



# Documentos CEDE

ISSN 1657-5334

A Proposal to Improve Our Understanding of  
Entrepreneurship Using the Panel Study  
of Income Dynamics

**Camilo Mondragón-Vélez**  
**Ximena Peña-Parga**

**23**

NOVIEMBRE DE 2008

Serie Documentos Cede, 2008-23  
ISSN 1657-5334

Noviembre de 2008

© 2008, Universidad de los Andes–Facultad de Economía–Cede  
Carrera 1 No. 18 A – 12, Bloque C.  
Bogotá, D. C., Colombia  
Teléfonos: 3394949- 3394999, extensiones 2400, 2049, 2474  
*infocede@uniandes.edu.co*  
*http://economia.uniandes.edu.co*

Ediciones Uniandes  
Carrera 1 No. 19 – 27, edificio Aulas 6, A. A. 4976  
Bogotá, D. C., Colombia  
Teléfonos: 3394949- 3394999, extensión 2133, Fax: extensión 2158  
*infeduni@uniandes.edu.co*  
*http://ediciones.uniandes.edu.co/*

Edición, diseño de cubierta, pre prensa y prensa digital:  
Proceditor Ltda.  
Calle 1C No. 27 A – 01  
Bogotá, D. C., Colombia  
Teléfonos: 2204275, 220 4276, Fax: extensión 102  
*proceditor@etb.net.co*

Impreso en Colombia – Printed in Colombia

El contenido de la presente publicación se encuentra protegido por las normas internacionales y nacionales vigentes sobre propiedad intelectual, por tanto su utilización, reproducción, comunicación pública, transformación, distribución, alquiler, préstamo público e importación, total o parcial, en todo o en parte, en formato impreso, digital o en cualquier formato conocido o por conocer, se encuentran prohibidos, y sólo serán lícitos en la medida en que se cuente con la autorización previa y expresa por escrito del autor o titular. Las limitaciones y excepciones al Derecho de Autor, sólo serán aplicables en la medida en que se den dentro de los denominados Usos Honrados (Fair use), estén previa y expresamente establecidas; no causen un grave e injustificado perjuicio a los intereses legítimos del autor o titular, y no atenten contra la normal explotación de la obra.

## A PROPOSAL TO IMPROVE OUR UNDERSTANDING OF ENTREPRENEURSHIP USING THE PANEL STUDY OF INCOME DYNAMICS

Camilo Mondragón-Vélez  
International Finance Corporation

Ximena Peña-Parga<sup>1</sup>  
Universidad de los Andes

### ***Abstract***

This paper aims to evidence how relatively marginal changes in the Panel Study of Income Dynamics survey, particularly on the measurement of returns to entrepreneurship – both financial and human capital – can yield sizeable benefits for research and policy on entrepreneurship. Accurate measurement of returns to all the resources invested in entrepreneurial endeavors is not only essential to understand the motivations and barriers to start a business, but can ultimately provide the basis to improve the effectiveness of programs and policies to foster entrepreneurial activity in the economy.

In fact, recent studies question the importance of pecuniary benefits in the decision to become an entrepreneur. However, these are based on measures of total earnings and sample aggregate returns. Thus, adequate individual data on business income and its components has an enormous value for both research and policy design altogether.

**Keywords:** entrepreneurship, returns to entrepreneurship, survey, PSID

**JEL Classification:** M13, J62

---

<sup>1</sup> The authors are grateful to J.E. Reedy and the Kauffman Foundation for their useful suggestions. The views expressed in this paper are those of the authors and do not necessarily represent those of the IFC or IFC management. All errors and omissions are sole responsibility of the authors. Addresses: CMondragonvelez@ifc.org, xpena@uniandes.edu.co.

## UNA PROPUESTA PARA MEJORAR NUESTRO COMPRESIÓN DEL EMPREDIMIENTO USANDO EL *PANEL STUDY OF INCOME DYNAMICS*

Camilo Mondragón-Vélez  
International Finance Corporation

Ximena Peña-Parga  
Universidad de los Andes

### Resumen

Cambios relativamente marginales en la encuesta *Panel Study of Income Dynamics* puede generar una mejora sustancial de nuestra comprensión del fenómeno de emprendimiento, en particular en la medición de los retornos al emprendimiento. Se pretende medir adecuadamente, además, los retornos a los componentes de capital físico y capital humano. Una medición adecuada de todos los recursos invertidos en los emprendimientos no solo es esencial para entender las motivaciones y barreras para montar una firma, sino que además pueden ayudar a mejorar la efectividad de programas y políticas de fomento al emprendimiento. Estudios recientes, basándose en medidas de ingresos totales y retornos agregados, ponen en tela de juicio la importancia de los retornos pecuniarios en la decisión de convertirse en un emprendedor. Por tanto, contar con datos individuales de ingresos del emprendimiento, así como de los componentes de capital físico y capital humano, es muy valioso tanto para la investigación académica como para el diseño de políticas.

**Palabras clave:** emprendimiento, retornos al emprendimiento, encuesta, PSID

**Clasificación JEL:** M13, J62

## ABOUT THE PANEL STUDY OF INCOME DYNAMICS (PSID)

The PSID is an established longitudinal survey of a representative sample (of individuals and families) for the U.S., which began in 1968 collecting information annually up to 1997 and bi-annually since then. According to their website “...at the conclusion of the 2003 data collection, the PSID will have collected information about more than 65,000 individuals spanning as much as 36 years of their lives.” The study has been conducted by the Institute of Social Research (ISR) of the University of Michigan and sponsored by several government agencies and other organizations. The PSID is widely used for research purposes by academics from different disciplines, given the wide range of topics covered in the questionnaire. These include housing, child care and development, job training, retirement plans and health; in addition to demographics, income, occupation, employment, wealth and savings.

The survey collects data at the household and individual (family members) levels, with greatest coverage of the household head and spouse. For instance, while business ownership and wealth are measured at the household level, occupation is determined at the individual level. Thus, there are alternative ways to define who is considered an entrepreneur. Given the main focus of the paper, we consider entrepreneurs those household heads who declare to be self-employed and whose family owns a business.

There is not a dedicated section to entrepreneurship in the questionnaire. Hence, the relevant information about entrepreneurs is spread across various sections of the survey. Given the structure of the questionnaire, some of the relevant data for a particular year  $t$  can be found in year's  $t$  data file, but other is collected in year's  $t+1$  wave.

More information about the PSID survey including sample selection, data collection, questionnaires, code books, methodology, data access and sponsors is available at [www.psidonline.isr.umich.edu](http://www.psidonline.isr.umich.edu).

## WHY THE PSID IS IMPORTANT

A natural question that motivates this paper is: Why improve the PSID given the recent efforts of the ISR in closing the data gap on firm creation and nascent entrepreneurs through the Panel Study of Entrepreneurial Dynamics (PSED) survey? The main answer relies in the fact that while the PSED captures information of a cohort of nascent entrepreneurs through the process of creating an operational firm within a specific period of time (1998-2006); the PSID, given its panel structure, is a unique source of information that allows the researcher to observe the behavior and characteristics of potential and actual entrepreneurs over their life course as well as across diverse states of the economy (business cycles), years before and after their entrepreneurial endeavor(s).

The decision to become (or continue being) an entrepreneur is linked not only to occupational choice (i.e. have a full or part-time dedication to the business and the associated opportunity costs of leaving paid work), but also to the dynamics of savings and portfolio choice. While the transition into and out of entrepreneurship can be observed within the PSID; questions related to the life course trajectories of wealth, asset allocation and occupation prior and after any entrepreneurial endeavor cannot be answered in the context of the PSED; despite being potential key elements to

understand issues related to liquidity or credit constraints, returns to entrepreneurship, human capital and occupational choice. In addition, the PSID allows researchers to study these topics across the business cycle and under diverse economic conditions.

