Evolution of the Relationship between the Gig Economy and Entrepreneurship: The Heterogeneous Effects of Labor Market Disruptions[†]

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Abstract

We study changes in the gig economy and transitions from gig work into entrepreneurship over time and around labor market disruptions using administrative data from U.S. tax returns. We find an increase in entry to gig work and newly created firms by previous gig workers. Examining heterogeneous effects, we find that these shifts are larger for women and women with dependents. Since these were groups more affected by childcare disruptions, this suggests that gig work especially benefits those facing labor supply constraints. We show that gig-founded firms started by women survive less and have higher profitability, suggesting that these individuals experiment by creating riskier firms. Women entering the gig economy and also those starting new firms are better off in terms of their household income. Overall, the results indicate that the gig economy continues to play an important role for entry to entrepreneurship, which is critical when there are labor market disruptions.

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1 Introduction

By offering low entry barriers and a flexible work schedule, the gig economy has transformed labor markets. Recent research has documented that the gig economy plays an important role in enabling entry to entrepreneurship (Barrios, Hochberg, and Yi (2022); Denes, Lagaras, and Tsoutsoura (2023)). Yet our understanding of how the gig economy interacts with entrepreneurship has been guided by studying a period characterized by stable labor markets. The recent pandemic disrupted labor markets and led to a large decline in U.S. GDP (Guerrieri et al. (2022)) and employment (Bartik et al. (2020)). Many workers opted out of the workplace and transitioned to non-salaried employment opportunities, including self-employment, gig work, and entrepreneurship. Consequently, the recent pandemic might have led to a critical shift in the relationship between the gig economy and entrepreneurship.

Despite the labor market disruptions following the recent pandemic, there is limited evidence of their role in the gig economy and transitions from gig work into entrepreneurship. In this paper, we use administrative data from U.S. tax returns to study the evolution of the gig economy, entry into entrepreneurship, and the evolution of newly created firms around these labor market disruptions. The data allow us to identify and follow individuals participating in the gig economy and starting new firms over time. We can also observe the performance of their newly created firms. Changes in the gig economy and transitions into entrepreneurship have important implications for tax administration. For example, if the gig economy grows during the pandemic, then it might be more challenging to determine the tax liability of gig workers because they are not subject to tax withholding. Additionally, if the gig economy enables more entrepreneurship, then there might be a corresponding increase in business filings and the composition of tax filers.

We start by studying individuals' propensity to draw income from the gig economy and subsequent transitions from gig employment into entrepreneurship. This allows us to evaluate if adverse labor market disruptions shift an individual's choice between salaried and

non-salaried employment, with a particular emphasis on the likelihood of working in the gig economy and subsequently starting a new firm. We examine the universe of individuals in the U.S. aged 25 to 65. Our primary finding is that there has been a substantial increase in the probability of an individual becoming a gig worker in both 2020 and 2021. In turn, during this period, there has been a corresponding increase in new firm creation by individuals previously participating in the gig economy, which we term "gig-founded" firms. We benchmark the increase in gig-founded firms relative to the universe of newly created firms. We find that there has also been an increase in new firm creation in 2020 and 2021. Comparing the magnitude of the increase in new firm creation to gig-founded firms, about 17.8% of the effect is driven by transitions from gig work into entrepreneurship. We also report that there has been a rise in the share of gig-founded firms over the sample period. We show that the results are similar when we repeat our analysis focusing only on newly created firms that have at least one employee within a year of founding.

We also examine whether the increase in gig work and gig-founded firms during the pandemic differs for particular individuals. To understand the economic mechanisms at play, we focus on groups that face liquidity and time constraints and, consequently, might particularly benefit by participating in the gig economy. Since women face greater time constraints, especially those with dependents, the gig economy might be especially important. To the extent that the pandemic substantially increased childcare responsibilities (Alon et al. (2022)), these constraints might have become more binding. Consistent with this, we find that women, particularly women with dependents, are substantially more likely to become gig workers. However, women are less likely to start gig-founded firms. We compare the estimates for gig-founded firms to overall new firm creation and report that there is an increase in new firm creation during the pandemic. Additionally, we show that the effects for these individuals are more pronounced for women with relatively younger dependents and in areas that had more childcare disruptions. A striking observation is that, although women are more likely to enter gig work and create firms following labor market disruptions,

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they are less likely to become gig founders during this period, which could be driven by time constraints due to childcare responsibilities.

Next, we study the survival and performance of gig-founded firms created in the United States from 2016 to 2021. These findings allow us to evaluate the quality of newly created firms and whether the increase in entrepreneurial activity is transitory. Similar to our previous analyses, we benchmark the estimates to the broader universe of new firms over the same sample period. Since the effects are pronounced for women and women with dependents, we continue to examine whether the performance and survival differ for firms started by individuals with these characteristics. We find that gig-founded firms started by women during labor market disruptions are less likely to survive in the year after founding. However, this is driven by firms with no employees as gig-founded firms started in 2020 and 2021 by women with employees are more likely to survive in the year after founding. This suggests that there are vital differences in the quality of firms based on whether they support employees. We show that there is no difference in survival for firms created by women with dependents started in 2020 and 2021. Compared to the broader universe of firms, firms started by women and women with dependents, including those with employees, during this period are more likely to survive.

