

February 2010
Preliminary

How to Assimilate? The Time Use of Immigrants

Daniel S. Hamermesh and Stephen J. Trejo*

*Sue Killam Professor in the Foundations of Economics, University of Texas at Austin, professor of labor economics, Maastricht University, research associate, IZA and NBER; associate professor of economics, University of Texas at Austin, and research associate, IZA. We thank Jenna Kawalsky for inspiring our interest in this topic, Sarah Flood for helping us with the ATUS data, and Bob Gregory for helping to obtain the Australian data.

ABSTRACT

We develop a theory of the process of assimilation—what immigrants do with their time—that generates the results on outcomes that have occupied the attention of the economics literature for decades. The theory is based on the notion that assimilating activities entail fixed costs, so that immigrants will be less likely than natives to undertake them, but will spend more time on them conditional on undertaking them. We identify several activities as assimilating—purchasing, education and market work—and test the theory using the 2004-2008 American Time Use Survey. The results support the theory quite strongly. Additional tests suggest that the costs of assimilating derive from the costs of learning English and from the immigrant's unfamiliarity with an advanced market economy. A replication using the 1992 Australian Time Use Survey yields remarkably similar results.

I. Introduction

One online dictionary defines “assimilate” as “to absorb into the culture or mores of a population or group.”¹ This definition connotes a process, and the same source defines “assimilation” as “an act, process or instance of assimilating”—presumably, being absorbed “into ... group.” In this study we focus on assimilation in light of this definition as a process, studying what immigrants do that might enable some of them to assimilate while others do not.

Assimilation has hardly been neglected by economists. Indeed, in the past 40 years there have been immense numbers of studies that have focused on assimilation. All of these, however, have examined the outcomes of the process, not the process itself. Thus Chiswick’s (1978) classic cross-section analysis focused on wage changes accompanying time spent in a new country, as did Borjas’ (1985) and (1995) analyses of artificial cohorts. Other work (e.g., Antecol *et al*, 2006) has expanded the examination of the outcomes of the process of assimilation to focus on both prices (wage rates) and quantities (employment levels). We care about these outcomes—they are the indicators of immigrants’ well-being, and they provide signals to potential immigrants (and also to potential emigrants); but they tell us nothing about the **process** of assimilation itself.

In this study we step back from this black-box approach to assimilation and focus instead on the process of assimilation—on what immigrants actually do. In particular, we develop an economic theory of this process that has specific testable predictions about the behavior of immigrants. We then test them on a large recently developed American data set, the American Time Use Survey, and on an older Australian data set. After having

¹Merriam-Webster online dictionary, <http://www.merriam-webster.com/dictionary>, searched February 4, 2010.

examined their validity (or lack thereof), we then attempt to infer what is causing interpersonal differences in the underlying parameters of the model. This examination leads to a discussion of the sources of heterogeneity in immigrants' outcomes and to efforts that could be made to change the assimilation process that might improve outcomes.

Although one recent unpublished study (Vargas and Chavez, 2009) has examined immigrants' time use, our approach is novel for economists, focusing on assimilation as a process rather than a set of outcomes. While new to economics, this approach has occupied historians and others for a very long time. Handlin's (1951) classic discussion dealt at least as much with this as with outcomes—the "immigrant experience" is one of becoming rather than being, and assimilation is viewed as a learning process:

Working as they did in a new fashion and in a strange place, it took time to find a way around, to begin to learn the operations of the productive system of which they had become a part. (Handlin, p. 65)

II. Theoretical Motivation

Assimilation is an investment process—the immigrant does things that natives do not need to do in order to earn more and "fit in better" in the future. To capture this process parsimoniously, let there be two time periods, $t=1$ and 2, and two types of individuals, natives (N) and immigrants (F). Some of the things that an immigrant does help him or her assimilate. Taking a course in English, dealing with the transportation system, working outside the ethnic enclave, and shopping in non-ethnic stores all increase the immigrant's familiarity with the new society. Conversely, other activities, particularly those that are performed at home, and those that involve dealing with other immigrants with the same background, are not assimilating.

With these considerations in mind, let there be two types of activity, assimilating activities, a , and other activities that make up the total amount of time available, set equal to 1 for convenience. (So the individual spends a fraction $1-a$ of his/her time on the non-assimilating activity.) Assimilating activities require overcoming the language and cultural hurdles of getting out into the native world. Doing, so, however, generates the benefit that the immigrant will be able to obtain more desirable outcomes more quickly—i.e., perform better, derive greater utility in the future.

We can write the Foreigner's maximization problem as:

$$(1) \quad \text{Max} \left\{ U(a_1, 1 - a_1) - CI(a_1) + RF(a_1)U(a_2, 1 - a_2) \right\},$$

where $0 < U_1(a_t, 1 - a_t), U_2(a_t, 1 - a_t) < \infty$ for $0 \leq a_t \leq 1$; $U_{11}, U_{22} < 0$. R is the discount factor, $0 < R < 1$. The gain to engaging in the assimilating activity is increased utility in the future, with the magnitude of the gain depending upon the function F , $F(0) > 0$, $F' > 0$, $F'' < 0$. $I(\cdot)$ is an indicator function equaling 1 if $a_1 > 0$, 0 if $a_1 = 0$; and each immigrant incurs the lumpy cost C of choosing to overcome the hurdles (language, foreignness, etc.) of undertaking the assimilating activity.

The parameter C , assumed to be lognormally distributed, varies across immigrants—some find it easier than others to leave the comfort of their familiar culture and take part in activities that are foreign to them. We have assumed that the costs of participating in the assimilating activity are independent of the amount of the activity that is undertaken. We envision them as the costs overcoming the hurdle of entering into the native world. This is probably a simplification—some of these costs no doubt are also variable, rising as the amount of the assimilating activity increases. Nonetheless, so long

as some part of the cost is fixed, the predictions of the model are valid; and the presence of variable costs adds no other testable predictions.

Maximization by the immigrant in Period 1 yields:

$$(2a) \quad U_1(a^*_1, 1 - a^*_1) - U_2(a^*_1, 1 - a^*_1) = -RF'(a^*_1)U(a_2, 1 - a_2), \text{ if } a^*_1 > 0, \text{ with } a^*_1 > 0 \text{ if:}$$

$$(2b) \quad [U(a^*_1, 1 - a^*_1) - U(0, 1)] + R[F(a^*_1) - F(0)]U(a_2, 1 - a_2) > C.$$

Now consider maximization by the native. We assume that the native's costs of undertaking the assimilating activity are identically zero— $C \equiv 0$, and that there are no gains to assimilation— $F(a_i) \equiv 1$ for all $a_i \geq 0$. The native has, by definition, already assimilated. The utility-maximizing choice of activity in Period 2 is identical for both natives and immigrants—all that differs, assuming that U is the same for both, is the fillip to utility generated by the fact that $F(a^*_1) \neq 1$ for immigrants. Given the shape of U , the native will always undertake some of both the assimilating activity and the other activity; and the right-hand side of (2a) is identically zero among natives.