In particular, the measurement and disentangling of financial versus non-pecuniary benefits of entrepreneurship--although central to understand entrepreneurial activity in the U.S.--are still unresolved debates in the literature. On the one hand, there are several studies, many of which use the PSID as their core data source (see for example Quadrini, 1999), which provide evidence in support of the idea that entrepreneurship is a risky but profitable activity (on average), which ultimately fosters wealth accumulation and upward social mobility. For instance, the fact that entrepreneurs' earnings are on average higher than those of workers has been extensively documented in the literature (see Díaz-Giménez, Quadrini and Ríos-Rull, 1997, Gentry and Hubbard, 2001, Mondragón-Vélez, 2007 and 2008). In addition, other studies document the disproportionate size of wealth holdings of entrepreneurs and show the crucial role of entrepreneurship to explain the high positive skewness that characterizes the wealth distribution in the U.S. (see Quadrini, 2000, Meh, 2003 and 2005, Terajima, 2006, Boháček, 2003, Cagetti and DeNardi, 2008). In contrast, other recent studies question the importance of pecuniary benefits in the decision to become an entrepreneur. Hamilton (2000) shows that earnings for the median entrepreneur are lower than the potential earnings she could make as a wage earner for the first years in business; and furthermore, that only entrepreneurs within the top 30 percent of the earnings distribution earn a premium over paid work. Moskowitz and Vissing-Jørgensen (2002) show that the returns of an aggregated portfolio of private equity, composed by a representative sample of privately owned businesses, are not higher than those observed for a diversified public equity index. Given the undiversified and riskier profile of entrepreneurial investments, they propose the existence of a private equity puzzle. Moreover, they suggest that non-pecuniary benefits may play a substantial role in the decision to start a business.

The structure of the latter studies highlights the importance of improving measurement instruments like the PSID. First, individual returns to entrepreneurship can only be measured in a longitudinal framework. For instance, the results of Moskowitz and Vissing-Jørgensen (2002) are based on data from the Survey of Consumer Finances (SCF), which is a detailed and comprehensive cross-sectional survey of a representative sample for the U.S. run every 3 years. Using this survey they construct an aggregated private equity index based on observed entrepreneurs in the sample, in order to be able to compute returns across time. The main problem in this analysis is that they're ultimately comparing the performance of a representative portfolio of entrepreneurial investments with a diversified listed equity portfolio; and inferring results for individual entrepreneurs. First, the undiversified nature of entrepreneurial investments, combined with the high degree of heterogeneity among entrepreneurs could potentially make the analysis of such aggregated private equity portfolio irrelevant at the micro level; not only due to the fact that it is not possible to invest in such a portfolio, but also because a hypothetical such investment is not representative of the underlying assets.<sup>2</sup> Furthermore, the high degree of heterogeneity among entrepreneurs (including the role and characteristics of the entrepreneur itself) also implies that the nature of the initial and

---

<sup>2</sup> Their finding could be interpreted otherwise, as a market equilibrium condition of (average) returns on a risk-adjusted basis.

final aggregated private equity portfolios observed in the SCF cross sections at times  $t$  and  $t+3$  may differ greatly and introduce significant distortions in the calculation of returns.

Thus, the changes proposed below aim to improve the measurement of returns to entrepreneurship (and decomposition of business earnings) at the individual level. This would allow for the analysis and characterization of the distribution of returns for different groups of entrepreneurs, the dynamics of such distributions along the business cycle, the comparison of returns of individual business to those of medium enterprises and listed corporations (across comparable industries); as well as research concerning exit, investment and asset allocation decisions of established entrepreneurs, and entry or re-entry decisions of potential entrepreneurs along the life course. In sum, issues directly related to returns to entrepreneurship plus others related to family and intergenerational transfer of businesses, as well as interactions with other decisions made by households and individuals in time, can only be documented and analyzed in a framework as the one the PSID has already in place.

Another important line of research which would benefit from the improvements outlined in this proposal is the study of the transition to entrepreneurship. In fact, some of the recent key studies in this area are based on PSID data. Hurst and Lusardi (2004) opened the debate of the role of liquidity constraints in the decision to start a business using data from the PSID from years 1984 through 1996; given observed transitions from paid work to entrepreneurship within a stable cohort of individuals from one year to the next. The analysis in Fairlie and Krashinski (2006) and Mondragón-Vélez (2008) use the same sample selection criteria. The identification of the entrepreneur's and other family member labor income components (from total business income) will be useful in further understanding the conditions under which individuals or families enter entrepreneurship. In the line of research proposed by Hamilton (2000), are his findings true along the life course or across the business cycle? More important in this sense is to study the decision to start a business at the household level, as opposed to the individual level analysis performed in the studies mentioned above. For instance, do families primarily hedge the wages lost from paid work for the individual that runs the business with the earnings of others who stay in paid work during the first years of their entrepreneurial endeavor; or is this "hedge" mainly built up through savings? How do family dynamics (in regards to occupation and portfolio choice) operate over the life course or across business cycles?

The improvements proposed in the next sections are based on the shortcomings of the PSID data when attempting to compute calculations of financial returns to entrepreneurship, as well as the returns to the stock of human capital invested in the family business; the assumptions involved and the implication of the associated results when using the current structure of the data.<sup>3</sup> Given the length and scope of the PSID, the changes proposed pretend to be marginal in number but sizable in information gain. We divide them into three groups. The first two groups contain priority improvements 1A and 1B, which are relevant for the calculation of returns to equity. While priority 1A improvements are related to individual and family earnings data, priority 1B improvements are related to family wealth data. Priority improvement 2 is relevant to a calculation of returns to entrepreneurship that accounts for the opportunity cost of

---

<sup>3</sup> See Mondragón-Vélez (2007) for estimated results when attempting to use PSID data from the mid 1980s and the early 1990s.

human capital invested in the business, in addition to the financial capital invested by the household. The last group contains alternative changes that may be useful to develop other particular research ideas about entrepreneurship in the U.S. The 2007 PSID questionnaire is used to reference particular sections and questions along the remainder of the document.

### **PRIORITY IMPROVEMENT 1A: BUSINESS INCOME COMPONENTS**

Before we outline the proposed changes in the questionnaire, let us first briefly describe the way in which the PSID collects individual earnings data, as well as the implications and shortcomings of such structure for the calculation of returns. There are mainly two sections of the PSID questionnaire that collect data related to individual earnings.<sup>4</sup> The *Employment Section* (which collects data separately for the household head and spouse) contains detailed questions about each job reported, including business industry and size, occupation type, hours worked and tenure (among others), in addition to earnings and forms of payment (wages, salaries, tips, commissions) for all individuals working by themselves or for others. If self-employed individuals report in this section that they take their pay from the profits of their business, a question about how much would they be paid for an extra hour of work is made. In addition, the initial questions in the *Income Section* determine if the household owns a farm or ranch, a business or none of these. For each business owned by the household, business industry, ownership within the family, head and spouse occupation and hours worked in the business (if not recorded earlier in the employment section); and the legal structure of the firm (incorporated, unincorporated, other) are determined. For unincorporated businesses, the survey collects information on total receipts, operating expenses and net income before taxes. For all other types of businesses general questions regarding the household head and spouse income follow (see the appendix for an extract of the most relevant questions in these two sections). This structure has the following implications in terms of data collection:

1. For unincorporated businesses it is not clear whether net income is net of labor costs of family members working in the firm, as the question about total operating costs only clarifies that these shouldn't include living expenses. While the data on hours worked in the business owned is verified against data collected in the employment section for both head and spouse; there is no verification of the earnings data in the employment section versus operational costs (when work on the family business has been reported); and no separate questions about labor earnings (related to work in the family business) when work on this business hasn't been reported in the employment section. Therefore, the differentiation of payments to labor and to financial capital invested in the firm is not straightforward. The survey reports instead a figure of business income from labor and asset components according to a particular rule based on specific assumptions based on hours worked, which may introduce significant measurement error.<sup>5</sup>

---

<sup>4</sup> Occupation and income data for year  $t$  is reported in PSID's year  $t+1$  data file.