We also evaluate firm performance. We find that gig-founded firms started by women and women with dependents following labor market disruptions have higher profitability in the year of founding. This effect is short-lived as there is no difference in profitability in the year after founding for women with dependents. We compare these effects to the broader universe of firms. We show that, similar to gig-founded firms, firm performance measured using profitability in the year of founding is higher at firms created by women and women with dependents in 2020 and 2021. In the universe of firms, this effect also persists in the year after founding. Taken together, the results on survival and performance are consistent with Denes, Lagaras, and Tsoutsoura (2023), suggesting that entrepreneurs who previously worked in the gig economy start riskier firms.

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We conclude by investigating the household income of individuals who became gig workers or gig founders. The analysis allows us to evaluate if household incomes changed due to labor market disruptions during the pandemic relative to earlier transitions when the economy was stable and fared better. We focus on women tax filers who were salaried employees, that is received a Form W2, as the primary source of income in 2019. We form a panel of adjusted gross income (AGI) to measure household income from 2016 to 2021. We find that those who transitioned to the gig economy during the pandemic have relatively higher household income. We also show that household income for entrepreneurs with previous experience in the gig economy is higher. We compare the effects to the universe of entrepreneurs and find that household income also increased for this group. This indicates that previously salaried women employees transitioning into the gig economy and entrepreneurship were better off in terms of their income. Overall, our results are consistent with the gig economy positively impacting individuals either as an employment source or through facilitating entry to entrepreneurship. This highlights the potential importance of flexible labor opportunities available through the gig economy in times of adverse labor market conditions.

The paper contributes to several strands of the literature. First, the paper contributes to the literature that studies the gig economy. Prior literature has documented that gig work is a growing part of the economy in the last decade (Abraham et al. (2018); Collins et al. (2019); Lim et al. (2019)) and it can be an important labor choice for individuals (Hall and Krueger (2018); Chen et al. (2019); Fos et al. (2021); Jackson (2022); Buchak (2024)). Further related to this study is the stream of work that documents that the gig economy plays an important role in supporting entry to entrepreneurship (Barrios, Hochberg, and Yi (2022); Denes, Lagaras, and Tsoutsoura (2023); Mao et al. (2023)). We add to this work by showing how the gig economy changed during recent labor market disruptions along with its importance in supporting entry to entrepreneurship.

Our results also add to the literature examining the role of entrepreneurship in times of economic distress. Babina (2020) and Hacamo and Kleiner (2022) document that labor mar-

ket declines and firm-specific shocks allow individuals to transition to entrepreneurship. In contrast, we examine the response in gig employment and entrepreneurial entry in 2020 and 2021. Understanding the role of the gig economy in times of economic distress is important, offering novel insights into a new labor opportunity that was not widespread during previous recessions. Additionally, we track firms started by individuals with prior gig experience and compare them to the universe of newly created firms, allowing us to observe their survival and performance.

Finally, our paper relates to the literature quantifying large shifts in the workplace following the pandemic (e.g., Alon et al. (2022)) and showing that it disproportionately affected women due to childcare responsibilities (Goldin (2022)). We provide novel micro-evidence that documents a reallocation towards gig work and entrepreneurship during this period. Moreover, we show that the effects were stronger for specific subgroups due to childcare responsibilities.

2   Data from U.S. Tax Returns

This section explains how we use U.S. tax returns to study the interaction between the gig economy and entrepreneurship. Section 2.1 details how income from gig work is observed for all individuals in the United States. Section 2.2 describes how we measure entrepreneurship. Section 2.3 provides information on additional data incorporated into the analyses.

2.1   Measuring the Gig Economy

We use administrative data from U.S. tax returns to measure participation in the gig economy. This allows us to directly observe income received by individuals in the U.S. from firms operating in the gig economy. This section describes how we construct an individual's income from the gig economy for each year. We primarily use information returns provided to the IRS by gig firms supplemented with data from tax returns of individuals.

We manually compile a list of gig firms in the U.S. by following Denes, Lagaras, and Tsoutsoura (2023). We classify each gig firm into one of the following categories: leasing, selling, services, and transportation. Due to confidentiality reasons, we cannot identify specific firms in the underlying data. The combined lists include a total of 174 gig firms. About half of gig firms are in the services sector, almost 50 firms are operating in the transportation sector, and the remaining gig firms are equally in the leasing and selling sectors.

We observe an individual's participation in the gig economy using information returns provided to the IRS by gig firms. Specifically, we use Forms 1099-MISC, 1099-NEC, and 1099-K to measure income received by an individual from gig firms.[1] Though tax returns can be filed jointly, information returns identify the exact individual who received income from a gig firm. We construct a dataset of gig income using the list of 174 gig firms matched to the universe of Forms 1099-MISC, 1099-NEC, and 1099-K, which we augment with data from an individual's tax returns. Gig workers generally file a Schedule C as part of Form 1040 to report income derived from the gig economy. This schedule includes a description of the activity related to its filing. If this description includes the name of a gig firm in our list, we add it to the dataset on gig income. The combined dataset using Forms 1099-MISC, 1099-NEC, and 1099-K, in addition to Schedule C, allows us to track the gig income that is received by an individual over time.