We can thus focus on differences in outcomes in Period 1 between natives and immigrants. Recognizing that C is a random variable, rewrite the equation describing the immigrant's decision about whether or not to undertake the assimilating activity as:

$$(2b') \quad \Pr\{a^*_1 > 0\} = \Pr\left\{C < [U(a^*_1, 1 - a^*_1) - U(0, 1)] + R[F(a^*_1) - F(0)]U(a_2, 1 - a_2)\right\},$$

and remember that this probability is identically one for natives. Comparing (2a) between immigrants and natives, whatever the maximizing choice of a^*_1 is for natives, the presence of a negative term on the right-side for immigrants means that, if they choose to undertake any of the assimilating activity, the amount chosen will exceed that undertaken by natives.

The model thus generates several predictions:

1. The assimilating activity is less likely to be undertaken by immigrants than by natives. That is more likely to be true if the costs of assimilation C are higher, the gains to assimilation, $F(a_1) - F(0)$, are lower, and if the immigrant has a shorter horizon (lower R).
2. Conditional on both engaging in the assimilating activity, the immigrant will choose a higher a_1^* than the native.

In addition to these two broad predictions about immigrants in comparison to natives, one can go further and proxy some of the parameters to consider how the outcomes change with changes in immigrants' characteristics. Thus we would expect:

1. Immigrants who have been in the new country longer will be more native-like. Their probability of engaging in assimilating activities will approach that of natives, and, conditional on engaging in these activities, the amount they undertake will approach that of natives (and be less than that of more recent immigrants who choose to engage in the activities).

2. The same thing will be true for immigrants from countries that are more similar to the U.S. than for immigrants from countries that are more "foreign"—for whom presumably the costs of assimilation are greater.

3. Older immigrants, conditional on the time they have lived in the new country, will have a lower probability of engaging in the assimilating activity.

III. The Data and Their Categorization

To move from the theory and its implications to empirical work, we first need to consider what is meant by "activities." The process of assimilation involves using one's available time partly to invest in learning about the native culture, economy and environment. As such, it seems natural to examine how immigrants use time in

comparison to natives, focusing on differences in those activities that can appropriately be classified as assimilating.

Since 2003 the U.S. has developed the largest data set in the world based on time diaries with its American Time Use Survey (ATUS), which is based on respondents from households that had recently left the Current Population Survey (CPS) sampling frame. We use data from 2004-2008, containing diaries kept by nearly 65,000 individuals ages 15 and up, each for the one day prior to the morning they completed the diary, with each diarist being the sole member of the household asked to complete a diary (see Hamermesh *et al.*, 2005). There are 55,949 natives in the sample for these five years, and 8,976 immigrants. With the appropriate sampling weights (variably weighting the respondents and the days for which they kept diaries) one can obtain a complete picture of what the representative American, immigrant or native, was doing on a representative day during these years.

The ATUS does not allow us to answer all the interesting questions about the process of assimilation as reflected in time use: Its restriction to one household member prevents us from examining within-family behavior; and the restriction to one diary-day per person prohibits considering differences in habitual behavior between immigrants and natives. The data set does, however, provide a sufficiently large sample of immigrants and enough additional information about them to enable us to probe beyond the differences implied by the two main predictions of the theory to examine the underlying causes of any implied differences in the costs of assimilation.

The ATUS classifies activities into over 400 separate categories, of which the biggest three, sleeping, paid employment and watching television, account for over 60

percent of all time used in the U.S. Not surprisingly, most activities are not engaged in by most respondents: The representative native lists 24.5 separate activities each day, as does the representative immigrant. Clearly, this preponderance of zeroes means that we cannot concentrate on a small set of primitive categories, since there would be no variation between F and N, and must instead examine somewhat larger aggregates. We focus on three main aggregates as those that are most likely to represent assimilating activities: Purchasing, education and market work. The first three columns of Table 1 list the sub-aggregates (many of which are themselves aggregated from the primitive categories) that comprise these three aggregates. We view all other activities, listed in detail in Column (4) of Table 1, as non-assimilating, as they are typically done either by oneself or with family, and do not require any assimilating effort by the immigrant participant.

In creating these aggregates we recognize that the task is essentially arbitrary. For example, a work activity may take place in a sweatshop where the immigrant worker is surrounded by his/her fellow immigrants who speak the same language, and where s/he deals with a foreman in that same language. Alternatively, eating and drinking may occur in a workplace where the immigrant is surrounded by natives. While the ATUS does identify the location of an activity and the presence of others, these identifications are only provided for some of the activities; and it is not possible to identify the immigrant status of any other people (except household members) present when the respondent engages in the activity. Taking a conservative approach, we thus define assimilating activities restrictively; but we recognize that even this definition may include some time that some immigrants do not spend assimilating, while non-assimilating

activities may include some that do in fact represent the process of assimilation. This partial blurring of the categories suggests that any results of the tests of the theory will understate the true differences between immigrants and natives.

Natives and immigrants clearly do differ in their time use, both in the probability of undertaking different activities and in the amounts undertaken. The left-hand panel of Table 2 shows these probabilities and unconditional amounts for the three assimilating activities of purchasing, education and market work (and for the aggregate of the three). Also shown are standard errors of the means of continuous variables. Non-assimilating activities are the complement of these, and among immigrants (natives) they average (1116) 1145 minutes per day and are undertaken by all but one respondent. While immigrants are less likely to spend time purchasing and engaging in educational activities, they are more likely than natives to work for pay, contrary to our predictions, and slightly more likely to engage in at least one of the assimilating activities. Their unconditional (on engaging in the activity) time inputs into all assimilating activities are indeed greater than those of natives due to their much greater labor-market time; but, again, unconditionally, they spend less time purchasing and in educational activities.