<sup>5</sup> According to the 2005 PSID codebook "...If total farm or business income represents a loss (i.e., a negative number), then the labor portion equals 0 and the loss is coded in the asset portion... Total business income of the Head is equally split between labor and asset income when the Head put in actual work hours in any unincorporated businesses."



2. For incorporated businesses, although the questionnaire does a good job of identifying income associated to labor components associated to work in the firm (when reported); it is not possible to identify the payments to capital as they seem to be collected in aggregated categories (maybe as dividends, rents, royalties or interest) but not for each (or at least all) of the incorporated firms owned by the household. Moreover, the reported data for these is not included in the business income asset and labor components used for unincorporated businesses. Thus, it is not possible to determine the total income generated by the business, nor the payments to labor or financial capital invested in the firm.

As for the calculation of returns, the current structure doesn't allow the researcher to disentangle labor and capital components embedded in the income generated from the firm; which ultimately implies that it is not possible to compute a measure of returns to equity for both, incorporated or unincorporated businesses. Therefore, our proposal aims to identify the main components of business income directly from the source and tied to a reported figure of net income regardless the type of legal structure of the firm. In sum the proposed changes are:

1. Modify the *Income Section* for owners of unincorporated businesses to ask (or verify directly from the employment section figures, if provided) about (actual or estimated) separate payments to labor of the head, spouse (and ideally other family members working in the family business as well). In addition, ask about other operating costs (besides the labor payments outlined before), verify the net income as the current structure does (and if possible, identify separate share of profits received by all family members reported as owners of the business in question G8). If the business doesn't make regular salary payments to family members working in the family business, the survey should ask for an estimated amount the firm would have to pay someone else to perform each of these jobs.
2. For incorporated businesses, include an additional set of questions in the *Income Section* that ask (or verify from the employment section if provided) about (actual or estimated) separate payments to labor of the head, spouse (and ideally other family members working in the family business); as well as share of profits received by all the individuals listed as owners of the business according to question G8. These changes would require appropriate modifications in the questions that follow in the questionnaire (for instance, to include/exclude unincorporated or incorporated business income from wages and other asset-related sources like dividends).

These changes may be incorporated in alternative ways in the *Employment Section* on questions about labor components and the *Income Section* on questions about income from various types of assets. In sum, the essence of this proposal is to make sure the information about business income and its components is collected in a comprehensive and straightforward manner for each business and directly from the source; minimizing measurement error in any way possible.

## PRIORITY IMPROVEMENT 1B: BUSINESS VALUE AND INVESTMENTS

Although the changes proposed in this section also aim to improve the calculation of returns, the specific issues addressed are related to the *Wealth Section* of the PSID survey. Wealth data has been collected in the PSID every five years since 1984, and on every wave since the biannual collection was put in place in 1997.<sup>6</sup> The *Wealth Section* in the 2007 questionnaire has three main parts. The first set of questions refers to current wealth holdings across different types of assets (real estate, vehicles, businesses, stocks, bonds, investments, pension funds, among others); the second to specific changes in these holdings for the past two years by investing/divesting in each of these asset classes, and the last set to inter-generational transfers of wealth (inheritances and bequests). The issues outlined below refer to questions about the business or businesses owned by the family in the first two parts of the *Wealth Section*:

1. Questions W10-14 about the value (net of any related debt) of all businesses owned by the family.
2. Questions W73-77 about investing money in a business or farm in the past two years.
3. Questions W78-82 about divesting part or all of the financial interest in any business or farm owned by the family in the past two years.

The main implication of the manner in which these questions are currently applied, is that it is not possible to differentiate the estimated value, investment or divestment flows for each business owned by the family.<sup>7</sup> Thus, the proposal is to ask about these estimates for each of the businesses reportedly owned by the family (according to the data collected in the *Income Section* as described in 1A). Again, this could be done either by connecting the questions in the *Wealth Section* to the reported businesses in the *Income Section*; or directly in the *Income Section* along with the proposed changes in questions about business income.

## IMPLICATION OF IMPROVEMENTS 1A AND 1B: RETURNS TO EQUITY

The issues outlined in the description of improvements 1A and 1B are essential to measure the financial and non-financial motivations for potential and actual entrepreneurs. Although there is a large literature on entrepreneurship and the motivations of potential entrepreneurs, there is very little data on a central issue around the decision to start or continue operating a business. The questions that could be better addressed given the proposed improvements in the measurement of returns to individual entrepreneurs include, but are not limited to: Is entrepreneurship financially profitable? Which types of entrepreneurs are most successful? How does the financial performance of small businesses compare to that of medium firms and listed corporations? What role does financial performance play in the allocation of financial and human capital resources of households? As mentioned before, recent studies by Hamilton (2000) and

---

<sup>6</sup> Household wealth data for year  $t$  is collected in PSID year's  $t$  wave.

<sup>7</sup> The fact that most households own one business only was documented by Moskowitz and Vissing-Jørgensen (2002). However, the trends in this regard might change in the coming future. Furthermore, given the current effort of the survey to collect data for each of the businesses owned in the income section, it is worth following suit in the wealth section.

Moskowitz and Vissing-Jørgensen (2002) suggest non-financial motives may play an important role in the decision to become or continue being an entrepreneur. Further development of this literature definitely requires data on the financial performance of entrepreneurs and the context in which these decisions are made (at the individual and household levels; as well as related to the life-course and business cycle dimensions).

In order to uncover the implications of the improvements suggested in the 1A and 1B, let us describe the complete set of information required for the calculation of returns to equity (i.e. financial capital invested in the business). Suppose the data includes an estimate of the value of the business  $V$  at the beginning of years  $t$  and  $t + T$ , in addition to the observed free cash flows generated by the business  $CF$  for all years between  $t$  and  $t + T$ . We could compute annualized returns  $R$  for the period  $t$  to  $t + T$  as follows:

$$R_{t:t+T} = \left[ \frac{\left( \sum_{j=0}^{T-1} (1+r)^{T-1-j} CF_{t+j} \right) + V_{t+T}}{V_t} \right]^{1/T} - 1 \quad (1)$$

This is an adequate measure of returns for any particular investor that has only a financial interest (equity) in the firm (where  $r$  is a benchmark or discount rate representing the opportunity cost of the household's financial capital). In the case of unincorporated businesses, the cash flows generated by the business correspond to the equity invested by the household ( $CF^K$ ) plus the value of the labor input from family members working for the business ( $CF^L$ ). Thus, in order to compute returns to equity, only the cash flows associated to the capital component  $CF^K$  should be taken into account in this case. For incorporated firms, the PSID asks separate questions for labor components of income but collects data on capital components combined with payments from other types of assets. Thus, the way the data for business asset components is collected in these cases might imply a misleading figure due to the inclusion of dividends or rents from other investments not related to the firm owned by the household (all these issues are covered by the improvements outlined in 1A). Finally, free cash flows should include the capital investments made by the household in the firm and any changes in the ownership structure of the firm within the period of interest (highlighted within the proposed improvements 1B).<sup>8</sup>

## COST ESTIMATE OF IMPROVEMENT 1A AND 1B

The cost figures that follow are broad estimates based on publicly available documents and some assumptions in regards to the timing of the modified or added questions. Thus, these estimates need to be confirmed with the Institution in charge of the survey's

---

<sup>8</sup> Although there are important issues inherent to self-reported information about the value of the business  $V$  in the *Wealth Section*, these are out of the scope of this paper and will be difficult to solve in the context of an extensive household survey such as the PSID. However, the proposal of a more detailed balance sheet and income statement structures included below under the additional suggested changes might help mitigate this type of measurement error problems.

data collection (currently the Institute of Social Research (ISR) of the University of Michigan). According to the PSID Competition Program Solicitation (NSF 05-541) document published by the NSF, which describes the requirements to access the grant to conduct the core PSID survey for the period 2007-2011, “*The award will fund seven activities: (1) three waves (2007, 2009, and 2011) of data collection on the historic core PSID sample of approximately 5,300 families and 40 minutes of content that will advance the quality of scientific inquiry and knowledge about the economic and social well-being of US families...*”. In regards to overall costs, the same documents indicates that “*Programs in the Directorate of Social, Behavioral and Economic Sciences anticipate making one award for the next five-year funding cycle (from 2007 to 2011) to renew support for the core component of the PSID. We anticipate an NSF award as a continuing grant of at least \$12 million and at most \$20 million, contingent upon the availability of funds...*” In addition, the Award Abstract for the PSID 2002-2006 cycle (Ref #0094942) published in the NSF website indicates the awarded amount up to date (and last amendment date September 19, 2006) to be \$14.37 million.