While U.S. tax returns offer novel insights into individuals participating in the gig economy, a caveat should be mentioned about the data. We primarily rely on information returns provided to the IRS by gig firms to observe gig income. The requirement to provide this information is generally based on the amount of income or the number of transactions paid to an individual. Accordingly, we do not observe gig income below these thresholds

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[1]There are thresholds for reporting information using these forms. Gig firms are required to report when individuals receive at least $600 in non-employee compensation. Form 1099-NEC replaced Form 1099-MISC for reporting non-employee compensation in 2020. Form 1099-K is used by certain gig firms classified as third-party networks and has higher thresholds. It is based on transactions and required when the total income from these transactions is higher than $20,000 and there are more than 200 transactions.

unless gig firms voluntarily provide the information to the IRS.[2] However, it is also important to note that we rely on information returns provided by gig firms to the IRS, rather than individuals reporting gig income on Form 1040.[3]

2.2 Measuring Entrepreneurship

We seek to understand changes in the gig economy and entrepreneurship during labor market disruptions. Our data allow us to overcome a few challenges associated with measuring entrepreneurial activity in the U.S. First, comprehensive data on every newly created firm in the economy and every individual in the labor force are often not provided in publicly available datasets. Second, it is generally not possible to observe the characteristics of founders, their income trajectory, and employees at their firms. Third, it can be difficult to observe the performance of new firms at and following their creation. To overcome these challenges, we use the universe of U.S. tax returns to determine when individuals start new firms.[4] To measure entrepreneurial activity across a wide swath of potential entrepreneurs, we focus on sole proprietorships. This is motivated by several considerations. Sole proprietorships are the most common type of firm in U.S. tax returns.[5] Additionally, focusing on one firm type allows us to construct standardized measures of firm outcomes. We also observe ownership of sole proprietorships and these types of firms are wholly owned by one individual.

In U.S. tax returns, sole proprietorships file Schedule C, which is part of a household's Form 1040. This schedule identifies the specific entrepreneur owning and operating the firm within a household. To construct a dataset on firms for our analyses, we start with the universe of Schedule C filings, which are available from 1997 to 2021.[6] We restrict our

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[2]The vast majority of gig firms only provide information returns to the IRS if required.

[3]There can be underreporting or no reporting of gig income by a tax filer on Form 1040. Consequently, it is important to use Forms 1099-MISC, 1099-NEC, and 1099-K to capture a substantial share of activity in the gig economy.

[4]We received access to the universe of U.S. tax returns through the Joint Statistical Research Program of the Statistics of Income Division of the IRS.

[5]The other firm types in U.S. tax returns are broadly partnerships and corporations. Partnerships file Form 1065, S corporations file Form 1120-S, and C corporations file Form 1120.

[6]The sample for our analyses is from 2016 to 2021. Using data back to 1997 allows us to identify when

attention to Schedule C filings that include an employer identification number (EIN) to focus on firms that are separate entities.[7] If a particular tax return is amended, we use the most recent filing available.[8]

An important aspect to consider when using Schedule C filings to measure entrepreneurship is other reasons why taxpayers might file this schedule. In the context of this paper, individuals participating in the gig economy are generally required to file a Schedule C to report gig income, which does not represent entrepreneurial activity. As mentioned above, we only use Schedule C filings with an EIN. This restriction will remove gig workers who file a Schedule C solely to report gig income and do not have an EIN. We also include two additional steps to eliminate Schedule C filings solely used to report gig income. First, using the data on gig income described in Section 2.1, we exclude firms where the reported income is within a narrow band of the gig income. Specifically, we omit those Schedule C filings where the gross receipts or sales are within $100 of the gig income received by an individual in a particular year. Second, we remove Schedule C filings where the firm name matches the name of a gig firm. Overall, we implement several approaches to remove filings that stem from tax reporting requirements.

2.3   Other Data

We incorporate additional data from U.S. tax returns for individuals and entrepreneurs. We use adjusted gross income and dependent status from Form 1040. We add data on age and gender using information from the Social Security Administration.

We use data from Schedule C to construct firm outcomes at founding and subsequent

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individuals are first-time entrepreneurs.

[7]The main requirement for firms to have an EIN is if they file employment returns or have a qualified retirement plan. Additional details about requirements for having an EIN are available on the IRS website at: https://www.irs.gov/instructions/i1040sc.

[8]We also apply the following filters to construct the dataset. First, we only use Schedule C filings with valid zip codes. Second, we remove filings where the same EIN appears on a Schedule C for a different Form 1040 in the same year. Third, we drop filings where the EIN is the same as a social security number (SSN) or the SSN is used as an EIN.

performance. Since we focus on sole proprietorships with an EIN, we use this unique identifier to track firms over time. We construct variables to measure firm survival, profitability, and employment.

[Insert Table 1 Here]

Table 1 provides summary statistics for variables used in our analyses. Panel A shows variables for individual analyses, which includes the universe of individuals in the U.S. from 2016 to 2021 aged 25 to 65 in the year of filing a tax return.[9] There are more than 0.9 billion individual-years. Almost 1.1% of the sample are gig workers. About 0.7% of individuals start a new firm in a particular year. The majority of the tax filers are women and slightly more than half of women have dependents. Panel B has the variables for firm outcomes. Around half of firms survive two years after founding. Approximately 18% of firms report employment one year after their founding. Panel C includes variables for the cross-section of entrepreneurs. About 34% of founders are women and 18% are women with dependents.

We also document the transition between labor income sources over the sample period for six possible categories. First, gig employment is an individual's income from a gig firm based on Forms 1099-MISC, 1099-NEC, and 1099-K. Contract employment is an individual's income from a non-gig firm also based on Forms 1099-MISC, 1099-NEC, and 1099-K. Sole proprietorship is an individual's income based on Schedule C, which is attached to Form 1040. Unemployment is an individual's income based on Form 1099-G. Wage employment is an individual's income based on Form W-2. We assign each individual to one category based on the largest income source in a particular year. Individuals who do not appear in the sample for a particular year are considered out-of-sample.