These apparent failures of the theory mean very little, as is suggested by a consideration of the immigration literature and by the descriptive statistics in the right-hand panel of Table 2. In this sample, immigrants are significantly younger than natives. Perhaps more important, while 23 percent of natives are under age 18 or over age 64, only 13 percent of immigrants are. In addition, immigrants are much more likely than natives to be Hispanics, much less likely to be of African origin, and much more likely to be married. They have many more children in the home than do natives, and those

children are disproportionately likely to be of pre-school age. Immigrants are much less likely than natives to have gone beyond high school, and also more likely not to have completed high school; but they are more likely than natives to have advanced degrees. All of these demographic differences are consistent with immigrant-native differences shown in more familiar data sources, including the U.S. Census of Population (Kritz and Gurak, 2005; Duncan and Trejo, 2009; Friedberg and Jaeger, 2009).

IV. Basic Results

The demographic differences between immigrants and natives that we demonstrated in Table 2 make it essential that, in testing the theory and pointing out immigrant-native differences in the incidence and conditional amounts of assimilating activities, we account for as many of these differences as is possible. Accordingly, we began testing our hypotheses by studying the determinants of the incidence of the particular assimilating activities, and assimilating activities in general, by estimating probit equations over the entire sample of 64,925 ATUS respondents from 2004-2008. This table, and all subsequent tables that show results describing incidence, list the effects of a one-unit increase in the independent variable on the probability of the activity being undertaken. All of the results use the 2006 sampling weights to create estimates for the representative American on a representative day and individual.

Before considering the predictions of the theory on the incidence of assimilating activities, consider the impacts of all the control variables (which we present here, but in none of the subsequent tables describing incidence, as their estimated effects change minimally across the tables). Among the most interesting results on the demographic characteristics are: 1) Men are less likely than women to engage in the activities that we

have classified as assimilating, and that is especially (and unsurprisingly) true for purchasing activities; 2) Those with young children are less likely to engage in these activities, both because they are less likely to work and because they are less likely to be engaged in an educational activity; 3) As has been shown for a number of countries for activities generally (Gronau and Hamermesh, 2008), there is a steady increase in the probability of engaging in each of these activities as the respondent's level of education is higher. Given the immigrant-native differences in the means of these demographics and their role in determining the incidence of these activities, their inclusion in these equations is especially important for inferring the directions and magnitudes of immigrant-native differences among otherwise identical individuals.

Participation in assimilating activities overall is statistically significantly lower among immigrants, with a difference between them and natives of 1.5 percentage points (on a mean of 77 percent). This central result is driven by purchasing activities, which are far less likely to be undertaken by immigrants than by natives.² Educational activities are in fact marginally more likely to be undertaken by immigrants, while rates of market work are essentially identical between the two groups. Overall the results for the crucial variable, immigrant status, do incline slightly favorably toward the theory.

Table 4 presents tests of the second major prediction, namely that, conditional on engaging in an activity, immigrants will spend more time on it. These are OLS regressions, but with sample sizes varying from activity to activity because the number of participants varies across activities. We also present results for the amount of time spent in all non-assimilating activities, which, because of the differential incidence of

²This result is driven by purchasing of goods (see Table 1), which accounts for slightly more than half of total time in this category. Immigrant-native differences in travel time, which are arguably less likely to be assimilating, are much smaller.

assimilating activities, are not merely complements of the results for assimilating activities. As with the discussion of incidence, we first turn to examining the impacts of demographic differences (and present these only in this table). 1) African-Americans spend conditionally less time in the activities that we have called assimilating, mainly because they spend less time in educational activities; 2) Men are more likely to spend time in these activities, entirely because, conditional on working for pay, they spend more time in the market; 3) Similarly, having more and especially younger children in the household reduces the amount of time in assimilating activities among those who participate in these activities; 4) Finally, the amount of time in these activities, conditional on engaging in them, rises steadily with educational attainment.

Conditional on participating in the activity, immigrants spend more time on it in each of the three sub-aggregates. Moreover, the additional amount of time that immigrants spend in what we have designated as assimilating activities is not small: 10.9 percent extra in purchasing, 9.7 percent extra in education, 4.0 percent extra in market work, and 5.7 percent extra in assimilating activities in total (and hence 1.2 percent less time in non-assimilating activities). In its predictions about the allocation of time conditional on choosing to undertake a particular sub-aggregate of activities, the data support the theory very strongly.

V. The Sources of Differences in Time Use

Having demonstrated that the data appear to support the theory—that there are fixed costs of assimilating, and that immigrants who choose to overcome those costs invest more in assimilating activities than do natives (and other immigrants)—the question is what the sources of those costs are. What might make C higher for some

immigrants than for others? The obvious suspect is language knowledge, as there is substantial evidence (Chiswick and Miller, 1995; Bleakley and Chin, 2004) that knowledge of English, or at least the opportunity to learn English, substantially moderates any wage penalties imposed on immigrants. Accordingly, we focus much of our attention on various measures of English-language ability (although the ATUS does not contain information on this directly). We also consider another measure indicating familiarity with a U.S.-style advanced market economy.

The first measure we use reflects the extent to which an immigrant in our sample has had time to acculturate him/herself generally to the U.S., namely the number of years since immigration. To create usefully sized cells we divide years since migration into the categories: Less than 6 years, 6-10 years, 11-20 years, and more than 20 years. As the top panel of Table 5 shows, each of these cells contains large fractions of the U.S. immigrant population, although the overwhelming majority of immigrants have been in the country more than 10 years.

A native whose parents arrived as adults may also bear substantial costs of assimilating, although for many outcomes (Perlmann and Waldinger, 1997; Farley and Alba, 2002; Card, 2005; Burda *et al*, 2008)—second-generation Americans look very much like higher-order generation natives and very little like immigrants. To examine this additional aspect of assimilation we define nativity variables for natives' parents, including whether both parents were immigrants, only the father immigrated, or only the mother did. Table 5 shows that nearly 10 percent of natives have at least one immigrant

parent, with half of these being children of two immigrant parents and the other half split fairly evenly between the offspring of marriages with an immigrant mother or father.³

In Table 6 we substitute the indicators of years since migration for immigrant status in the probits describing the incidence of the assimilating activities and in the OLS estimates of the conditional amounts of the activities undertaken. We also add the indicators describing second-generation Americans. Consider first the estimates of incidence. Except for education the probit derivatives are largest and most negative for the most recent immigrant arrivals; moreover, the effects diminish steadily in absolute size with years since migration for the aggregate of assimilating activities (and for purchasing activities).

The results for the conditional amounts of activities are less consistent with the notion of acculturation lowering these costs. Except for purchasing activities, where the conditional amounts undertaken decrease monotonically with years since migration, there are no obvious distinctions between immigrants classified by years in the U.S. Overall, these estimates provide some support to our stress on fixed costs in determining the process of assimilation and to those costs representing something to do with acculturation.