The improvements proposed in 1A and 1B refer to the PSID core survey. Thus, the following estimates assume: 1) An overall cost of \$4 to \$5 million dollars of each wave of the PSID core survey; 2) an estimated time of 40 minutes to complete the PSID core survey for the average family; 3) at most 20 percent of households in the sample own a business (based on the estimates of Mondragón-Vélez, 2008); 4) on average, business owner families only own one business (based on the facts documented by Moskowitz and Vissing-Jørgensen, 2002); and 5) on average at most two family members work in the family’s owned business. The following table shows the estimated additional time it will take to ask or verify the new or modified questions per (business owner) family in proposed improvements 1A and 1B, and the estimated total cost:

<b>Proposed Improvement</b>	<b>Maximum No. of additional Q’s/ Verif’s per family</b>	<b>Estimated total additional time per family (min)</b>	<b>Total Cost per PSID wave (\$ dollars)</b>
1A	4--6	2--3	40,000 - 75,000
1B	3	1	20,000 - 25,000
Total	7 - 9	3--4	60,000 - 100,000

## **PRIORITY IMPROVEMENT 2: LABOR COMPONENTS OPPORTUNITY COST**

The proposed improvement is to add a new question within the *Income Section* only for those household heads and spouses that currently report to work for the family business. The specific question is aimed to capture information about the self-perceived opportunity cost of labor for these individuals. Given they are currently working in their own business, the idea is to have a measure of the value of salaries and wages they

think they could earn as paid workers and/or the value of salaries and wages they will be willing to accept in order to become paid workers instead of entrepreneurs (i.e. some kind of reservation wage). As will be argued below, this information could be incorporated in the calculation of total returns to entrepreneurship, as most households invest both financial and human capital in their own businesses. We think the specific question for these individuals should be asked along with the set of questions on labor income components proposed in improvement 1A. Since the idea is to directly capture these individuals' assessment of such opportunity cost, we propose the addition of the following questions:

- “Were you [HEAD/WIFE] offered a paid job during the last year? If so, how much would you have earned in wages and salaries working for someone else?”;
- “How much do you [HEAD/WIFE] think you could have earned in wages and salaries working for someone else last year?”; and
- “If you [HEAD/WIFE] were offered a job to work for someone else, what salary level will make you take the offer?” [...provide specific ranges per year].

## IMPLICATION OF IMPROVEMENT 2

Most entrepreneur households not only invest financial capital in the firm they own, but also part of their human capital endowment. In fact, this component can be larger than equity for many start-ups. Thus, the analysis of returns to entrepreneurship should take into account this type of non-monetary investment, which is naturally tied to the opportunity cost of the human capital invested in the firm. This opportunity cost is the value of those wages and salaries the members of the household working for the family business could potentially earn in the labor market as a paid worker. There are several ways in which data from the PSID or other surveys could be used to construct an estimate of this *human capital investment*. First, these opportunity costs can be estimated empirically as the “average” of a representative sample of peer workers with similar observable characteristics (through Mincer equations). Besides the low explanatory power that Mincer equations often have, these estimates are particularly inappropriate in the case of potential or actual entrepreneurs, according to an extensive literature that suggests individuals within this group tend to possess a very special and specific set of non-observable characteristics and abilities. Thus, the omission of unobservable idiosyncratic characteristics is particularly important. An additional option the PSID data offers is to use the labor history of individuals prior to their transition into entrepreneurship, in addition to estimates of “typical” workers’ earnings profiles, to estimate the potential earnings these individuals would have had as paid workers. The complexity of such calculation and the problems involved may imply inferior estimates compared to those produced by the first method. Therefore, our proposal is to provide researchers with a third alternative by adding questions about the self-perceived labor opportunity costs of family members (particularly the household head and spouse) working in the business. This figure could not only be used to estimate or compare labor opportunity costs or reservation wages directly to the alternative estimates suggested above, but reveal information about preferences, perceived skills and other types of perceived benefits of entrepreneurship in time. In regard to the calculation of returns **R**

for the period  $t$  to  $t+T$ , the necessary adjustment to construct a measure of total returns to entrepreneurship is to compute the annual cash flows  $CF^*$  as follows:

$$\begin{aligned} CF_t^* &= CF_t^K + CF_t^L - OC_t^L \\ &= CF_t - OC_t^L \end{aligned} \quad (2)$$

That is, cash flows in this case will be measured by the total income generated by the business (i.e. the sum of financial and labor components) net of the opportunity cost of labor of all family members working in the business  $OC^L$ . An alternative way of interpreting equation (2) is to consider value of the foregone labor income between  $t$  and  $t+T$  as an investment in the firm:

$$R_{t:t+T} = \left[ \frac{\left( \sum_{j=0}^{T-1} (1+r)^{T-1-j} [CF_{t+j} - OC_{t+j}^L] \right) + V_{t+T}}{V_t} \right]^{1/T} - 1 \quad (3)$$

The measure of returns described in equation (3) incorporates all the income generated by the business along with all the resources invested by the household. To the best of our knowledge, there hasn't been yet any attempt to construct such a measure of returns to entrepreneurship in the literature using self-perceived opportunity cost estimates.<sup>9</sup> Therefore, this will foster the development of a new line of research in the area.

## COST ESTIMATE OF IMPROVEMENT 2

Using the assumptions outlined in the estimation of costs for 1A and 1B, the table below shows the estimated cost of improvement 2 (2 questions within business owner families for at most 2 family members).

Proposed Improvement	Maximum No. of additional Q's/ Verif's per family	Estimated total additional time per family (min)	Total Cost per PSID wave (\$ dollars)
2	2--4	1.25	25,000 - 30,000

<sup>9</sup> See Mondragón-Vélez (2007) for the construction of a measure of returns to entrepreneurship incorporating imputed labor opportunity costs from average workers profiles estimates.

## OTHER NON-PRIORITY SUGGESTIONS<sup>10</sup>

The suggestions that follow are sorted in two groups. The first is related to the collection of more comprehensive information about the financial characteristics of the firm, the way in which households finance their business ventures, and the share of the firm owned by the family:

- *Identify the general structure of assets and liabilities:* differentiate physical capital or fixed assets from inventories and other current assets. In regard to liabilities, it would be useful to identify the source of loans (if any) the business has with family members or third parties. These could be included along with questions related to valuation and investment in the business within the wealth section.
- *Identify the main components of non-family-labor operational costs:* intermediate goods, financial costs and labor costs of non-family employees. This would provide data to study important issues related to liquidity and credit constraints, as well as job creation.
- *Business stake:* Collect data about the fraction of the firm owned by the family in each of the reported businesses; and ideally, the fraction owned by each family member in each of the businesses. This would be useful to measure the total size of the businesses as well as to understand the relationship, attitudes and choices of family members with respect to any particular business they have an interest in; as well as ownership dynamics within the family members in time.
- *Identify original sources of financing or how the business was acquired:* determine if the business was originally started, bought or inherited; as done in the Survey of Consumer Finances (SCF). For investments in the business described in 1B, ask about the source of these funds (retained earnings, household savings, inheritances, partial or full realization of other assets, family loan, bank loans), and if they are accounted as new equity or loans to the business.