Appendix Figure A1 shows the share of individuals transitioning from a particular income source. For example, the top-left panel show individuals transitioning from gig employment to one of the six categories. In 2020, we find that about 20% of gig workers in

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[9]We split tax returns filed by a household with more than one person to separately include an observation for the primary filer and spouse.

the current year transitioned to being a sole proprietor in the following year. Appendix Figure A2 provides the share of individuals transitioning to a particular income source. Appendix Figure A3 displays the count of individuals transitioning from a particular income source. Appendix Figure A4 reports the count of individuals transitioning to a particular income source. These figures offer new evidence of labor market transitions during a period of substantial disruptions.

3 Evolution of the Gig Economy and Entrepreneurship

This section studies the evolution of participation in the gig economy and subsequent entry into entrepreneurship following labor market disruptions in 2020 and 2021. Section 3.1 provides aggregate evidence on changes in the gig economy and entrepreneurial entry in 2020 and 2021. Section 3.2 evaluates the effects on entry into the gig economy and its interaction with entrepreneurship. Section 3.3 examines the role of individual characteristics in the response by seeking employment in the gig economy and new firm creation. Section 3.4 investigates heterogeneity in the treatment intensity based on geographic variation.

3.1 Aggregate Evidence

Labor markets were substantially disrupted in 2020 and 2021, forcing a sizeable part of the labor force into unemployment. Figure 1 plots the number of individuals who received unemployment income based on Form 1099-G. We find that about 5 million people received unemployment before 2020. At the beginning of the pandemic in 2020, there was a substantial increase as more than 30 million individuals received unemployment income. This increase persisted at greater than 15 million people in 2021.

[Insert Figure 1 Here]

Our interest in participation in the gig economy during 2020 and 2021 is guided by the increasingly important role it plays in the U.S. economy (e.g., Abraham et al. (2018)). Prior

literature has highlighted the role of the gig economy in insulating individuals from negative labor market or financial shocks (Koustas (2018); Jackson (2022)). Relatedly, participation in the gig economy has been associated with an increase in entrepreneurial entry (Barrios, Hochberg, and Yi (2022); Denes, Lagaras, and Tsoutsoura (2023); Mao et al. (2023)).

We start our analysis by providing aggregate evidence regarding the evolution of gig participation around the pandemic and subsequent entrepreneurial entry from gig participants. Theoretically, the effect of a prolonged and severe economic downturn on employment in the gig economy is unclear. On the one hand, the distinct features of the disruption, including limited in-person work, potentially could increase individuals' willingness to use flexible employment arrangements as an income source. On the other hand, the shift to remote work and the availability of unemployment benefits during the pandemic could discourage individuals from participating in the labor market, including the gig economy (Garin et al. (2023)).

Figure 2 shows participation in the gig economy and entrepreneurship during the sample period. Panel A provides the share of tax filers who receive income from the gig economy from 2016 to 2021. We find that there is a substantial increase in the proportion of individuals who participate in the gig economy during 2020 and 2021. The share of individuals who draw income from the gig economy was relatively stable before labor market disruptions, fluctuating between about 0.7% to 1% of the population. Gig employment sharply increases in 2020 and reaches nearly 2% of the population in 2021.

[Insert Figure 2 Here]

By observing the universe of U.S. tax filers, we link individuals creating new firms with their previous labor income. Panel B plots the proportion of individuals who start a firm in a particular year and worked in the gig economy in any previous year. We find that the share of individuals who start new firms with prior experience in the gig economy grows at a faster pace in 2020 and 2021. Panel C shows the number of newly created firms by those

with prior experience in the gig economy, which increases from about 20,000 in 2016 to over 100,000 in 2021. This suggests that the gig economy might continue to facilitate entry into entrepreneurship, as previously documented by Denes, Lagaras, and Tsoutsoura (2023).

To benchmark the increase in the propensity of individuals to create gig-founded firms, Panel D reports the share of individuals creating new firms over the sample period from 2016 to 2021. We find that there was a sharp increase in the propensity of individuals to become entrepreneurs in 2020 and 2021. This is consistent with previous aggregate evidence that relies on business applications (Haltiwanger (2022)). While business applications are informative of a business' intent to engage in future economic activity, only a fraction corresponds to a subsequent business formation that reports economic activity or employs workers (Bayard et al. (2018)). Prior literature has highlighted that labor markets play a central role in an individual's decision to enter entrepreneurship (Hombert et al. (2020); Gottlieb, Townsend, and Xu (2022)). In times of distress, the opportunity cost to engage in entrepreneurship potentially decreases (Babina (2020)), motivating individuals with entrepreneurial potential to create firms (Hacamo and Kleiner (2022)).

Overall, our aggregate findings on the evolution of the gig economy and entrepreneurship provide important insights into the interaction between labor market disruptions and individuals' propensity to opt for flexible employment opportunities. They are connected to recent work about nationwide increases in the gig economy (Garin et al. (2023)) and business applications (Haltiwanger (2022)). In the next section, we provide regression evidence for the effects on entry into the gig economy and entrepreneurship.

