Nonmarket Work among Working-Age Disability Beneficiaries: Evidence from the American Time Use Survey

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More than $100 billion is spent annually by the United States federal government in income maintenance in the form of Social Security Disability Insurance (SSDI) to workers with disabilities—the majority of whom are not in the labor market. Despite this large sum, however, little is known about the extent to which disability beneficiaries contribute to the economy through nonmarket work. This study uses data from the 2003-2012 American Time Use Survey, matched to the Current Population Survey, to provide the first nationally representative analysis of nonmarket time use among SSDI beneficiaries. A replacement wage approach is then used to assign monetary value to beneficiaries' nonmarket time, and to evaluate the relative contribution of that monetary value to Gross Domestic Product (GDP) and average aggregate SSDI payments. Results indicate that beneficiaries, on average, report nearly 4.5 hours per day of nonmarket production. These inputs would comprise between .69-.98% of total GDP if they were compensated in the market, depending on methodology and year of observation. Furthermore, the value of beneficiaries' inputs exceeds the cost of average aggregate payments to beneficiaries across all years. Thus, SSDI beneficiaries report substantial production, albeit not in the market.

Keywords: time use, Social Security, household production, nonmarket work, United States

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Over 8 million adults in the United States in 2012 had work disabilities severe enough to qualify them for income maintenance in the form of Social Security Disability Insurance (SSDI) (Social Security Administration, 2013). To be eligible for SSDI, beneficiaries must meet the medical criteria of being unable to engage in substantial gainful activity for at least one year. To remain eligible, they must earn less than a predetermined income limit. Therefore, rates of paid employment among this population are low, with less than 8% reporting paid work in the most recent National Beneficiary Survey (Wright et al., 2012).

However, a lack of attachment to the paid labor market does not mean that SSDI recipients do not engage in other forms of labor inputs that contribute to economic production. For years, researchers have been using time diary data to document and estimate the economic contribution of nonmarket work (Landefeld, Fraumeni, & Vojtech, 2009; Frazis & Stewart, 2011)—particularly as contributed by populations who may be less attached to the labor market, including mothers (Folbre & Yoon, 2008) and retirees (Moen & Flood, 2013). Despite this precedent and the ongoing release of the American Time Use Survey (ATUS), less is known about how disability beneficiaries spend their time, how much of this time contributes to production, or the market value of this production.

This study addresses the gap in our understanding of nonmarket work among recipients of SSDI by using data from the 2003-2012 ATUS, matched to the Annual Social and Economic Supplement of the Current Population Survey (CPS), to provide the first nationally representative analysis of time use among working-age disability beneficiaries in the United States. The objectives of this analysis are three-fold: to estimate nonmarket time use among SSDI recipients; to calculate replacement wages that could be earned if nonmarket activities

were compensated in the market; and to compare the relative contribution of nonmarket labor inputs to Gross Domestic Product (GDP) and aggregate SSDI payments.

Background

Time Use and Nonmarket Accounts

GDP as a traditional indicator of productivity derives its utility by summarizing the value of a country's goods and services in the market. However, GDP and related measures have been critiqued for excluding production that occurs in the home or other places outside the market (Landefeld & McCulla, 2000). Activities such as housework, care work, volunteering, and the coordination of services related to household production all have exchange value (Frazis & Stewart, 2011; Landefeld et al., 2009; National Research Council, 2005). In addition, like transactions measured in the market, they have the potential to increase the value of purchased goods and services and help develop and maintain human capital (Chadeau, 1992).

For many years, however, data limitations and methodological issues precluded the estimation of nonmarket production in the United States. Two important developments have since overcome these issues. The first is the publication of the National Research Council (2005) report, *Beyond the Market: Designing Nonmarket Accounts for the United States,* which makes recommendations as to how productive work can be defined, valued, and therefore integrated into national accounting. The second is the annual and ongoing (since 2003) collection of the American Time Use Survey (ATUS), a nationally representative time diary survey of how Americans spend their time and "the only federal survey providing data on the full range of nonmarket activities" (U.S. Bureau of Labor Statistics [BLS], 2014a). ATUS is also recommended in *Beyond the Market* as the data source that should underpin the construction of nonmarket accounts (National Research Council 2005, p. 46).