Additional support is provided by the estimated impacts of second-generation status on the incidence and conditional amounts of assimilating activities. Second-generation Americans look nothing like immigrants. Indeed, if both parents were immigrants, the respondent is more rather than less likely than other natives to engage in the activities that we have classified as assimilating, although the conditional amounts

³Farley and Alba (2002) and Rumbaut (2004) report similar patterns with respect to the relative size and composition of the second-generation population in the United States.

they undertake do not differ from those of other natives who participate in those activities. At least in terms of time use, these results suggest that the process of assimilation is complete by the time the second-generation person reaches adulthood.

As noted, a central aspect of the costs of acculturation is the cost of acquiring the native language. We explore this in some detail. First, taking the categorization of Bleakley and Chin (2004), we divide the immigrants' countries of origin into three categories: Those with: 1) English as the main spoken language; 2) English as an official language; and 3) English not even official. The second panel of Table 5 presents the descriptive statistics for these measures. The overwhelming majority of U.S. immigrants come from countries where English is not even an official language. About one-eighth come from countries where English is official (the large majority from the Indian sub-continent and the Philippines), and another eighth from English-speaking countries.

A second measure of language facility is more direct: Was the household's interview in the CPS conducted in a foreign language (overwhelmingly in this sample, conducted in Spanish)?⁴ As Table 5 shows, about one-third of immigrants fall into this category. That large fraction raises concerns that our results may be based solely on Mexican immigrants, a concern that is underscored by some results showing the sensitivity of some outcomes of assimilation to whether the immigrants are Mexican or not (Farley and Alba, 2002; Duncan and Trejo, 2009). As only twenty percent of immigrants in the ATUS are of Mexican origin, this concern may be misplaced.

The upper half of Table 7 examines the impacts of the treatment of English in the immigrant's country of origin on the probability that s/he undertakes an assimilating

⁴The variable describes the person who completed the CPS interview, whose identity, and perhaps even whose language facility may differ from that of the household's ATUS respondent.

activity and on the conditional amount undertaken. The estimates suggest that the one-eighth of immigrants who come from English-speaking countries look much different from other immigrants, but little different from natives in these activities. Those immigrants who come from countries where English is only an official language, and the large majority in whose home country English is not even official, behave in the expected way, with a lower incidence of the assimilating activity, and a higher conditional amount undertaken. The only surprise here is that, at least for the incidence of these activities, the negative effects are greater for those from English-official countries than those from non-English-speaking countries.

An alternative approach relies on the language in which the interview was conducted and includes the additional indicator for Mexican immigrants. The results, presented in the bottom half of Table 7, show that, conditional on their language ability, Mexican immigrants are no more likely than immigrants generally to undertake a particular assimilating activity; and conditional on that they do not perform any less of it. Weak English, however, does matter: Those immigrants whose CPS interview was not in English are especially less likely to engage in assimilating activities; but conditional on doing so, they spend more time at those activities (again, with the exception being the few people involved in educational activities). These results underscore again the role of language ability in lowering the fixed costs of assimilation.

While language facility, or the possibility of it, appears to be a good proxy for the fixed costs in our model, there are others. One argument is that familiarity with the workings of the U.S. economy, independent of language ability, lowers the fixed costs of participating in assimilating activities, as the behavior that those activities entail is more

similar to that in the country of origin: “How could this man, so recently removed from an altogether different life, explain to himself the product system in which he was enmeshed?” (Handlin, 1951, pp. 78-79)

As a proxy for this idea we obtained the recent per-capita real GDP in the home country of each immigrant.⁵ The average GDP per capita in the immigrants’ home countries in 2008 was \$10,355 (standard deviation \$14,200), with a range from \$230 to \$94,354. Adding this additional proxy for the costs of assimilating to the equations in Table 7 produces the estimates shown in Table 8. The inclusion of this index of development changes the estimates of the effect of emigrating from an English-speaking country, since these are highly correlated, weakening the negative impact of the latter on the probability of participating in assimilating activities and on the conditional amount undertaken. Nonetheless, the effects of GDP per capita itself are consistent with our interpreting them reflecting lower costs of assimilation: Immigrants from countries with higher GDP look more like natives than other immigrants, both in terms of the incidence of assimilating activities and the conditional amounts undertaken.

VI. A Brief Replication for Australia

We have provided a general theory of assimilation containing specific refutable predictions, and we have tested it successfully on data from the United States. The theory is general, so it should be applicable beyond the parochial confines of the United States. Few countries have large-scale time-diary data sets, and few of those include a sufficiently large number of immigrants to make another test of the theory feasible.

⁵For most of the countries of origin we use data for 2008 from the World Development Indicators of the World Bank. For a few others for which these were unavailable in that database, we obtained the information from the World Economic Outlook database of the IMF. GDP is converted to U.S. dollars using the exchange rate against the dollar.

Australia is one of those few, being substantially more a nation of immigrants than the U.S.

The Australian Time Use Survey of 1992 (ABS, 1993) included two days of time diaries completed by nearly all of the almost 7000 individuals ages 15 or over. The diaries were recorded in five-minute intervals on two consecutive days, with the days evenly distributed over the week. To make the analyses as similar to those for the U.S. as possible, we created control variables identical to those included in the tables above—marital status; gender; a quadratic in age; number of children and indicators of their age distribution; and educational attainment.⁶ (Indicators for African-American and Hispanic are excluded for obvious reasons.) The data set also includes an indicator of whether the respondent speaks a foreign language at home, and we use that to move beyond the basic tests of the theory.

The survey recorded activities in 280 different categories. To make the test as similar to that for the U.S. as possible, we aggregated these into the same three assimilating activities: Purchasing, education/training; and market work. Each of these three aggregates includes travel time pursuant to the basic activity (as in the U.S. data). The sets of basic activities included in purchasing and market work are very similar to those in the ATUS, with the education/training activities encompassing an apparently somewhat different set of basic uses of time. We do not claim that the aggregates are the

⁶We exclude the few respondents over age 85 and thus outside the recorded age range in the ATUS. Also, household residents in the Australian data are recorded as children only if they are under age 15, and their categorization by age differs slightly from that in the ATUS. Finally, the categories of educational attainment necessarily differ from those in the United States. We include as low-educated respondents with secondary or lesser qualifications; middle-educated those with trade qualifications or a certificate or diploma; and as high-educated those with a bachelor's degree or higher. We dropped from our sample the 5 percent of respondents who were still attending school.

same as in the U.S.—differences in the surveys preclude that; but they are as close as we could make them.