3.2   Individual-level Analysis

We extend the aggregate evidence about trends in the gig economy and entrepreneurship by investigating, at the individual level, the effect of labor market disruptions on participation in the gig economy and creating a new firm. An important advantage of using administrative data is that we study the universe of newly created firms that file tax returns and subse-

quently report economic activity. Therefore, we can characterize the effect of labor market disruptions both on the labor choice of individuals into flexible forms of employment and the relationship between the gig economy and entrepreneurship. Prior literature has highlighted that the entry of the gig economy is associated with an increase in firm creation (Barrios, Hochberg, and Yi (2022); Mao et al. (2023)) and that the gig economy acts as a pathway to entrepreneurship (Denes, Lagaras, and Tsoutsoura (2023)). Accordingly, a distinct contribution of our paper is that we provide direct estimates of the propensity to enter into the gig economy and entrepreneurship at the individual level.

For our analysis, we estimate the following specification at the individual-year level:

$$Y_{it} = \alpha_m + \beta \cdot \text{Post}_t + \gamma \cdot X_{m,t-1} + \varepsilon_{it}, \tag{1}$$

where Y_{it} is the outcome variable measuring participation in the gig economy or creating a firm by individual i in year t. The sample for our analyses is the population of U.S. individuals from 2016 to 2021 aged 25 to 65 in a particular year. To benchmark our estimates, we separately provide estimates of entrepreneurial entry by individuals with prior experience in the gig economy and for the population of tax filers. $Post_t$ is an indicator variable equal to one for the period from 2020 to 2021. $X_{i,t-1}$ is a control for log GDP at the metropolitan statistical area (MSA) level measured in the previous year. The specification includes MSA fixed effects (α_m) to absorb unobserved time-invariant heterogeneity at the MSA level. Standard errors are clustered at the MSA level. The coefficient of interest is β, which estimates the marginal effect of the post period on participation in the gig economy or entrepreneurial entry.

[Insert Table 2 Here]

Table 2 includes the results. We start by providing estimates of the propensity of individuals to receive income from the gig economy in the post period relative to the prior period. We define *Gig Worker* as an indicator variable equaling one if an individual receives

income from the gig economy in a particular year. Section 2.1 details how we measure gig income in the administrative data on U.S. tax returns. In column (1), we include MSA fixed effects to absorb time-invariant heterogeneity across locations and column (2) augments the specification with a time-varying variable that accounts for differences in economic growth across MSAs. Our estimates across specifications suggest that individuals exhibit a 0.7 to 0.75 percentage-point increase in the likelihood of participating in the gig economy in the post period.[10] The effects are statistically significant and economically substantial, representing a 65% increase relative to the sample mean. Our findings highlight the importance of the gig economy in supporting individuals during economic downturns.

We continue by studying the evolution of the interaction between the gig economy and entrepreneurial entry. Prior literature has highlighted the role of the gig economy in enabling entrepreneurship by allowing for learning and experimentation (Denes, Lagaras, and Tsoutsoura (2023)). Since we find an increase in individuals' transitions to the gig economy during the post period, it could also potentially increase entry into entrepreneurship by those with prior experience in the gig economy. We define *Gig Founder* as an indicator variable equaling one if an individual starts a firm in that particular year and has received gig income in a previous year. In column (3), we find that entrepreneurial entry by individuals with prior involvement in the gig economy increases in the post period.[11] We show that the estimates are similar when we include log MSA GDP in column (4). To compare the increase in gig-founded firms, we re-estimate the specifications for the universe of newly created firms. We continue to include MSA fixed effects in both specifications. Column (5) reports that there is a 0.16 percentage point increase in the probability of an individual becoming an entrepreneur in 2020 and 2021. The estimate remains similar when we include log MSA GDP as a control in column (6). These results suggest that gig founders account for about 17.8% to 19.6% of increase in entrepreneurial entry during the post period.

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[10] The R^2 is low since the incidence of an individual participating in the gig economy in a particular year is relatively infrequent.

[11] This effect is not mechanical since any firms mechanically created by gig participants to report income from the gig activity are excluded.

In Appendix Table A1, we examine the robustness of our estimates by focusing on first-time gig workers and gig founders. In columns (1) and (2), we find that there is a 0.39 to 0.40 percentage-point increase in the propensity of an individual to work in the gig economy during 2020 and 2021 for the first time. Since this estimate is less than the baseline result in Table 2, it suggests that a sizable share of the increase in gig work during labor market disruptions is explained by prior gig workers reentering the gig economy. We also show that there is an increase in first-time gig founders in 2020 and 2021 in columns (3) and (4). Relative to the universe of newly created firms, columns (5) and (6) report that there is also a rise in first-time founders.

In Appendix Table A2, we evaluate the robustness of our results to newly create firms with at least one employee at founding. Firms with employees play an outsize role in facilitating economic and employment growth, particularly in times of economic downturns. In columns (1) and (2), we find that there is an increase in the creation of firms employing at least one individual at founding by individuals with prior experience in the gig economy. In columns (3) and (4), we show that the estimates are similar to those for the universe of newly created firms with at least one employee at founding. Overall, our results provide individual-level estimates that there was a substantial increase in the probability of individuals opting for flexible options in the labor market through the gig economy and a rise in firms founded by those with prior experience in this sector of the economy.