Since these developments, numerous studies have used the ATUS to estimate the exchange value of nonmarket time use in the market by assigning a monetary value to activities that someone else could be hired to perform (Folbre, Reimers, & Yoon, 2009; Folbre & Yoon, 2008; Frazis & Stewart, 2011). These studies use a replacement wage approach, which substitutes the cost of purchasing comparable services using average wages for similar occupations. For example, time spent in housework can be valued using the average wage of maids and housekeeping cleaners, and time spent caring for children can be valued using the average wage of childcare workers. These can then be extrapolated to annual hours, and multiplied by the size of the population under consideration (National Research Council, 2005).

This work often focuses on populations that perform labor outside the market, and thus for whom nonmarket work may be their primary (or sole) form of production. Parents, for example, make substantial nonmarket contributions (Folbre & Yoon, 2008). Men and women in households with only young children at home spent an average of 5.5 and 8.8 hours a day in child care, respectively. Using 2003 dollars, these estimates alone (not including other forms of nonmarket work) equate to a market value of $33,000 for women and $17,100 for men. Likewise, older Americans are connected to the market differently than those who are of working age, as retirement and fixed income typically impose additional constraints on household expenditures. Folbre et al. (2009) examine time use among respondents aged 55-64 and 65-74, imputing the annual value of nonmarket household work to range from $6,956 for men aged 55-64 living alone to $13,581 for persons aged 65-74 living in couples. Combining these values with average money income suggests that this “extended income” is 18%-48% greater than these groups’ money income alone.

SSDI beneficiaries, too, face constraints to market work from both their own impairment and from program earnings limits. Their nonmarket contributions are largely unknown, but important to understand relative to the rising costs of the program (Social Security Administration, 2014) and its currently projected insolvency (Board of Trustees, 2014). To what extent would these inputs contribute to GDP, if valued in the market? Might the valuation of beneficiaries' nonmarket inputs exceed the cost of average SSDI payments?

Beneficiaries' Use of Time

Addressing these questions requires an understanding of how beneficiaries spend their time—and a consideration of why participation in nonmarket work might remain high despite low participation in market work.

SSDI beneficiaries have very low rates of paid work, but—when they are employed—they also have qualitatively different kinds of work arrangements than employed non-beneficiaries: disproportionately part-time, temporary, or independently contracted (Schur, 2003). Although program earnings limits are a constraint, only a minority of respondents in the nationally representative National Beneficiary Survey (NBS) claim this as a reason for not working. Instead, they cite the limitations related to their disability (91%), being discouraged by previous work attempts (26%), and lack of accessibility (24%). Almost one-third of beneficiaries include getting a job, developing new skills, or career advancement as goals, and 27% see themselves working for pay in the next five years (Wright et al., 2012). Thus, despite the barriers to paid employment, beneficiaries may invest their time in alternative ways to develop or maintain human capital.

There is limited research on nonmarket work among SSDI beneficiaries; however, a handful of studies consider how disabilities (broadly defined) affect levels of participation in the

key contributors of housework, care work, and volunteering. Analyses of the 1988 National Survey of Families and Households indicate that having a limiting condition is negatively associated with time spent in household labor, although more so for women than for men (South & Spitze, 1994). Hook (2004) also finds a negative relationship between limiting conditions and housework among married women in the 1997 Australian Time Use Survey. However, analyses of the 2002 Spanish Time Use Survey indicate that both men and women with chronic illness or disability spend more time in household production (Pagán, 2013), and those from the 2009-2012 ATUS suggest no difference for those with work or functional limitations (Anand & Ben-Shalom 2014). Thus, while results are mixed, the most recent evidence from the United States suggests that disability should not reduce time in household labor. Beneficiaries may be making up some of their time out of the market in housework.