Immigrants account for 24 percent of the diary-days of the respondents ages 15 through 85 in these data, compared to 23 percent for all Australians counted in the 1991 Census of Population and Housing.⁷ Despite the differences in the basic survey instruments, except for market work, the average (unconditional) amounts of time spent in the assimilating activities look strikingly similar to the figures in Table 2: 44 (48) minutes in purchasing activities by natives (immigrants); 29 (24) minutes in schooling/training; and 200 (196) minutes in market work. The fractions of the respondents in Australia engaging in what we have classified as education/training are almost identical to those shown in Table 2 for the U.S. What we have classified as purchasing activities are more frequent in these data, but market work is less frequent. Among immigrants, 35 percent of the respondents state that they speak a foreign language at home, nearly identical to the fraction of immigrants in the ATUS with whom the interview was conducted in a foreign language.

To save space all the relevant results are presented in Table 9. Each probit is based on the entire sample of 12,998 diary-days for which all the data were available, and each OLS equation is based on all the individuals who engaged in the assimilating activity. Because most respondents completed diaries on two days, standard errors of all the estimated coefficients account for clustering of the observations.⁸ For each of the

⁷[http://www.ausstats.abs.gov.au/ausstats/free.nsf/0/4C64DE2D65803F30CA2574BF00167A44/\\$File/28210_1991_230_Australia_in_Profile.pdf](http://www.ausstats.abs.gov.au/ausstats/free.nsf/0/4C64DE2D65803F30CA2574BF00167A44/$File/28210_1991_230_Australia_in_Profile.pdf) Table 1.1.

⁸Among those who engaged in the same assimilating activity on both diary days, the within-person correlations of the residuals are 0.21, 0.30 and 0.32 for purchasing, education/training and work respectively.

activities, the first column includes only the indicator for immigrant status, while the second adds the foreign-language indicator. All the estimated equations also contain the control variables discussed above.

The results seem qualitatively identical to those for the United States. As in the U.S., the conditional amounts of time spent in the assimilating activities are greater for immigrants than natives. While the probability of engaging in education/training is higher among immigrants than natives, the probability of purchasing or doing market work is lower—the same results that we obtained in the ATUS. Even the ability of the models to fit the data is similar to what we saw in Tables 3 and 4.

When we delve behind the basic results (go to the even-numbered columns in each pair), the role of language in generating the results is striking. Remember that the effect of being an immigrant who speaks English at home is the coefficient on the immigrant indicator, while that for an immigrant who speaks another language at home is the sum of the two coefficients in the table. The results suggest that all of the effects shown for immigrants in the odd-numbered columns are mediated through language knowledge. Only those immigrants who do not speak English at home engage in conditionally more of the assimilating activities than do natives; and other immigrants do not behave significantly different from natives (conditional on engaging in the activity). English-speaking immigrants are no different from natives in the likelihood of engaging in these activities, while non-English speaking immigrants are significantly less likely to be purchasing or engaging in market work, but significantly more likely to be undertaking education/training. As with the basic results, the results on the importance of language corroborate the findings for the U.S.

VII. Conclusions and Implications for Heterogeneity

We have derived a theory of the process of assimilation based on the notion that it is costly to assimilate—it involves leaving the previous culture and economic mind-set and acquiring ones that match those of the new country more closely. These costs are a barrier to assimilation. Some immigrants will not cross that barrier, will not undertake the activities that natives do. Those immigrants who cross the barrier have an incentive to undertake more of the assimilating activities than will natives.

Identifying a number of activities that one can view as leading to assimilation, particularly education, shopping and market work, we use the 2004-2008 American Time Use Survey to examine these predictions. They are strongly supported by the data. Going behind the simple findings that immigrants are less likely to engage in these activities, but do more conditional on engaging in them, we examine the sources of the costs of assimilation. Various proxies for the ease of assimilating, including the immigrant's language background, suggest that language knowledge partly underlies the costs of assimilation. That a higher GDP per capita in the home country, a proxy for the similarity of its economy to the U.S., also leads immigrants to behave less differently from natives, suggests that unfamiliarity with American-style economic life also underlies those costs.

We tested the theory on Australia in 1992, using data that have the two advantages that each person is observed on two days, in a country that is nearly twice as immigrant-intensive as the U.S. While the survey instrument defines the assimilating activities slightly differently from the U.S. data, the Australian results look very similar

to those for the U.S. Even the role of language knowledge in the costs of assimilation is suggested by these data.

Our view of assimilation and the demonstration of its validity with time-use data suggest a testable implication on the commonly-examined outcomes of the assimilation process. The theory and results imply that some immigrants will assimilate well, while others never will. While much of the research on assimilation outcomes has focused on the time path of average immigrant-native differences, the heterogeneity implied here suggests that the cross-section variance of immigrants' earnings will exceed that of natives. This should be true for immigrants as a group, but also for immigrants who are otherwise observably the same as natives, since unobservables will produce some residual heterogeneity. The same implications could also be tested on outcomes other than earnings.

In terms of policy, the results suggest that, if the goal is to assimilate immigrants into their new country, the critical need is to encourage them to undertake assimilating activities—to overcome the costs of assimilation. As we have shown, these costs involve familiarity with language and economy, and no doubt other aspects of life as well. Requirements of and subsidized immersion into the language and culture, perhaps like the Israeli *ulpanim*, are one possibility.⁹ Bilingual education would seem to reduce the ability of immigrants to engage in assimilating activities.