3.3 Who Responds?

Following the labor market disruptions, was there a shift in the composition of individuals who responded by working in the gig economy or starting a new firm? We continue by examining the role of individuals' characteristics. Albanesi and Kim (2021) and Goldin (2022) highlight that the pandemic substantially increased childcare responsibilities and disproportionately affected employment in sectors with high female employment shares (e.g., contact-intensive services). If the gig economy and entry into entrepreneurship are alterna-

tives for displaced employees or those with childcare responsibilities, we expect transitions into these options to be disproportionately driven by the most impacted groups, that is women and women with dependents. Using data available in U.S. tax returns, we incorporate information on individuals' demographic characteristics. This allows us to evaluate if there is a shift in the composition of gig workers and entrepreneurs, shedding light on the potential economic mechanisms.

[Insert Figure 3 Here]

Figure 3 explores the association between labor market disruptions and gender. We define *Female Proportion* as the share of females employed in a particular industry in 2019. We also construct *Percent Change in Unemployment* as the percent change in the number of unemployed individuals from 2019 to 2020 in a particular industry. We find that there appears to be a link between the change in unemployment around the pandemic and the share of females working in a particular industry. For example, healthcare and personal services experienced substantial increases in unemployment of 9% and 7%, respectively, and employed a majority of women. Comparatively, manufacturing and transportation experienced only minor increases in unemployment, and employment changes mostly affected men.

[Insert Figure 4 Here]

Figure 4 provides additional evidence on the composition of unemployed individuals based on gender and dependents. During 2016 to 2019, about 40% of individuals receiving unemployment income are women and about 25% are women with dependents. In 2020 and 201, this notably rises to more than half of unemployed individuals are women and about 30% are women with dependents.

[Insert Figure 5 Here]

We next turn to the role of characteristics in the aggregate evidence. In Figure 5, Panel A shows the composition of individuals participating in the gig economy by gender and

dependents. For each year, we separately determine the share of women and women with dependents. We find that there is a substantial increase in the share of women participating in the gig economy from 29.4% in 2016 to 45.8% in 2021. Additionally, women with dependents are more likely to participate in the gig economy compared to those without dependents. Panel B focuses on individuals who start new firms and had previously worked in the gig economy. We continue to show that the share of female gig founders rises sharply from 25.5% in 2016 to 35.8% in 2020. Women with dependents account for the majority of the change. Panel C compares these estimates to the universe of founders. We observe a jump in female founders that coincides with the onset of the pandemic in 2020 and persists to 2021. Similarly to our previous findings, the proportion of female entrepreneurs with dependents exhibits the largest growth, but it is smaller compared to gig founders. Combined, our aggregate results by characteristics indicate that participation in the gig economy and entry into entrepreneurship appear to be driven by the groups of individuals impacted by labor market disruptions.

To further characterize the underlying economic mechanisms related to transitions to the gig economy and entrepreneurship during the post period, we provide regression estimates of heterogeneous effects. Specifically, we extend our baseline specification by interacting an individual's particular characteristic with participation in the gig economy as follows:

$$
\begin{aligned}
Y_{it} = \alpha_m + \beta \cdot \text{Post}_t \cdot \text{Characteristic}_{i,t-1} + \delta \cdot \text{Post}_t \\
+ \theta \cdot \text{Characteristic}_{i,t-1} + \gamma \cdot \text{X}_{m,t-1} + \varepsilon_{it}.
\end{aligned}
\tag{2}
$$

In this specification, $Characteristic_{i,t-1}$ is the characteristic of individual i in year $t-1$. The specification includes terms for the direct effects of the post period and the characteristic. We include MSA fixed effects (α_m) to absorb unobserved time-invariant variation at the MSA level. Standard errors are clustered at the MSA level. The coefficient of interest is β, which estimates the marginal effect of a specific characteristic in 2020 and 2021.

We investigate heterogeneity in gig participation and entrepreneurial entry by gender

and dependents. Prior research provides evidence that childcare responsibilities substantially increased in 2020 and 2021, and disproportionately affected employment in sectors with high female shares (Alon et al. (2022); Goldin (2022)). The opportunity cost of transitioning to the gig economy and entering entrepreneurship potentially decreased during the period with labor market disruptions for individuals who were either displaced or became constrained by childcare responsibilities. Consequently, we expect transitions to the gig economy and entrepreneurship could be disproportionately driven by individuals in these groups, which are women and, particularly, women with dependents. For our analyses, we define *Female* as an indicator variable equaling one if an individual is a female. We also define *Female with Dependents* as an indicator variable equaling one if an individual is a female and has any dependents.

[Insert Table 3 Here]

Table 3 provides the results. Panel A reports our estimates for the likelihood of working in the gig economy. Across all specifications, the coefficient on the *Post* variable is positive and statistically significant, which is consistent with our results in Section 3.2 that participation in the gig economy increased in the post period. We also show that women are less likely, on average, to participate in the gig economy based on the estimates for the *Characteristic* variable. In column (1), we investigate whether the effect of participating in the gig economy is different for women during labor market disruptions. We find that there is a 0.2 percentage point increase in the likelihood for women to become gig workers in 2020 or 2021. The effect is statistically significant and economically sizable, representing an increase of 21.3% relative to the sample mean. Column (2) shows that the estimate is the same when we include log MSA GDP as a control.

Columns (3) and (4) examine the effect where the characteristic is *Female with Dependents*, which is a group that is particularly prone to childcare constraints. To the extent that they disproportionately bear the costs of childcare, women with dependents might be more

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likely to participate in the gig economy due to its flexibility. Columns (3) and (4) show that there is a 0.34 percentage point increase in the propensity to participate in the gig economy for women with dependents. This is consistent with childcare responsibilities playing a role in the shift to working in the gig economy during periods of labor market disruptions.