The same could be true for care work. People with disabilities are less likely to live with coresident children than the general population (Vespa, Lewis, & Kreider, 2013; Wright et al., 2012). However, those who do report child care in the ATUS do not differ significantly from people without work or functional limitations (Anand & Ben-Shalom, 2014). Likewise, adult care does not differ significantly by disability status for women, but men with disabilities do report less time (Anand & Ben-Shalom, 2014). While beneficiaries have poorer health than the general population (Adams, Kirzinger & Martinez, 2013; Wright et al., 2012) and thus are likely to have more intensive care needs themselves, this research suggests that disability does not preclude individuals from caring for others.

Lastly, volunteer work also has market value (Brown, 1999; Salamon, Sokolowski & Haddock, 2011) and thus can be an alternative form of production—particularly for those who may be less likely to participate in the paid labor force (Hank & Stuck, 2008; Moen & Flood,

2013). People with disabilities are underrepresented in volunteer agencies in the United States (Miller, Schleien, & Bedini, 2003), although patterns of individual-level results are mixed. Freedman and colleagues' (2012) examination of married persons aged 60 and older in the Panel Study of Income Dynamics indicates that people with activity limitations or physical, cognitive, or sensory impairments were significantly less likely than people without impairments to report volunteering in the week prior to the survey. However, Moen and Flood's (2013) analysis of men and women ages 50-75 in the American Time Use Survey finds that those with work disabilities are no less likely than those without disabilities to participate in volunteer work. Men with disabilities spend less time volunteering when they do participate. More research is needed to examine if these results reflect the time-use patterns of working-age disability beneficiaries.

Data and Measures

Three data sources are required to meet the three objectives of this study. First, individual-level time use data are needed to estimate nonmarket time use among SSDI beneficiaries. Second, occupation-level wage data are needed to calculate replacement wages that could be earned if beneficiaries' nonmarket activities were compensated in the market. Finally, national data are needed to compare beneficiaries' nonmarket labor inputs to GDP and aggregate SSDI payments. Each of these data sources is described in turn. Their application is discussed in the analytic strategy section that follows.

Individual-Level Time Use Data

Time use data are analyzed from the publicly available ATUS, a nationally representative survey sponsored by the U.S. BLS that collects information on daily time use (Hofferth, Flood, & Sobek, 2013). Respondents aged 15 and over were chosen randomly from households that had undergone their final interview for the Current Population Survey (CPS), with the sample

randomized by day such that half the respondents reported on a weekday and half reported on a weekend day. Computer-assisted telephone interviewing was used to ask respondents to provide demographic information, as well as a detailed account of their activities during a 24-hour period beginning at 4:00 am. Thus, the "diary day" is the day about which the respondent reports, with pooled data from 2003-2012 resulting in a total initial sample size of 136,960 diary days. All estimates are adjusted using Bureau of Labor Statistics (BLS)-provided probability weights to appropriately represent all days of the week.[1]

While the ATUS includes detailed information on time use and basic sociodemographic characteristics, it does not collect data on SSDI receipt. This information is included for some ATUS respondents in the March Supplement (also known as the Annual Social and Economic Supplement) of the CPS and thus can be matched with the ATUS by linking roster identification and sociodemographic characteristics. The construction of this matched dataset allows for the identification of disability beneficiaries, with the match performed according to BLS recommendations.[1] Not all households in the CPS are included in the March Supplement due to the sampling frame of the CPS, and not all respondents in the CPS are included in the ATUS due to the sampling frame of ATUS.[2] While this reduces the sample size of ATUS by approximately two-thirds, probability weights are adjusted as recommended (ATUS-X, 2010) and applied so that estimates remain nationally representative.

SSDI receipt. Information about SSDI receipt was collected in the March Supplement of the CPS, such that respondents who identified Social Security as a source of income for the previous year were subsequently asked, "What were the reasons you were getting Social Security Income last year?" Those that responded "disabled" were coded as beneficiaries.

Age. Age in years is measured both at the time of the CPS and at the time of the ATUS to adequately capture the working-age population. Given the multiple data sources used for these analyses, respondents must report being of working age as of both surveys to be included in the sample. The final matched sample consists of 32,619 individuals aged 18-64 as of both the March Supplement (when SSDI information was collected) and the ATUS (when time use information was collected)—1,028 (3.15%) of whom report receiving SSDI as a result of their own disability.