⁹The *ulpan* is designed to teach adult immigrants to Israel the basic language skills of conversation, writing and comprehension. Most *ulpanim* also provide instruction in the fundamentals of Israeli culture, history, and geography. The primary purpose of the *ulpan* is to help new citizens to be integrated as quickly and as easily as possible into the social, cultural and economic life of their new country. (From Wikipedia, February 15, 2010)

REFERENCES

- Australian Bureau of Statistics, *Time Use Survey, Australia 1992*. Canberra: ABS, 1993.
- Heather Antecol, Peter Kuhn and Stephen Trejo, "Assimilation via Prices or Quantities? Sources of Immigrant Earnings Growth in Australia, Canada, and the United States," *Journal of Human Resources*, 41 (Fall 2006): 821-840.
- Hoyt Bleakley and Aimee Chin, "Language Skills and Earnings: Evidence from Childhood Immigrants," *Review of Economics and Statistics*, 86 (May 2004): 481-496.
- George Borjas, "Assimilation, Changes in Cohort Quality, and the Earnings of Immigrants," *Journal of Labor Economics*, 3 (Oct. 1985): 463-489.
- , "Assimilation and Changes in Cohort Quality Revisited: What Happened to Immigrant Earnings in the 1980s?," *Journal of Labor Economics*, 13 (April 1995): 201-245.
- Michael Burda, Daniel Hamermesh and Philippe Weil, "Total Work, Gender and Social Norms," Unpublished paper, University of Texas at Austin, 2008.
- David Card, "Is the New Immigration Really So Bad?" *Economic Journal*, 115 (November 2005): F300-323.
- Barry Chiswick, "The Effect of Americanization on the Earnings of Foreign-Born Men," *Journal of Political Economy*, 86 (Oct. 1978): 897-921.
- and Paul Miller, "The Endogeneity between Language and Earnings: International Analyses," *Journal of Labor Economics*, 13 (April 1995): 246-288.
- Brian Duncan and Stephen Trejo, "Immigration and the United States Labour Market," in John Higley and John Nieuwenhuysen, eds., *Nations of Immigrants: Australia and the USA Compared*. Cheltenham, United Kingdom: Edward Elgar Publishing, 2009, pp. 100-114.
- Reynolds Farley and Richard Alba, "The New Second Generation in the United States," *International Migration Review*, 36 (Fall 2002): 669-701.
- Rachel Friedberg and David Jaeger, "The Economic Diversity of Immigration Across the United States," IZA Discussion Paper No. 4555, 2009.
- Reuben Gronau and Daniel Hamermesh, "The Demand for Variety: A Household Production Perspective," *Review of Economics and Statistics*, 90 (August 2008): 562-572.

Daniel Hamermesh, Harley Frazis and Jay Stewart, "Data Watch: The American Time Use Survey," *Journal of Economic Perspectives*, 19 (2005): 221-232.

Oscar Handlin, *The Uprooted*. New York: Grosset & Dunlap, 1951.

Mary Kritz and Douglas Gurak, "Immigration and a Changing America," in Reynolds Farley and John Haaga, eds., *The American People: Census 2000*. New York: Russell Sage Foundation, 2005, pp. 259-301.

Joel Perlmann and Roger Waldinger, "Second Generation Decline? Children of Immigrants, Past and Present—A Reconsideration," *International Migration Review*, 31 (Winter 1997): 893-921.

Ruben Rumbaut, "Ages, Life Stages, and Generational Cohorts: Decomposing the Immigrant First and Second Generations in the United States," *International Migration Review*, 38 (Fall 2004): 1160-1205.

Andres Vargas and Manuel Chavez, "Assimilation and Cohort Effects Beyond the Labor Market: Time Allocations of Hispanic Immigrants to the U.S.," Unpublished paper, Texas Tech University, 2009.

Table 1. Categorization of Time-Use Activities, ATUS 2004-2008

Type of Activity				
Purchasing	Education	Work	Not-assimilating	
Consumer goods	Attending class	Working	Sleeping	
Grocery shopping	Homework and	Work-related	Grooming	Eating and drinking
Financial services	research	activities	Health-related	Travel related to
Medical services	Travel for	Other income-	self care	eating and drinking
Personal care	education	generating	Personal activities	
services		activities	Travel for	Housework
Household services		Job search and	personal care	Food preparation and
Home repair		interviewing		clean-up
services		Travel for	Caring for and	Lawn and garden care
Vehical repair		work	helping household	Household mgmt.
services			children	Interior maintenace
Government			Caring for and	Exterior maintenance
services			helping household	Animals and pet
Travel for			adults	Vehicles
purchasing			Travel related to	Appliances, tool and toys
			caring for household	Travel related to
			members	household activities
			Caring for and	
			helping non-	Telephone calls, mail
			household	and email
			children	
			Caring for and	
			helping non-	Leisure and sports
			household	
			adults	
			Travel related to	Organization, civic
			caring for non-	and religious
			household	
			members	

Table 2. Descriptive Statistics, Immigrants and Natives, ATUS 2004-08*

	Immigrants	Natives		Immigrants	Natives
Time-Use:			Demographics:		
Purchasing:			Age	40.62	44.56
Yes?	0.402	0.461		(0.16)	(0.08)
Minutes/day	47.41	47.67	Hispanic	0.539	0.065
	(0.87)	(0.35)	Afr-American	0.077	0.124
Education:			Married	0.611	0.531
Yes?	0.079	0.086	Male	0.501	0.481
Minutes/day	26.44	27.80	No. Children	0.828	0.491
	(1.16)	(0.46)	under 18	(0.01)	(0.01)
Work:			Kids 0 to 2?	0.161	0.084
Yes?	0.492	0.461	Kids 3 to 5?	0.146	0.077
Minutes/day	249.79	219.48	Kids 6 to 12?	0.246	0.141
	(3.00)	(1.16)	Kids 13 to 17?	0.158	0.108
Assimilating:			EDUC=12	0.241	0.313
Yes?	0.768	0.765	EDUC 13-15	0.163	0.263
Minutes/day	323.63	294.95	EDUC=16	0.150	0.170
	(2.93)	(1.15)	EDUC>16	0.101	0.088
N =	8976	55949			

*Standard errors of continuous variables in parentheses here and in Table 4. All of the statistics here and in later tables are weighted to reflect the behavior of a representative American on a representative day using the variable wt06, based on the ATUS methodology for 2006.