The first two items in this group are related to the structure of small businesses or start-ups finances, which could be used to open new lines of research about how these are structured for nascent firms and small businesses, and their evolution in time. The latter two items are related to credit and liquidity constraints when starting and operating a business.<sup>11</sup> This issue has been one of the most debated topics in the literature given its policy implications. Moreover, it is naturally related to the motivation to become or remain an entrepreneur, as the transition to (and exit from) entrepreneurship is the result

---

<sup>10</sup> Given the scope of the paper, the additional suggested improvements and their potential implications are summarized and briefly commented. Although no estimated cost is provided for these, each additional question within each of these suggestions (only asked to business owner families) could cost between \$5,000 and \$10,000 for each PSID wave.

<sup>11</sup> For the second item in particular, although most families own one business and ownership is 100% within the family as documented by Moskowitz and Vissing-Jorgensen (2002); some interesting research could be focused on households with multi-business investments and the evolution of these patterns of ownership in time.

of a cost-benefit evaluation involving skills, preferences, resources, as well as financial and non-financial motives (which may evolve along the life course).<sup>12</sup>

The last group refers to attitudes towards future occupational choices. The main idea of collecting this information in the context of the PSID, is to be able to follow the trajectories of these attitudes in time and use this information in the analysis of the occupational choices of individuals along the life course.

- For current entrepreneurs: intention of returning to paid work. For non entrepreneurs: intention of opening a business in the future (as well as additional steps being taken in this regard: increasing savings, doing research, or currently working on a business plan). It will be ideal to include a time horizon for both.
- Intention of working in the family owned business in the future for individuals who don't work in the business yet. Again, including a time horizon would be ideal.

## APPENDIX

An extract from the *Employment* and *Income* sections of the 2007 PSID questionnaire, containing the most relevant questions for the priority improvements discussed in the paper, is attached below.

## BIBLIOGRAPHY

Ástebro, Thomas and Bernhardt, Irwin (2003) "Start-up financing, owner characteristics, and survival." *Journal of Economics and Business* 55 (4): 303-319.

Ástebro, Thomas and Bernhardt, Irwin (2004) "The Winner's Curse of Human Capital." *Small Business Economics* 24 (1): 63-78.

Boháček, Radim (2003) "Financial Constraints and Entrepreneurial Investment." CERGE-EI, Prague, Czech Republic.

Buera, Francisco J. (2008) "A Dynamic model of Entrepreneurship with Borrowing Constraints." *Annals of Finance* (Submitted).

Cagetti, Marco and De Nardi, Mariacristina (2008) "Estate Taxation, Entrepreneurship and Wealth." *American Economic Review* (forthcoming).

Díaz-Giménez Javier, Quadrini, Vincenzo and Ríos-Rull, José V. (1997) "Dimensions of Inequality: Facts on the U.S. Distributions of Earnings, Income, and Wealth." Federal Reserve Bank of Minneapolis Quarterly Review 21 (2): 3-21.

Evans, David S. and Jovanovic, Boyan (1989) "An Estimated Model of Entrepreneurial Choice under Liquidity Constraints." *Journal of Political Economy* 97: 808-827.

Gentry, William M., and Hubbard, Glenn R. (2001) "Entrepreneurship and Household Saving." *Manuscript Columbia Business School*.

---

<sup>12</sup> See Evans and Jovanovic (1989), Hurst and Lusardi (2004), Buera (2008) and Mondragón-Vélez (2007) and (2008).



- Hamilton, Barton H. (2000) "Does Entrepreneurship Pay? An Empirical Analysis of the Returns to Employment." *Journal of Political Economy* 108: 604-631.
- Hurst, Erik and Lusardi, Annamaria (2004) "Liquidity Constraints, Wealth Accumulation and Entrepreneurship." *Journal of Political Economy* 112 (2): 319-347.
- Meh, Césaire A. (2005) "Entrepreneurship, Wealth Inequality and Taxation." *Review of Economic Dynamics* 8 (3): 688-719.
- Meh, Césaire A. (2003) "Entrepreneurial Risk, Credit Constraints and the Corporate Income Tax: A Quantitative Exploration." *Bank of Canada working paper* 02-21.
- Mondragón-Vélez, Camilo (2008) "The Probability of Transition to Entrepreneurship Revisited: Wealth, Education and Age." *Annals of Finance Special Issue on Entrepreneurship* (forthcoming).
- Mondragón-Vélez, Camilo (2007) "Entrepreneurship, Human Capital and Wealth." *Mimeo Georgetown University*.
- Moskowitz, Tobias J., and Vissing-Jørgensen, Annette (2002) "The Returns to Entrepreneurial Investment: A Private Equity Premium Puzzle?" *American Economic Review* 92: 745-778.
- Quadrini, Vincenzo (2000) "Entrepreneurship, Saving and Social Mobility." *Review of Economic Dynamics* 3: 1-40.
- Quadrini, Vincenzo (1999) "The Importance of Entrepreneurship for Wealth Concentration and Mobility." *Review of Income and Wealth* 45: 1-19.
- Terajima, Yaz (2006) "Education and Self-Employment: Changes in Earnings and Wealth Inequality." *Bank of Canada working paper* 06-40.

SECTION BC: EMPLOYMENT OF HEAD

EMPLOYMENT TAB

BC1. We would like to know about what [you do/Head does]—[are you/ is HEAD] working now, looking for work, retired, keeping house, a student, or what?

01. WORKING NOW      02. ONLY TEMPORARILY LAID OFF, SICK LEAVE OR MATERNITY LEAVE      03. LOOKING FOR WORK, UNEMPLOYED

GO TO BC4      GO TO BC3

04. RETIRED → BC2. In what year did [you HEAD] retire? (4 DIGITS 1901-2007)

05. DISABLED, PERMANENTLY OR TEMPORARILY  
06. KEEPING HOUSE  
07. STUDENT  
08. OTHER (SPECIFY):

GO TO BC3

BC3. [Are you/Is he] doing any work for money now?

1. YES      5. NO

BC3A. [Have you/Has HEAD] done any work for money since January 1, 2005? Please include any type of work, no matter how small.

1. YES      5. NO → GO TO NOT WORKING TAB - BC7

BC4. I'd like to know about all of the work for money that [HEAD has/ you have] done for the past two years, from January 1, 2005, to the present. Please include self-employment and any other kind of work that [HEAD has/ you have] done for pay. Start with any job that [HEAD /you] had during this time.

ASK BC5- BC6a FOR EACH EMPLOYER:

BC5. What was the name of this employer?  
IF NECESSARY: This information will help us to process employment information you gave us. The name itself will never be released as part of data from the study.  
TWER: If no employer name is given by R, ask for job title or anything that can help identify the job.

BC6. When did [HEAD /you] start and when did [HEAD /you] stop working for this employer? Please give me all of [HEAD/your] start and stop dates if [HEAD has/you have] worked for [this employer/yourself] more than once.

BC6a. Is this a current job?

BC6b. [Has HEAD/Have you] started a new job this month?  
IF YES, please record info in the last cell of new job line.

NOT WORKING TAB

BC7. Now I'd like to know about times during 2005 and 2006 in which [HEAD was /you were] not working at all for pay. First, I'd like to know about any times when [HEAD was /you were] NOT LOOKING for work, and next I'd like to know about any times when [HEAD was /you were] LOOKING for work.  
Was there any time in 2005 or 2006 when [HEAD/you] did not have a job and [was/were] not looking for work?  
IF YES: When was that?