Nonmarket work. The ATUS includes 17 major categories in its activity lexicon (Shelley, 2005), with each major category including a further level of detail in the form of first-tier and second-tier subcategories. For example, in this hierarchical structure the "Household Activities" major category has 10 first-tier categories, including "Housework", which can further be disaggregated into interior cleaning, laundry, sewing, storage, and work that is not elsewhere classified. This equates to hundreds of possible time use categories. Thus, in order to estimate the amount of time that beneficiaries spend in nonmarket work, it is first necessary to determine which activities qualify as nonmarket work.

The current study follows the classification scheme used by Frazis and Stewart (2011) in their analysis of nonmarket time use in the ATUS. This includes household activities, caring for and helping household members, consumer purchases, professional and personal care services, household services, and most government services and civic obligations. Like Frazis and Stewart (2011) and BLS reports (e.g., BLS, 2014c), associated travel time is combined with each corresponding detailed activity category. Unlike Frazis and Stewart (2011), volunteer work is included here as it could have market value and can be considered a productive activity (Brown, 1999; Salamon, Sokolowski & Haddock, 2011). Likewise, time spent in care to non-household

children and adults is also included as nonmarket work, as it represents another form of carework.

In addition to these primary activities, ATUS also asks respondents to report when children younger than age 13 are in their care. This is sometimes considered "secondary" child care because it occurs in tandem with other primary activities. Following others (Folbre & Yoon, 2008; Frazis & Stewart, 2011), secondary child care is also included in estimates of nonmarket work—but only when it occurs during primary activities that don't constitute nonmarket work. This approach captures the broadest spectrum of child care responsibilities, but does not double-count when these responsibilities overlap with other forms of nonmarket time use. A full list of the nonmarket time use categories used in this analysis can be found in the first column of Table 1.

Finally, data are pooled across years to guard against potential problems with empty cells. Some of the first-tier and second-tier activity categories have very few respondents that report any time. This is true of the broader ATUS sample and not just SSDI beneficiaries; however, the small number of beneficiaries per year (between 80 and 118) precludes a year-by-year examination. For example, the number of beneficiaries reporting any time in "household management" ranges from 1 to 5 each year. Thus, average time use is held constant across years.

Occupation-Level Replacement Wage Data

There are multiple ways to monetize household production in the calculation of replacement wages (National Research Council, 2005). A *generalist* approach assigns a single wage—typically for a housekeeper, who performs a variety of general tasks—to all types of nonmarket work. A *specialist* approach assigns different wages from different specialized occupations to different types of corresponding nonmarket work. A *quality-adjusted specialist*

approach acknowledges that nonmarket work performed by non-specialists is typically not as efficient as market work performed by specialists, and attempts to adjust wages assigned from the specialist approach accordingly.

All of these approaches require the use of occupation-level wage data. Following Frazis and Stewart (2011), these are assigned in this study based on the hours-weighted mean wage for each corresponding three-digit Census occupation from the Current Population Survey's Outgoing Rotation Group. Replacement wages are calculated for each year corresponding to the period under investigation (2003-2012) and expressed in current U.S. dollars. Wages for all market occupations for all years are presented in the appendix.

The generalist approach assigns the mean hourly wage from one occupation—maids and housekeeping cleaners—to all nonmarket time use. However, the calculation of specialist and adjusted specialist wage replacements requires the identification and matching of nonmarket occupations to corresponding time use categories. The crosswalk used here is based on the scheme developed by Frazis and Stewart (2011), with a few exceptions to account for non-household nonmarket work.[3] All market occupations, matched to their corresponding time use categories, are presented in Table 1.