Table 3. Marginal Impacts of Immigrant Status and Other Variables on the Probability of Engaging in Activities, ATUS 2004-2008 (N=64925)*

Variable:	Purchasing	Education	Work	Assimilating
Immigrant	-0.0519 (0.0088)	0.0082 (0.0039)	0.0015 (0.0092)	-0.0153 (0.0072)
Age	0.0031 (0.0009)	-0.0117 (0.0004)	0.0410 (0.0011)	0.0047 (0.0007)
Age squared/100	-0.0034 (0.0009)	0.0096 (0.0001)	-0.0526 (0.0012)	-0.0107 (0.0007)
Hispanic	0.0109 (0.0094)	-0.0093 (0.0031)	0.0150 (0.0097)	0.0090 (0.0072)
Afr-American	-0.0228 (0.0082)	0.0029 (0.0034)	-0.0501 (0.0086)	-0.0497 (0.0069)
Married	0.0017 (0.0057)	-0.0011 (0.0028)	-0.0101 (0.0065)	0.0081 (0.0049)
Male	-0.0996 (0.0053)	-0.0166 (0.0022)	0.1248 (0.0055)	0.0140 (0.0043)
No. Children under 18	0.0035 (0.0057)	0.0039 (0.0023)	-0.0117 (0.0056)	0.0001 (0.0049)
Kids 0 to 2?	-0.0003 (0.0094)	-0.0390 (0.0042)	-0.0502 (0.0095)	-0.0561 (0.0070)
Kids 3 to 5?	-0.0091 (0.0105)	-0.0240 (0.0026)	-0.0277 (0.0103)	-0.0431 (0.0099)
Kids 6 to 12?	0.0083 (0.0102)	-0.0145 (0.0037)	-0.0185 (0.0101)	-0.0086 (0.0088)

Kids 13 to 17?	0.0199 (0.0099)	0.0069 (0.0047)	0.0042 (0.0099)	0.0228 (0.0081)
EDUC=12	0.0682 (0.0090)	-0.0310 (0.0026)	0.1209 (0.0100)	0.0529 (0.0064)
EDUC 13-15	0.1110 (0.0091)	0.0041 (0.0033)	0.1555 (0.0100)	0.0999 (0.0061)
EDUC=16	0.1424 (0.0098)	0.0005 (0.0037)	0.2133 (0.0102)	0.1355 (0.0055)
EDUC>16	0.1399 (0.0111)	0.0413 (0.0047)	0.2736 (0.0107)	0.1532 (0.0051)
Pseudo-R ²	0.0180	0.2741	0.1333	0.0796

*Standard errors here and in Tables 4 and 6-10.

Table 4. Impacts of Immigrant Status and Other Variables on Time Spent, Conditional on Engaging in an Activity, ATUS 2004-2008

Variable:	Purchasing	Education	Work	Assimilating	Not-assimilating
Immigrant	11.449 (1.834)	31.492 (9.042)	19.319 (4.058)	22.113 (3.563)	-14.056 (3.310)
Age	0.200 (0.187)	-6.887 (1.492)	14.107 (0.564)	12.159 (0.388)	-8.216 (0.334)
Age squared/100	0.217 (0.002)	3.540 (1.674)	-16.383 (0.649)	-17.077 (0.412)	13.235 (0.344)
Hispanic	10.366 (1.932)	1.339 (8,484)	21.562 (4.406)	4.395 (3.780)	-6.378 (3.526)
Afr-American	5.968 (1.761)	-13.540 (8.639)	5.870 (4.145)	-10.653 (3.555)	24.386 (3.179)
Married	9.764 (1.304)	-5.754 (10.378)	5.381 (3.066)	-0.836 (2.704)	-0.688 (2.438)
Male	-19.235 (1.092)	-2.639 (5.906)	56.55 (2.524)	65.607 (2.184)	-54.107 (2.006)
No. Children under 18	-3.270 (1.281)	-19.588 (10.378)	-4.350 (2.873)	-7.474 (2.592)	4.107 (2.407)
Kids 0 to 2?	5.202 (2.104)	4.534 (15.900)	0.911 (4.803)	-34.348 (4.238)	44.305 (3.938)
Kids 3 to 5?	2.813 (2.441)	-2.194 (20.583)	-0.327 (5.341)	-16.93 (4.899)	25.569 (4.571)

Kids 6 to 12?	-0.998 (2.373)	2.615 (18.925)	-11.723 (5.196)	-20.601 (4.765)	16.164 (4.478)
Kids 13 to 17?	4.234 (2.338)	46.104 (20.522)	5.752 (5.083)	4.925 (7.178)	-14.898 (4.408)
EDUC=12	-2.413 (1.847)	-81.676 (11.149)	33.208 (4.589)	14.668 (3.679)	-32.633 (3.175)
EDUC 13- 15	-0.286 (1.873)	-36.546 (9.100)	21.346 (4.664)	25.156 (3.730)	-60.643 (3.294)
EDUC=16	-6.608 (2.047)	-36.122 (13.012)	17.955 (4.943)	31.366 (4.107)	-84.294 (3.691)
EDUC>16	-5.129 (2.387)	-56.96 (17.810)	7.284 (0.0107)	43.516 (4.808)	-105.466 (4.394)
Adjusted-R ²	0.0225	0.1511	0.0561	0.1095	0.1305
N =	30442	4195	25304	46730	64924

Table 5. Descriptive Statistics on Years Since Migration, Country of Origin and Generational Status

	Immigrants (N=8976)
Years in U.S. :	
<6	0.190
6-10	0.167
11-20	0.282
>20	0.361
Source Country Language:	
English	0.113
English Official	0.129
Not-English	0.759
Interview Not- English	0.364
Mexico	0.210
	Natives (N=55949)
Parents Immigrants?	
Both	0.051
Father only	0.025
Mother only	0.020

Table 6. Impacts of Years since Migration and Generational Status on the Probability and Condition Amount of an Activity, ATUS 2004-2008*

Variable:	Purchasing	Education	Work	Assimilating	Not-assimilating
Probability of the Activity (N=64925)					
Immigrants in U.S.:					
<6 years	-0.0868 (0.0175)	0.0263 (0.0086)	-0.0300 (0.0187)	-0.0351 (0.0160)	
6-10 years	-0.0500 (0.0193)	0.0078 (0.0080)	-0.0117 (0.0187)	-0.0214 (0.0152)	
11-20 years	-0.0441 (0.0148)	0.0103 (0.0069)	0.0133 (0.0151)	-0.0078 (0.0120)	
>20 years	-0.0269 (0.0121)	-0.00002 (0.0054)	0.0008 (0.0131)	0.0062 (0.0099)	
Second generation					
Both	0.0361 (0.0142)	0.0117 (0.0057)	-0.0319 (0.0156)	0.0403 (0.0102)	
Father only	0.0050 (0.0181)	0.0131 (0.0098)	-0.0071 (0.0202)	0.0084 (0.0135)	
Mother only	0.0244 (0.0201)	0.0188 (0.0098)	-0.0314 (0.0204)	0.0224 (0.0149)	
Pseudo-R ²	0.0183	0.2751	0.1335	0.0802	

Minutes Conditional on the Activity

In U.S.:

