previous year was asked. Therefore, the wage information is not homogenous between the eighties and the nineties, which makes comparison of reservation wages and accepted wages even less accurate for that period. We restrict our comparison to the eighties.

In table C3, we report the median values of the differences between previous wages and reservation wages and between accepted wages and reservation wages. For workers who are laid off, reservation wages are bound to be below the wages before unemployment.

We compare wages from October 1987 with reservation wages from October 1988, and wages from October 1988 with reservation wages from

Table C2
Distribution of Hourly Wages and Reservation Wages of Spouses by Education and Age

Sample	Number of Observations	Quartiles 1988			Number of Observations	Quartiles 1989		
		1	2	3		1	2	3
Wage, all	1,035	10.91	13.47	18.46	1,006	11.73	14.13	17.88
Reservation wage, all	146	7.5	9.23	11.54	157	7.69	9.62	11.54
Wage, education 1	142	10.05	12.64	19.02	82	10.63	12.73	17.44
Reservation wage, education 1	33	6.92	8.94	10.38	24	7.5	9.23	10.01
Wage, education 2	275	10.32	12.35	16.15	268	10.64	13.21	15.90
Reservation wage, education 2	40	7.36	8.65	9.62	53	7.5	9.23	10.77
Wage, education 3	437	11.30	13.55	18.03	440	12.0	13.96	17.26
Reservation wage, education 3	46	6.92	9.23	10.77	49	7.21	9.72	11.54
Wage, education 4	181	13.03	16.49	21.63	216	13.27	16.34	20.45
Reservation wage, education 4	27	11.08	11.54	16.15	31	10.38	12.26	14.74
Wage, age a	403	10.32	12.11	15.46	401	10.95	12.93	15.32
Reservation wage, age a	48	7.60	9.23	11.54	47	7.5	9.62	10.82
Wage, age b	329	11.91	15.05	21.28	312	12.39	15.50	19.55
Reservation wage, age b	70	7.5	9.23	11.54	71	8.08	9.62	11.54
Wage, age c	303	11.30	14.10	20.13	293	12.37	15.18	19.56
Reservation wage, age c	28	6.92	9.17	10.77	39	6.35	9.62	11.54

NOTE.—The (reservation) wages are defined as hourly net (reservation) wages and measured in guilders.

April 1989. One problem here is the low number of observations for which these statistics are available. For both household heads and spouses, the median difference between the previous wage and the reservation wage is positive in both periods considered.

Next, we compare the reservation wages from the October 1988 survey with the accepted wages from the October 1989 survey, and the reservation wages from the April 1989 survey with the accepted wages from the October 1989 survey. Again, the main problem here is the small number of observations for which the comparison can be carried out. For the first case, we have 29 observations for household heads and 23 for spouses; for the second, we have 19 observations for household heads and 21 for spouses.[31] For heads, the median difference is positive for both periods of observation. For spouses, the median difference is positive for the first case and negative, although close to zero, for the second.

[31] We observe only individuals who are unemployed, searching for a job, report a reservation wage, and who made a transition into a job in the following period and reported the value of the wage.

Table C3
Differences between Reservation Wages and Wages before and after the Start of the Unemployment Spell

Individual Differences	Household Heads		Spouses	
	Number of Observations	Median	Number of Observations	Median
Before unemployment–reservation wage:				
Wage October 1987–reservation wage October 1988	26	3.31	24	3.76
Wage October 1988–reservation wage April 1989	19	7.42	17	3.91
Accepted wage–reservation wage:				
Wage October 1989–reservation wage October 1988	29	1.60	23	1.82
Wage October 1989–reservation wage April 1989	19	1.86	21	−.36

NOTE.—The (reservation) wages are defined as hourly net (reservation) wages and measured in guilders. These are differences in previous wages, accepted wages, and reservation wages for the same individual.

A final remark is that the median difference between the previous wage and the reservation wage is higher than the median difference between the accepted wage and the reservation wage.

Appendix D

Possible Endogeneity of Hours

In order to be able to compare reservation wages for individuals with different expected hours, we take as the left-hand-side variable of the reservation-wage equation the logarithm of the reservation wage per hour. However, hours may also capture the impact of individual preferences on the reservation wage. Most models of job search tend to ignore the role played by working hours in the formation of preferences and concentrate on the job-acceptance decision.[32] Exceptions are Burdett and Mortensen (1978) and Bloemen (1997). Bloemen (1997) shows that the way in which hours influence the reservation-wage rate depends on the process by which expectations about hours are formed. If individuals expect to be able to work according to their desired number of working hours, the theoretical reservation-wage rate can be solved for from an implicit equation, expressed in terms of the indirect utility function. If individuals are faced with restrictions on the number of hours offered to them, the res-

[32] This is also the case in the model by Danforth (1979) and the one by Blundell et al. (1997), who focus on the influence of wealth on job-search behavior.

ervation-wage rate will be a function of working hours. In particular, Bloemen (1997) shows that the reservation wage will then take its minimum value if the working hours offered are equal to the desired hours, as individuals need to be compensated more for working hours that are farther away from their desired hours. This provides us with a motivation for the inclusion of the (logarithm of the) expected working hours on the right-hand side of the empirical reservation-wage equation.

In order to incorporate explicitly the choice of working hours in the theoretical framework set up by Danforth (1979) or by Blundell et al. (1997), one should model the expectation process on hours, including possible restrictions on the hours offered. This is beyond the scope of this article, which focuses on estimating the empirical relation between wealth and the job-acceptance decision. Note, however, that the phrasing and the ordering of the questions on expected hours and reservation wages is such that reservation wages are conditioned on hours by construction.

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