Finally, quality-adjusted specialist wages are based on specialist wages, but adjusted accordingly for skill and effort differentials. These factors are not observed in the ATUS (National Research Council, 2005); however, a common approach to approximating them is to deduct 25-30% from each hourly wage, depending on required skill (Folbre & Yoon, 2008; Landefeld, Faumeni, & Vojtech, 2009). The adjustment used here is based on Occupational Information Network's (O*Net) Job Zones, which classify occupations according to education, experience, and on-the-job training (see O*Net (2015) for additional information). Job Zones

range from 1 (needing little or no preparation) to 5 (extensive preparation). Here, occupations with Job Zones of 2 (some preparation), 3 (medium preparation), and 4 (considerable preparation) are adjusted to 90%, 80%, and 70% of their original hourly wage, respectively. All Job Zone information, matched to corresponding market occupations, is presented in the appendix.

National-Level GPD and SSDI Data

Lastly, nonmarket inputs are compared to GDP and SSDI payments. GDP is collected for each year from the World Bank's (2015) World Development Indicators.[4] SSDI payments are calculated by multiplying average monthly benefits for all disabled workers (Social Security Administration, 2014) to the number of disabled workers aged 64 and under (e.g., Social Security Administration, 2013). All dollar values are expressed in 2003-2012 current dollars throughout to retain comparability.

Analytic Strategy

First, nonmarket time use is calculated by estimating weighted means across detailed activity categories. These are then extrapolated to yearly hours by multiplying average daily time by 365 days and dividing by 60 minutes. Second, year-specific total labor inputs are estimated using generalist, specialist, and adjusted specialist replacement wage approaches. The first multiples total annual nonmarket hours (1,586.90) by the average hourly wage for maids and housekeeping cleaners for each year. For example, this wage is $11.31 in 2012, yielding a total value of $17,947.82 per beneficiary per year, multiplied by the total number of beneficiaries in 2012 (8,370,571) for a total of $150,233,502,860.81. This process is repeated for all years for the generalist approach, and substitutes matched market occupation wages for the specialist and adjusted specialist approaches. Finally, I compare these total market inputs to GDP and SSDI

payments for each year by calculating total labor inputs as a percentage of each value.[5] Returning to the generalist calculation example for 2012, if nonmarket work were compensated in the market, the value of this work would comprise .93% of total GDP and 132.32% of SSDI payments.

Results

Nonmarket Time Use

Table 1 presents weighted mean minutes spent in nonmarket time, with results presented according to the crosswalk between ATUS time use categories and market occupations. Of all types of nonmarket work, beneficiaries spend the most time on average, per day, in household activities (114 minutes). Most of this time (37 and 36 minutes, respectively) is spent in housework and food and drink preparation, although gardening (13 minutes) and various types of household management (10 minutes) are also common.

Beneficiaries spend over an hour and one-half in all types of care work, each day—including 56 minutes in secondary child care. Interestingly, more time is spent caring for non-household members (20 minutes total) than for household members (17 minutes). Types of care work also vary across household context, with the majority of household care (11 minutes) directed toward children, and the majority of non-household care (9 minutes) directed toward helping adults.

Of the remaining categories, little time is spent on average in volunteer activities (5 minutes) and other services (2 minutes). Sixteen minutes per day are spent in professional and personal care services (including medical care) and 32 in consumer purchases.

Nonmarket Labor Inputs, GDP, and SSDI Payments

Table 2 displays valuations of nonmarket labor inputs as calculated using the generalist, specialist, and adjusted specialist approach. Nonmarket time is held constant; however, replacement wages and all other values vary annually. All monetary figures are expressed in current US dollars.

Even when all nonmarket time is considered general labor and compensated at a rate for maids and housekeeping cleaners, beneficiaries' labor inputs are valued at $150.2 billion in 2012. Assigning a specialist wage to each nonmarket time use category increases this estimate to $153.6 billion. Adjusting these specialist rates for differences in efficiency leads to the lowest valuation; but even then, beneficiaries' nonmarket work is still valued at $139.7 billion.

As the number of beneficiaries on the rolls increases, so too will their total labor inputs. But the relative contribution of these inputs to GDP and as compared to SSDI payments need not. Table 2 also presents labor inputs as a percentage of both values. Regardless of year and estimation approach, beneficiaries' nonmarket production is valued at between .69% (2003) and .98% (2011) of annual GDP. Likewise, their labor inputs are valued between 123% (2012) and 146% (2003) of total average SSDI payments.