Panel B presents the results about the role of particular characteristics for gig founders. Columns (1) and (2) show that there was a decline in the propensity for women to start a new firm after participating in the gig economy during labor market disruptions. This suggest that working in the gig economy substituted for entrepreneurship for women in 2020 and 2021. In columns (3) and (4), we find that there is no differential response for women with dependents in the post period. Across all specifications in this panel, there is evidence of an increase in gig founders in 2020 and 2021. There is also a lower propensity for women and women with dependents to become gig founders throughout the sample period.

Panel C benchmarks the estimates with all newly created firms. In contrast to the results on gig founders, we find that women and women with dependents are more likely to become founders during the post period. In columns (1) and (2), we report a 2.0 basis points increase in entry to entrepreneurship, which is a 2% increase relative to the sample mean. In columns (3) and (4), the effect more than doubles for women with dependents. We also show that new firm creation increases substantially based on the coefficients on the *Post* variable, though women and women with dependents are less likely, on average, to create new firms. These results highlight that there are similarities in the level effects for gig founders compared to founders, while there are different responses during labor market disruptions.

Appendix Table A3 repeats the analysis for first-time participation in the gig economy and entrepreneurial entry. Panel A continues to show an increase in gig participation for women and women with dependents in 2020 and 2021. Panel B finds that the estimates are generally positive for first-time gig founders, which is different from the prior results. Panel C also reports that the effects are similar to the previous estimates. Appendix Table

A4 evaluates the robustness of our results by focusing on dependents who are 12 years or younger. We mostly find that the estimates are amplified, suggesting that childcare constraints play a role in participation in the gig economy and entry into entrepreneurship during labor market disruptions. Appendix Table A5 evaluates the robustness of our findings by providing estimates for firms that employ at least one individual in the two-year period after founding. The estimates are largely consistent with our previous results and highlight that the gig economy substitutes for entrepreneurship during the post period.

We conclude this section by examining the timing of the effects when labor markets are disrupted. Specifically, we extend our event-study specification in equation (2) to separately identify the effect years 2020 and 2021 as follows:

$$
\begin{aligned}
Y_{it} = \alpha_m &+ \beta_1 \cdot \text{Post 2020}_t \cdot \text{Characteristic}_{i,t-1} + \beta_2 \cdot \text{Post 2021}_t \cdot \text{Characteristic}_{i,t-1} \\
&+ \delta_1 \cdot \text{Post 2020}_t + \delta_2 \cdot \text{Post 2021}_t + \theta \cdot \text{Characteristic}_{i,t-1} + \gamma \cdot \text{X}_{m,t-1} + \varepsilon_{it},
\end{aligned}
\tag{3}
$$

where the variables $Post\ 2020_t$ and $Post\ 2021_t$ are indicator variables equal to one for the year 2020 or 2021, respectively.

[Insert Table 4 Here]

Table 4 provides the results. We find that there are two notable results. First, columns (1) and (2) show that the response by women is largely concentrated in 2020, particularly for gig workers and founders. The effect appears to increase in magnitude for gig founders from 2020 to 2021. Second, the magnitudes of the coefficient estimates in columns (3) and (4) demonstrate that the pandemic effects are persistent for women with dependents. These results provide additional evidence that childcare constraints played a role in the shift to the gig economy and entrepreneurship. They also highlight that the gig economy is an economically important labor market, especially for particular groups during labor market disruptions.

3.4   Heterogeneous Effects by Treatment Intensity

Our previous findings suggest that flexibility might play a role in the rising participation in the gig economy and entrepreneurial entry by women and women with dependents. In this section, we examine geographic variation in flexibility during the labor market disruption occurring in 2020 and 2021. We proxy for differences in flexibility using the variation in childcare responsibilities. We use district-level data on school closures from the COVID-19 School Data Hub.[12] We determine the share of days closed in 2020 and 2021 using the location reported in Form 1040. We split the sample for our individual-level analyses into low and high treatment intensities based on the median value across counties. For each subsample, we estimate equation (2).

[Insert Table 5 Here]

Table 5 reports our results. In Panel A, we examine the effects for gig workers. We broadly find that the response for women and women with dependents is similar in areas with low and high treatments. We report that women in areas with low (columns (1) and (2)) and high (columns (3) and (4)) treatment intensities are 0.2 percentage points more likely to be gig workers in 2020 and 2021. The corresponding estimates for women with dependents in columns (4) to (8) are also quite similar. This suggests that the gig economy might be an imperfect employment substitute in the presence of childcare constraints. Further, we show that there is an overall increase in the propensity to be a gig worker across both treatment intensities in 2020 and 2021.

In Panel B, we evaluate the response for entrepreneurs with previous experience in the gig economy. In columns (1) to (4), we continue to find that the effects are similar across treatment intensities. There is a consistent decrease in entry into entrepreneurship by women with prior gig experience. Columns (5) to (8) report that the response for women

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with dependents. We show that there is a slight decline in gig founders for areas with low treatment intensity.