BC8. Was there any time last year, in 2006, when [HEAD was/you were] unemployed and looking for work? (THREE VARS: BC8DAYS=1-365, BC8WKS=1-52, B8MOS=1-12)  
IF YES: When was that?  
IF DK WHEN: How much time was that in 2005?

BC9. Was there any time in the year before last, in 2005, when [HEAD was/you were] unemployed and looking for work? (THREE VARS: BC9DAYS=1-365, BC9WKS=1-52, BC9MOS=1-12)  
IF YES: When was that?  
IF DK WHEN: How much time was that in 2005?

TIME AWAY TAB

BC10. We're interested in time [HEAD/you] spent away from work last year, during 2006.  
Did [HEAD/you] miss any work because someone else was sick? (THREE VARS: BC10DAYS=1-365, BC10WKS=1-52, BC10MOS=1-12)  
IF YES: When was that?  
IF DK WHEN: How much work did [HEAD/you] miss in 2006?

BC11. Did [HEAD/you] miss any work because [HEAD was/you were] sick? (THREE VARS: BC11DAYS=1-365, BC11WKS=1-52, BC11MOS=1-12)  
IF YES: When was that?  
IF DK WHEN: How much work did [HEAD/you] miss in 2006?

BC12. Did [HEAD/you] take vacation or time off?  
(THREE VARS: BC12DAYS=1-365, BC12WKS=1-52, BC12MOS=1-12)  
IF YES: When was that?  
IF DK WHEN: How much time off did [HEAD/you] take in 2006?

BC13. Did [HEAD/you] miss any work because [HEAD was/you were] on strike?  
(THREE VARS: BC13DAYS=1-365, BC13WKS=1-52, BC13MOS=1-12)  
IF YES: When was that?  
IF DK WHEN: How much work did [HEAD/you] miss in 2006?

BC14. Did [HEAD/you] miss any work because [HEAD was/you were] temporarily laid off from work?  
(THREE VARS: BC14DAYS=1-365, BC14WKS=1-52, BC14MOS=1-12)  
IF YES: When was that?  
IF DK WHEN: How much work did [HEAD/you] miss in 2006?

END TIME AWAY TAB AND EHC1 - GO TO BLAISE2

QUESTIONS ARE FOR PERSON WITH CYFUFU=1,4 AND CYAQRTH=101, 102; INCLUDE AQS ON ALL OUTPUT FILES FROM THIS SECTION. VARNAME=BCAQS.

EXPORTED DUMMIES FROM EHC:  
BCWTRWRK=1 IF BC3=0, 1; IF 5,8,9 THEN = 0. MEANS WHETHER WORKED SINCE 01/01/2005.

THEN, FOR EACH JOB, WE GET:  
BCJOBNUM (A SEQUENTIAL ID, UNCLEAR WHAT THE MAX WE SHOULD ALLOW IS. 10 SEEMS SUFFICIENT);  
BCEMPNAME (EMPLOYER NAME, NEEDED FOR FILL/TWER REFERENCE);  
BCWTR2005 (WHETHER EMPLOYED DURING 2005 FOR THIS EMPLOYER--CODES=1 & 0);  
BCWTR2006 (WHETHER EMPLOYED DURING 2006 FOR THIS EMPLOYER--CODES=1 & 0);  
BCWTR2007 (WHETHER EMPLOYED DURING 2007 FOR THIS EMPLOYER--CODES=1 & 0);  
BCCUR (WHETHER CURRENTLY WORKING FOR THIS EMPLOYER--CODES=1 & 0);  
BCMOSTREC (WHETHER MOST RECENT EMPLOYER--CODES=1 & 0; NOTE THAT IF ANY JOB IS MARKED AT BCCUR, THEN THIS VARIABLE IS ALWAYS ZERO FOR ANY JOBS THAT HAVE ENDED);  
BCACCDATE (WHETHER START [AND STOP DATE, IF APPLICABLE] ARE KNOWN TO MONTH LEVEL--CODES 1 & 0);

OVERALL INDICATORS FOR ASKING "GROUP" WEEKS AND HOURS QUESTIONS:  
BCDKJOB2006 (WORKED BUT NO JOBS SPECIFIED, OR JOB LISTED BUT NA YEAR OR MONTH START-STOP, OR TIME-OFF COMPONENTS NA--CODES 1 & 0)  
BCDKJOB2005 (WORKED BUT NO JOBS SPECIFIED, OR JOB LISTED BUT NA YEAR OR MONTH START-STOP--CODES 1 & 0)  
BCDKHOURS (WORKED BUT NO JOBS SPECIFIED, OR JOB LISTED BUT HAS NA START-STOP YEAR--CODES 1 & 0).

BC15. INTERVIEWER CHECKPOINT

SEE EXPORTED EHC VARS BCWTRWRK, BCCUR AND BCMOSTREC -- WHETHER ANY EMPLOYERS AND CMJ/MRMJ INDICATORS

EMPLOYERS EXPORTED FROM EHC (BCWTRWRK=1)      5. ALL OTHERS

GO TO BC61

1. ONLY 1 CMJ (1 JOB HAS BCCUR=1)      2. 2 OR MORE CMJ'S (2+ JOBS MARKED 1 AT BCCUR)      ALL OTHERS

GO TO BC18

3. ONLY 1 MRMJ (1 JOB HAS BCMOSTREC=1)      4. 2 OR MORE MRMJ'S (2+ JOBS MARKED 1 AT BCMOSTREC)

GO TO BC18

BC16. You have just told me that [you/HEAD] [are/is] working now for more than one employer. Which one of these jobs do you consider to be [your/his] main job?  
GO TO BC18 AND MARK CMJ

BC17. You mentioned [NUMBER OF JOBS] jobs that ended at the same time-- [EMPLOYER NAMES]. Which one of these jobs do you consider to have been [your/his] main job?  
GO TO BC18 AND MARK MRMJ

BCJOBS BLOCK (ID'S=AQCASE, BCAQSN, BCJOBNUM):

BC18. JOB #: \_\_\_\_\_ EMPLOYER NAME: \_\_\_\_\_ CMJ/MRMJ? \_\_\_\_\_  
(3 VARS: BCJOBNUM, 2 DIGITS; BC18EMPNAME, 25 CHARACTERS; BC18CMJ=1 FOR CMJ, 2 FOR MRMJ, 3 FOR OTHER JOB)

BC19. INTERVIEWER CHECKPOINT

SEE START-STOP INDICATORS FROM EHC--BCWTR2006 AND BCWTR2007

1. WORKED DURING 2006 OR 2007 ON THIS JOB (BCWTR2006=1 OR BCWTR2007=1)      5. ALL OTHERS

GO TO BC47

BC20. Now I have a few questions about each of the jobs you have told me about. In [your/his] work for [EMPLOYER NAME], what [is/was] [your /HEAD'S] occupation [when [you/he] left that employer]? What sort of work [do/does/did] [you/he] do? What [are/were] [your/his] most important activities or duties? (OPENEND)

BC21. What kind of business or industry [is/was] that in? (OPENEND)

BC22. [Are/Were/Is/Was] [you/HEAD] self-employed, [are/were/is] [you/he] employed by someone else, or what?