Discussion

This study uses data from the ATUS, matched to the CPS, to provide the first nationally representative analysis of nonmarket time use among working-age disability beneficiaries in the United States. Additionally, multiple methodologies are used to assess the market value of this nonmarket time. Finally, of particular relevance to disability policy, market values are compared to GDP and average aggregate SSDI payments over a 10-year period. In sum, results indicate that beneficiaries make substantial contributions to production, with labor inputs valued up to nearly 1% of GDP and far exceeding the costs of aggregate average SSDI payments.

Relative to other industries' value added as a percentage of GDP over the same period, beneficiaries' labor inputs are comparable in size to that of farms (.8-1.1%), educational services (.9-1.1%) and nursing facilities (.7-.8%) (U.S. Bureau of Economic Analysis, 2015). Each of these industries spends millions on lobbying (Center for Responsive Politics, 2015) and subsidies (Story, Fehr, & Watkins, 2012). In other words, SSDI beneficiaries' labor inputs surpass the value of many industries with substantial market power.

Likewise, return on investment is high. Depending on methodology, beneficiaries' nonmarket work is valued 23 to 46 percentage points higher than the aggregate average monthly SSDI payment. While the size of SSDI rolls and the rate of take-up depend on many factors (Autor, 2011; Burkhauser & Daly, 2012), these results suggest that SSDI payments covers only a portion of beneficiaries' total contributions to production.

At the individual level, these results also indicate that SSDI beneficiaries spend a significant portion of their time in productive work. Their total average nonmarket time adds to nearly 4 hours and 20 min per day; more than 30 hours per week. While the majority of this time (114 minutes) goes toward household activities, much (36 minutes) is devoted to primary care for others and secondary care of children (56 minutes). Further understanding of how beneficiaries contribute to the "care continuum" (Folbre & Yoon, 2008) is needed, particularly given that people with disabilities are typically considered recipients (Budlender, 2010; Thomas, 1993)—and not benefactors—of care.

This research also provides direct evidence to challenge public discourses of people with disabilities as lazy and work-shy (Briant, Watson, & Philo 2011; Weber, 2007). SSDI beneficiaries report a substantial amount of work, albeit not in the market. While the ATUS data are unable to address the extent of disablement, or how disablement might affect the translation

of nonmarket labor into market production, these results support previous evidence (Wright et al., 2012) that beneficiaries are not averse to work, broadly defined. Future studies would be well-served to explore these issues, especially given contemporary "backlash stigma" (Hansen, Bourgois, & Drucker, 2014) and skepticism around deservingness of disability benefits (O'Brien, 2015).

Finally, results suggest that providing coordinated market opportunities for the types of activities that SSDI recipients are already performing may be one mechanism of labor force reentry. Any opportunity to bring nonmarket work into the market would need to consider beneficiaries' abilities and limitations and would require a more detailed understanding of the specific types of household activities and carework that can be performed according to these abilities. Further examination of the constraints associated with nonmarket work among disability beneficiaries can help point to potential policy solutions for promoting—and potentially, compensating—that work.

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[1] See the ATUS User's Guide (U.S. Bureau of Labor Statistics 2014b) for more information on the calculation of weights and recommended matching procedures.

[2] See the ATUS User's Guide (U.S. Bureau of Labor Statistics 2014b) and U.S. Census Bureau (2006) for additional documentation of sampling frame and the relatedness of the two surveys.

[3] As noted in the "Individual-Level Time Use" section, this analysis includes the additional categories of volunteer work (assigned the market occupation of maids and housekeeping cleaners), care of non-household children (assigned market occupations equivalent to those used for care of household children), and care of non-household adults (assigned market occupations equivalent to those used for care of household adults). I also combine travel related to household children and household adults (and non-household children and non-household adults, respectively) due to changes in the coding scheme on this measure, assigning the average wage for child care

workers and personal and home care aides. Otherwise, the scheme used here is identical to that used by Frazis and Stewart (2011).

[4] More specifically, "GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources."