<6 years	20.232 (3.864)	22.949 (14.013)	20.390 (7.947)	18.099 (6.980)	-6.790 (6.495)
6-10 years	15.891 (3.974)	38.552 (18.461)	16.904 (8.325)	20.771 (7.449)	-13.898 (6.921)
11-20 years	10.370 (3.124)	69.096 (15.169)	17.545 (6.517)	31.546 (5.911)	-25.298 (5.518)
>20 years	8.617 (2.648)	-35.264 (24.345)	21.133 (6.070)	16.877 (5.329)	-13.734 (4.826)
Parents					
Immigrants:					
Both	7.822 (2.746)	20.978 (12.023)	-4.385 (7.323)	-1.947 (5.663)	-9.628 (5.169)
Father	-4.385 (3.737)	-7.624 (19.0308)	-0.112 (9.927)	-2.309 (7.769)	0.746 (6.982)
Mother	-3.747 (4.039)	-13.335 (18.676)	15.741 (9.927)	0.469 (8.279)	-8.595 (7.728)
Adjusted-R ²	0.0230	0.1538	0.0560	0.1095	0.1305
N =	30442	4195	25304	46730	64924

*Here and in Tables 7-9 the same control variables as in Tables 3 and 4 are included.

Table 7. Impacts of English in Home Country on the Probability and Conditional Amount of an Activity, ATUS 2004-2008

Variable:	Purchasing	Education	Work	Assimilating	Not-assimilating
	Probability of the Activity (N=64925)				
English	0.0033 (0.0204)	0.0091 (0.0095)	0.0004 (0.0211)	0.0149 (0.0151)	
Official English	-0.0800 (0.0189)	0.0133 (0.0091)	-0.0523 (0.0196)	-0.0572 (0.0185)	
No English	-0.0560 (0.0103)	0.0070 (0.0046)	0.0149 (0.0108)	-0.0122 (0.0083)	
Pseudo-R ²	0.0181	0.2741	0.1335	0.0798	
	Minutes Conditional on the Activity				
English	9.510 (4.255)	35.238 (25.358)	13.857 (10.028)	17.234 (8.683)	-20.760 (7.991)
Official English	14.821 (4.281)	26.015 (20.698)	18.192 (9.107)	13.021 (8.143)	5.614 (7.475)
No English	11.129 (2.153)	32.225 (10.385)	20.626 (4.706)	25.222 (4.136)	-17.438 (3.846)
Adjusted-R ²	0.0230	0.1507	0.0560	0.1095	.1305
N =	30442	4195	25304	46730	64924

Probability of the Activity (N=37914)

Immigrant	-0.0272 (0.0124)	0.0148 (0.0056)	-0.0032 (0.0128)	-0.0046 (0.0100)
Mexican immigrant	0.0124 (0.0274)	-0.0044 (0.0089)	-0.0217 (0.0278)	-0.0135 (0.0225)
Interview Not-English	-0.0786 (0.0200)	-0.0207 (0.0073)	0.0564 (0.0209)	-0.0307 (0.0163)
Pseudo-R ²	0.0188	0.2972	0.1329	0.083

Minutes Conditional on the Activity

Immigrant	5.376 (2.512)	29.075 (12.800)	13.227 (5.568)	17.057 (4.945)	-13.323 (4.600)
Mexican mmigrant	2.068 (6.501)	-31.894 (37.691)	11.146 (13.427)	-4.726 (12.042)	8.971 (10.852)
Interview Not-English	19.030 (4.554)	-35.403 (22.342)	27.143 (9.413)	25.633 (8.349)	-10.064 (7.503)
Adjusted-R ²	0.0230	0.1420	0.0572	0.1066	0.1314
N =	17617	2357	14924	27243	37913

Table 8. Impacts of Home-Country GDP Per Capita on the Probability and Conditional Amount of an Activity, ATUS 2004-2008

	Purchasing	Education	Work	Assimilating	Not-assimilating
Variable:	Probability of the Activity (N=64925)				
GDP/Capita (\$10,000)	0.0153 (0.0052)	-0.0016 (0.0021)	-0.0099 (0.0058)	0.0049 (0.0043)	
English	-0.0369 (0.0250)	0.0139 (0.0123)	0.0259 (0.0266)	0.0025 (0.0192)	
Official English	-0.0890 (0.0190)	0.0144 (0.0094)	-0.0465 (0.0200)	-0.0609 (0.0189)	
No English	-0.0727 (0.0121)	-0.0087 (0.0055)	0.0257 (0.0127)	-0.0178 (0.0099)	
Pseudo-R ²	0.0183	0.2742	0.1336	0.0799	
	Minutes Conditional on the Activity				
GDP/Capita (\$10,000)	-1.269 (1.136)	5.799 (6.700)	-6.904 (2.634)	-8.654 (2.268)	6.724 (2.077)
English	13.139 (5.354)	48.889 (29.862)	31.129 (11.997)	40.271 (10.574)	-38.452 (9.680)
Official English	15.678 (4.349)	28.314 (20.868)	21.878 (9.214)	18.025 (8.247)	1.454 (7.584)
No English	12.614 (2.530)	37.046 (11.784)	27.990 (5.480)	34.701 (4.824)	-24.912 (4.485)
Adjusted-R ²	0.0225	0.1507	0.049	0.1098	0.1307
N =	30442	4195	25304	46730	64924

Table 9. Impacts of Immigrant Status and English-Language Knowledge Home-Country on the Probability and Conditional Amount of an Activity, Australian Time Use Survey, 1992*

	Purchasing		Education/ Training		Work	
Probability of the Activity (NDAY5 = 12,998; NPeople = 6618)						
Variable:						
Immigrant	-0.0140 (0.0114)	0.0170 (0.0128)	0.0089 (0.0053)	0.0011 (0.0054)	-0.0320 (0.0129)	-0.0025 (0.0146)
Foreign language	----- -----	-0.0953 (0.0175)	----- -----	0.0257 (0.0093)	----- -----	-0.0895 (0.0191)
Pseudo-R ²	0.0202	0.0221	0.2568	0.2588	0.1489	0.1506
Minutes Conditional on the Activity						
Immigrant	6.940 (2.375)	3.690 (2.651)	41.162 (21.215)	15.688 (22.966)	9.339 (8.183)	3.906 (8.781)
Foreign language	----- -----	11.427 (3.723)	----- -----	65.200 (28.631)	----- -----	20.667 (13.446)
Adjusted-R ²	0.0254	0.0266	0.1504	0.1576	0.0987	0.0992
NDAYS	6764		1048		5607	
N People	4714		703		3580	

*Also included in the equations are a vector of indicators of educational attainment, a quadratic in the respondent's age, gender, marital status, the number of children under age 15, and their distribution by age category.