3. SELF-EMPLOYED ONLY      2. BOTH SOMEONE ELSE AND SELF      1. SOMEONE ELSE ONLY      8. DK      9. NA

GO TO BC25

BC23. [Is/Was] that an unincorporated business or a corporation?  
1. UNINCORPORATED      2. CORPORATION

BC24. [Do you/ Did HEAD] work for the federal, state, or local government, a private company, or what?  
1. FEDERAL GOVT      2. STATE GOVT      3. LOCAL GOVT      4. PRIVATE NON-GOVT  
7. OTHER (SPECIFY)

BC25. CAI CHECKPOINT (VAR=BC25CKPT)

SEE BC18 AND BC22--WHETHER CMJ AND WHETHER WORKS FOR SELF

CMJ, WORKS FOR SOMEONE ELSE (BC18CMJ=1 AND BC22=1)      CMJ, WORKS FOR SELF (BC18CMJ=1 AND BC22 NE 1)      ALL OTHERS

GO TO BC42

BC25a. About how many people are employed by [Employer's Name] at the location were you work?  
9 DIGITS  
GO TO BC26

8. DK      9. RF

BC25b. Are there 200 or more?  
1. YES      5. NO      8. DK

BC25c. 500 or more?  
1. YES      5. NO      GO TO BC26

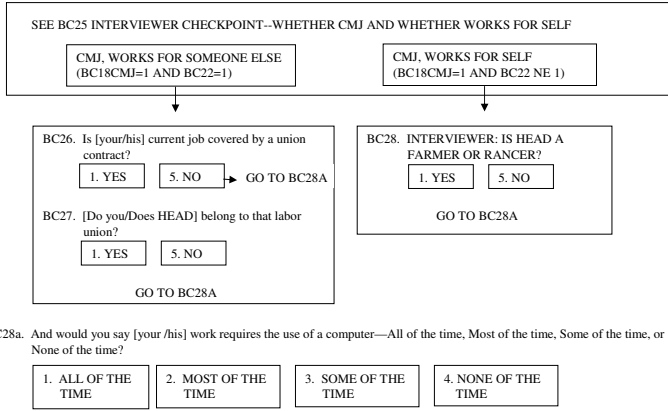
BC25d. 100 or more?  
1. YES      5. NO      GO TO BC26

BC25e. 1000 or more?  
1. YES      5. NO

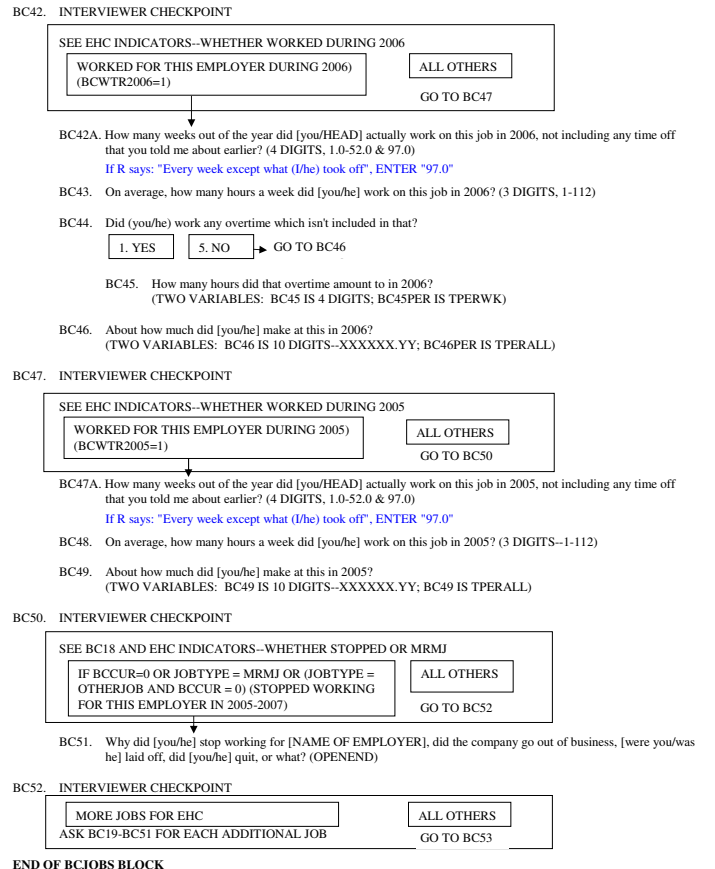
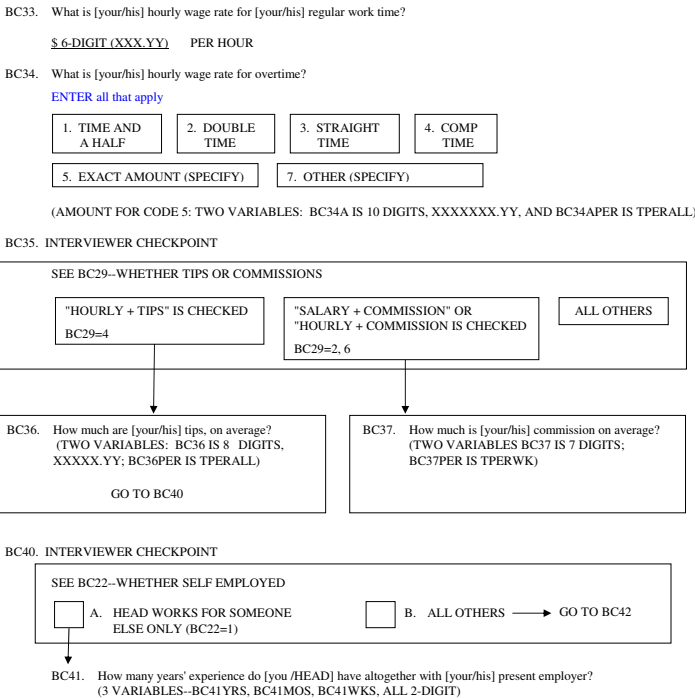
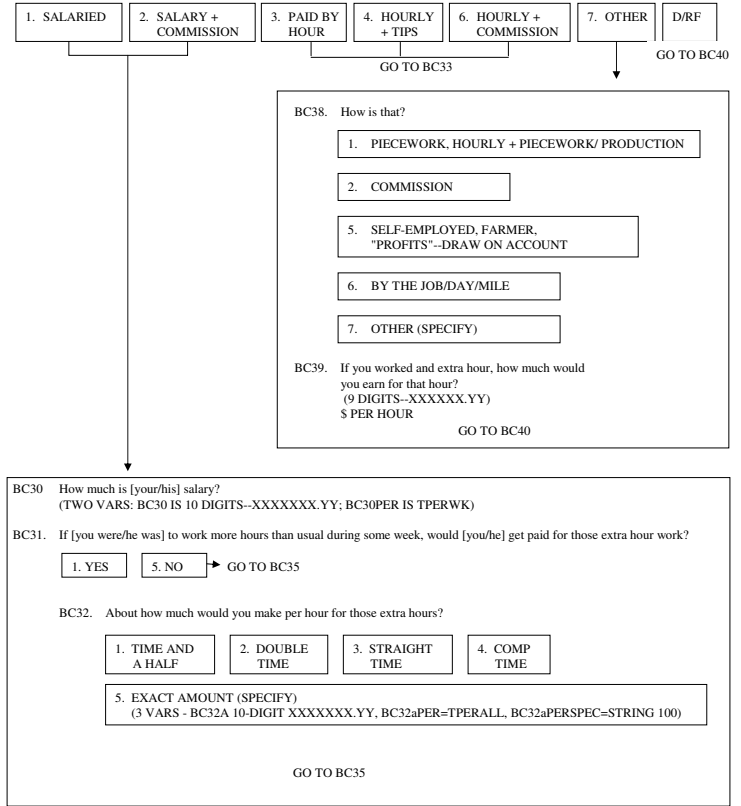
BC25f. 50 or more?  
1. YES      5. NO

GO TO BC26

BC26 CAI CHECKPOINT



BC29. (On [your/his] main job for [NAME OF EMPLOYER], are [you/HEAD] salaried, paid by the hour, or what?)



SECTION G: INCOME

G1. We try to understand how people all over the country are getting along financially, so now I have some questions about earnings and income.