[5] The use of time use data to quantify nonmarket work makes this an input-side calculation of production (National Research Council, 2005). While GDP is an output measure, the relative comparison between the two measures serves to illustrate the economic significance of nonmarket production and is not a novel application of the ATUS data. For example, in their chapter on concepts and measurement in the ATUS, Frazis and Stewart (2007) estimate that the total aggregate value of nonmarket production in the United States is equal to between 22 and 33% of GDP.

Table 1. Nonmarket time use among working-age SSDI recipients, matched to market occupation

Type of nonmarket activity	*Average Minutes*	*Market Occupation*
Household activities		
Housework	37.38	Maids and housekeeping cleaners
Food and drink preparation, presentation, and clean-up	35.73	Food preparation workers
Interior maintenance, repair, and decoration		
Building and repairing furniture	0.21	Furniture finishers
All other interior maintenance, repair, and decoration	1.48	Construction laborers
Exterior maintenance, repair, and decoration		
Exterior cleaning	1.54	Grounds maintenance workers
All other exterior maintenance, repair, and decoration	0.59	Construction laborers
Lawn, garden, and houseplants	13.27	Grounds maintenance workers
Animals and pets	7.78	Nonfarm animal caretakers
Vehicles	2.61	Automotive service technicians and mechanics
Appliances, tools, and toys	1.61	Home appliance repairers
Household management		
Financial management	1.34	Financial specialists, all other
All other household management	8.46	Secretaries and administrative assistants
Household activities, n.e.c. and travel	1.76	Maids and housekeeping cleaners
Caring for and helping household members		
Caring for and helping household children		
Homework and homeschooling	0.57	Preschool through secondary school teachers[1]
All other caring for and helping household children	10.66	Childcare workers
Caring for and helping household adults	2.30	Personal and home care aides
Caring for and helping household members, n.e.c. and travel	3.23	Childcare workers and personal and home care aides[1]
Caring for and helping non-household members		
Caring for and helping non-household children		
Homework and homeschooling	0.65	Preschool through secondary school teachers[1]
All other caring for and helping non-household children	5.96	Childcare workers
Caring for and helping non-household adults	8.86	Personal and home care aides
Caring for and helping non-household members, n.e.c. and travel	4.26	Childcare workers and personal and home care aides[1]

Secondary child care	56.34	Childcare workers
Volunteer activities	4.75	Maids and housekeeping cleaners
Consumer purchases	31.75	Maids and housekeeping cleaners
Professional and personal care services	16.09	Maids and housekeeping cleaners
Other services	1.68	Maids and housekeeping cleaners
Total	260.86	
N	1,028	

Source: 2003-2012 American Time Use Survey; data shown are weighted means. n.e.c. = "not elsewhere classified"

[1] Averaged across multiple market occupations

Table 2. Nonmarket labor inputs as percentage of Gross Domestic Product (GDP) and SSDI Expenditures

		Total Labor Inputs				*Labor Inputs as % GDP*				*Labor Inputs as % SSDI Expenditure*		
Year	*Number of Beneficiaries*	*Generalist*	*Specialist*	*Adjusted Specialist*	*GDP*	*Generalist*	*Specialist*	*Adjusted Specialist*	*SSDI Expenditure*	*Generalist*	*Specialist*	*Adjusted Specialist*
2003	5,830,406	$84,103,057,617	$88,026,725,059	$79,897,648,360	$11,510,700,000,000	0.73	0.76	0.69	$60,281,733,715	139.52	146.03	132.54
2004	6,116,164	$88,322,147,168	$93,411,952,497	$84,980,662,098	$12,274,900,000,000	0.72	0.76	0.69	$65,621,546,789	134.59	142.35	129.50
2005	6,385,417	$95,858,251,848	$99,430,824,575	$90,511,840,905	$13,093,700,000,000	0.73	0.76	0.69	$71,874,253,752	133.37	138.34	125.93
2006	6,614,326	$102,128,638,071	$106,967,768,955	$97,307,172,301	$13,855,900,000,000	0.74	0.77	0.70	$77,601,918,362	131.61	137.84	125.39
2007	6,830,144	$113,373,263,600	$117,701,267,702	$107,112,779,687	$14,477,600,000,000	0.78	0.81	0.74	$82,289,574,912	137.77	143.03	130.17
2008	7,086,669	$119,880,475,578	$124,750,498,453	$113,490,616,871	$14,718,600,000,000	0.81	0.85	0.77	$90,406,053,767	132.60	137.99	125.53
2009	7,451,731	$128,421,015,017	$134,759,588,525	$122,657,227,107	$14,418,700,000,000	0.89	0.93	0.85	$95,170,527,640	134.94	141.60	128.88
2010	7,864,732	$135,039,335,714	$142,823,297,276	$130,000,436,031	$14,964,400,000,000	0.90	0.95	0.87	$100,775,529,955	134.00	141.72	129.00
2011	8,170,778	$145,740,020,450	$151,717,496,719	$138,129,767,668	$15,517,900,000,000	0.94	0.98	0.89	$108,883,787,628	133.85	139.34	126.86
2012	8,370,571	$150,233,502,861	$153,614,120,837	$139,678,929,351	$16,163,200,000,000	0.93	0.95	0.86	$113,539,094,690	132.32	135.30	123.02

Appendix. Wages and skill requirements, by market occupation

Market Occupation	*Mean hourly wage, by year* [1]										*Necessary*
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	*preparation* [2]
Financial specialists, all other	$25.07	$22.48	$21.72	$26.09	$22.37	$26.18	$26.93	$23.83	$26.05	$27.49	4: Considerable
Preschool and kindergarten teachers	$14.92	$14.75	$14.67	$16.17	$16.03	$16.68	$17.71	$17.75	$17.76	$16.99	3: Medium
Elementary and middle school teachers	$20.14	$20.86	$21.38	$21.65	$22.45	$23.68	$23.54	$24.70	$25.04	$25.17	4: Considerable
Secondary school teachers	$21.71	$22.33	$22.45	$23.02	$23.77	$24.48	$24.96	$25.31	$26.02	$25.87	4: Considerable
Food preparation workers	$8.63	$8.69	$8.80	$9.05	$9.63	$9.61	$10.16	$9.99	$10.60	$10.17	1: Little or none
Maids and housekeeping cleaners	$9.09	$9.10	$9.46	$9.73	$10.46	$10.66	$10.86	$10.82	$11.24	$11.31	2: Some
Grounds maintenance workers	$11.12	$10.78	$11.10	$11.17	$11.83	$12.35	$12.35	$12.63	$12.74	$12.70	1: Little or none
Nonfarm animal caretakers	$9.84	$9.60	$10.93	$11.29	$10.50	$11.78	$12.78	$12.91	$13.63	$10.90	1: Little or none
Child care workers	$8.75	$9.13	$8.90	$9.54	$10.48	$10.47	$10.83	$11.01	$10.78	$10.72	2: Some
Personal and home care aide	$9.08	$9.00	$9.89	$9.81	$10.21	$10.83	$10.78	$11.08	$11.39	$11.38	2: Some
Secretaries and administrative assistants	$14.27	$14.81	$14.93	$15.48	$15.94	$16.56	$16.89	$17.62	$17.66	$18.12	3: Medium
Construction laborers	$14.15	$14.30	$14.30	$14.54	$15.05	$16.31	$17.18	$16.41	$16.97	$17.11	2: Some
Automotive service technicians and mechanics	$15.96	$16.27	$16.54	$16.68	$17.09	$18.15	$18.05	$17.55	$18.39	$18.22	3: Medium
Home appliance repairers	$16.19	$17.20	$17.10	$17.34	$18.42	$18.18	$18.42	$17.89	$21.25	$17.90	3: Medium
Furniture finishers	$10.62	$12.10	$12.32	$12.93	$14.82	$17.11	$15.92	$15.57	$12.52	$11.90	1: Little or none

[1] Source: 2003-2012 Current Population Survey, Outgoing Rotation Groups

[2] Source: Occupational Information Network (O*Net) Job Zones