G1a. INTERVIEWER CHECKPOINT

SEE BC28--WHETHER CURRENT MAIN JOB (CMJ) IS FARMER OR RANCHER (COPY FROM THERE)

1. HEAD IS A FARMER OR RANCHER      5. ALL OTHERS → GO TO G5

G2. What were your total receipts from farming in 2006, including soil bank payments and commodity credit loans?  
\$(7 DIGITS) A  
DO NOT allow negative amounts

G3. What were your total operating expenses, not counting living expenses?  
\$(7 DIGITS) B  
DO NOT allow negative amounts

G4. That left you a net income from farming of? (A - B =)  
\$(7 DIGITS) C  
ALLOW negative amounts

G5. Did you [or anyone else in the family there] own a business at any time in 2006 or have a financial interest in any business enterprise?  
1. YES      5. NO → GO TO G12

G6. How many businesses or financial interests did [you/they] have in 2006?  
1. ONE      2. TWO      3. THREE      4. FOUR      5. FIVE

G7. I'll be asking this next series of questions about each business separately. We can begin with whichever business you choose.

G7A (G9J2H\_W). What kind of business was that? (OPENEND)

G7B(G9J2H\_W). What was the name of [the/that] business? (25 CHARACTERS)  
IF NECESSARY: This information will help us to process employment information you gave us. The name itself will never be released as part of data from the study.  
TWER: If no employer name is given by R, ask for job title or anything that can help identify the job.

G8. Who in the family owned that business? (CYAQS LIST; DISPLAY NAME, RTH, FUHU)  
INDICATE AQSNS OF ALL WHO OWN. IF OWNERS NOT ON FAM LISTING, USE CODE 97 AND INCLUDE FURTHER INFO ABOUT WHO THIS IS IN OPENEND.

G9A. Did [you/HEAD] put in any work time for this business in 2006?  
PROBE if inconsistent with employment section  
1. YES      5. NO → GO TO G9bb

G9B. Did you tell me about this work earlier?

1. YES, THESE WORK HOURS WERE REPORTED      5. NO, THESE WORK HOURS WERE NOT REPORTED

GO TO G9bb

G9J1H. Then I would like to ask you some questions now about this business and [your/his] work in it.

G9J3H. What was [your/his] occupation? What sort of work did [you/he] do? What were [your/his] most important activities or duties? (OPENEND)

G9J4H. And, how many weeks did [you/he] work at this business in 2006?  
(2 DIGITS--1-52)

G9J5H. On the average, how many hours a week did [you/he] work at this business?  
(3 DIGITS--1-112)

G9J6H. In what month and year did [you/he] start working at this business?  
(TWO VARS--G9J6HMO WITH TMONTH CODE AND G9J6HYR WITH TYEARSPRECNOY CODE)

G9J7H. In which months during 2006 [were you/was he] working at this business?  
(G9J7Hx MULTIPLE MENTION WITH TMOSTRING CODE)

G9J8H. [Have you/Has he] stopped working at this business?  
1. YES      5. NO → GO TO G9bb

G9J9H. In what month and year was that?  
(TWO VARS--G9J9HMO WITH TMONTH CODE AND G9J9HYR WITH ONLY CODES BELOW ALLOWED. NOTE THAT 9998 FOR YEAR IS NOT ALLOWED!)  
2006      2007      9996. 2006 OR 2007, DK WHICH

G9J10H. What happened--did it go out of business, did [you/he] quit, or what?  
(OPENEND)

G9BB. INTERVIEWER CHECKPOINT

SEE FU LISTING

WIFE/"WIFE" IN FU      ALL OTHERS → GO TO G10

G9C. Did [you/WIFE/"WIFE"] put in any work time for this business in 2006?

PROBE if inconsistent with employment section  
1. YES      5. NO → GO TO G10

G9B. Did you tell me about this work earlier?

1. YES, THESE WORK HOURS WERE REPORTED      5. NO, THESE WORK HOURS WERE NOT REPORTED

GO TO G10

G9J1W. Then I would like to ask you some questions now about this business and [your/WF/"WF"] work in it.

G9J3W. What was [your/her] occupation? What sort of work did [you/she] do? What were [your/her] most important activities or duties? (OPENEND)

G9J4W. And, how many weeks did [you/she] work at this business in 2006?  
(2 DIGITS--1-52)

G9J5W. On the average, how many hours a week did [you/she] work at this business?  
(3 DIGITS--1-112)

G9J6W. In what month and year did [you/she] start working at this business?  
(TWO VARS--G9J6WMO WITH TMONTH CODE AND G9J6WYR- TYEARSPRECNOY CODE)

G9J7W. In which months during 2006 [were you/was she] working at this business?  
(MULTIPLE MENTION WITH TMOSTRING CODE)

G9J8W. [Have you/Has she] stopped working at this business?  
1. YES      5. NO → GO TO G10

G9J9W. In what month and year was that?  
(TWO VARS--G9J9WMO WITH TMONTH CODE AND G9J9WYR WITH ONLY CODES BELOW ALLOWED. NOTE THAT 9998 FOR YEAR IS NOT ALLOWED!)  
2006      2007      9996. 2006 OR 2007, DK WHICH

G9J10W. What happened--did it go out of business, did [you/she] quit, or what?  
(OPENEND)

G10. (Please remind me,) was it a corporation or an unincorporated business?  
1. CORPORATION      2. UNINCORPORATED      7. OTHER (SPECIFY)      8. DK /9. RF  
GO TO G11c      GO TO G11

G11. What were the total receipts from the business?  
\$(7 DIGITS) A  
DO NOT allow negative amounts

G11A. What were the total operating expenses, not counting living expenses?  
\$(7 DIGITS) B  
DO NOT allow negative amounts

G11B. That left a net income of? (A - B =)  
\$(7 DIGITS) C  
ALLOW negative amounts

G11C. INTERVIEWER CHECKPOINT

SEE G6 ABOVE--NUMBER OF BUSINESSES

ONLY ONE BUSINESS      TWO OR MORE BUSINESSES → REPEAT G7a-G11b FOR EACH ADDITIONAL BUSINESS, THEN TO G12

G12. Did you [HEAD] earn wages or salaries in 2006 from working on any jobs [besides the unincorporated business we have just talked about]?  
IF NECESSARY, review employment history and ADD: including wages or salaries from the job(s) we already talked about?

1. YES      5. NO → GO TO G12CKPT

G13. How much did you [HEAD] earn altogether from wages or salaries in 2006, that is, before anything was deducted for taxes or other things?  
\$(7 DIGITS)

G14. In addition to this, did [you/he] have any income from bonuses, overtime, tips, or commissions?  
1. YES      5. NO  
GO TO G16a      GO TO G17f

G12CKPT. INTERVIEWER CHECKPOINT -- NO INCOME FOR 2006

JOB REPORTED IN EHC FOR HEAD IN 2006      NO JOB REPORTED IN EHC & G9A/G10 = HEAD DID NOT WORK FOR UNINCORPORATED BIZ, BUT G9A/G10 = HEAD WORKED FOR INCORPORATED BIZ IN 2006      ALL OTHERS  
GO TO G16

G12Signal. HEAD WORKED IN 2006 BUT HAS NO WAGES OR SALARY IN G12  
PROBE: [Was/Were] there any wage(s) or salary(s) from [this job/these jobs]?  
1. YES      5. NO → G12A (G12SPEC). How is it that [you/Head] worked in 2006, but did not receive earnings from it?  
(OPENEND)  
RETURN TO G12

G16. Did [you/he] have any income from bonuses, overtime, tips or commissions?  
1. YES      5. NO → GO TO G18a

G16a. Which was that?  
ENTER all that apply

1. BONUSES      2. OVERTIME      3. TIPS      4. COMMISSIONS      7. OTHER (SPECIFY)

G17a. How much was from ...  
a. Bonuses? (6 DIGITS)  
b. Overtime? (6 DIGITS)  
c. Tips? (6 DIGITS)  
d. Commissions? (6 DIGITS)  
e. Other job related income? (6 DIGITS)

G16b. What was that from?  
(OPENEND)