Panel C compares these estimates with all founders. In columns (1) and (2), we find that there is no differential response for women in the propensity to enter entrepreneurship in areas with low treatment intensity. Columns (3) and (4) show that there is an economically substantial and statistically significant effect of the pandemic on the propensity of women to enter entrepreneurship in areas with high treatment intensity. In economic terms, the coefficient estimates correspond to an increase of 5.6% relative to the sample mean of starting a new firm. We focus on women with dependents in columns (5) to (8). We find that the effect is larger in areas where the treatment intensity is high. The magnitude of the response in high treatment intensity areas is about double relative to those with low treatment intensity. Additionally, the estimates across all specifications for the *Post* variable are positive, suggesting that there is a rise in new firm creation across both areas during the post period.

Taken together, our findings suggest that geographic variation in treatment intensity plays a role in entering into entrepreneurship in the post period, while there is no impact on participation in the gig economy and limited effects for gig founders. In Section 5.2, we examine whether the transitions driven by labor market disruptions to the gig economy and entrepreneurship are transitory or persistent.

4   Characteristics of Newly Created Firms

This section studies newly created firms by individuals previously receiving income in the gig economy relative to all new firms. In Section 4.1, we examine the industry composition of newly created firms following labor market disruptions compared to the prior period. Section 4.2 evaluates subsequent firm performance.

4.1 Industry Composition of Newly Created Firms

We start by examining the industry composition of newly created firms at founding. We use the universe of newly created firms in the United States described in Section 2.2 from 2016 to 2021. We define a *Gig-Founded Firm* as a firm started by an entrepreneur who was a gig worker in any year before starting the firm. We refer to these entrepreneurs as gig founders. We extract information on the industry classification of newly created firms from the two-digit North American Industry Classification System (NAICS) code reported in firms' tax returns. We separately construct the share of newly created firms in a particular industry for gig founders and for all firms in our sample.[13] We compare the industry composition prior to labor market disruptions in 2016 to 2019, which is defined as *Pre*, to the period 2020 and 2021 (*Post*).

[Insert Figure 6 Here]

Figure 6 provides the industry composition for gig-founder firms in the panels along the left column and all firms for those in the right column. Panel A displays the share of newly created firms started by gig founders and Panel B focuses on all firms. The darker red bars represent the proportion of firms in a particular industry from 2016 to 2019. The lighter gray bars display the share of firms formed in a particular industry in 2020 and 2021. Consistent with prior evidence (Denes, Lagaras, and Tsoutsoura (2023)), gig-founded firms tend to be disproportionately concentrated on transportation and trade relative to the universe of U.S. firms.[14] The distribution of gig-founded firms is generally similar to all firms. During 2020 and 2021, there is a substantial increase of new firms in personal services and trade relative to the pre period. There is also a decline in professional services and manufacturing. The results suggest that the labor market disruptions in 2020 and 2021 might support entry into

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[13]We aggregate each two-digit NAICS sector in parentheses to nine broad industries using the following classification: Arts and Media (51, 71), Finance and Real Estate (52, 53, 55), Healthcare (62), Manufacturing (23, 31, 32, 33), Personal Services (61, 72, 81), Professional Services (54, 56), Resource Extraction (11, 21, 22), Trade (42, 44, 45), and Transportation (48, 49). We exclude firms with no industry reported and those in Public Administration (92).

[14]Note that we exclude Schedule C filings that are used to report gig income as described in Section 2.2.

entrepreneurship through online platforms that facilitate the digital provision of personal services and retail trade.

Panels C and D repeat the analysis on the industry distribution for gig-founded firms and all firms by focusing only on female founders. Panels E and F provide the same distributions for male entrepreneurs. We find that shifts in the composition of newly created firms in 2020 and 2021 are largely driven by female entrepreneurs, further highlighting the effect of labor market disruptions on the evolving nature of entrepreneurship. For example, there is a substantial shift to creating firms in trade and personal services, which is particularly pronounced for gig founders who are women. In sum, our evidence indicates that there were changes in the profiles of firms formed in 2020 and 2021.

4.2   Firm Performance

Our previous findings highlight that there was a large increase in entrepreneurial entry in 2020 and 2021, particularly from individuals likely impacted by labor market disruptions. We analyze the performance of newly created firms during this period relative to the pre period. If entrepreneurial talent is homogeneous, then there could be no effect on firm outcomes during the period of labor market disruptions. Alternatively, if entrepreneurial entry is only transitory until labor market conditions improve, transitions to entrepreneurship in the post period are expected to be followed by an increase in firm exits and a low rate of high-growth firms. Prior literature emphasizes the role of aggregate conditions at the time of entry as an important factor in explaining subsequent firm dynamics and growth (Sedláček and Sterk (2017)). By contrast, Hacamo and Kleiner (2022) provide evidence that labor market downturns allow individuals with untapped entrepreneurial potential to transition to entrepreneurship and subsequently create high-growth firms.

We estimate the following specification at the firm level:

$$Y_k = \alpha_m + \alpha_s + \alpha_t + \beta \cdot \text{Post}_t \cdot \text{Characteristic}_{k,t-1} + \gamma \cdot \text{Characteristic}_{k,t-1} + \varepsilon_k, \quad (4)$$

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where Y_k is an outcome for firm k founded in year t located in MSA m and operating in industry s. We examine performance at the year of the founding, and in years one and two after a firm is started. $Post_t$ is an indicator variable equaling one if the year is 2020 or 2021. $Characteristic_{k,t-1}$ is an indicator variable equaling one if the founder has the specific individual trait in the year prior to the founding year t. We include MSA (α_m) and industry (α_s) fixed effects to capture time-invariant heterogeneity in the local economy and industry, respectively. Our specification incorporates founding-year fixed effects to absorb time trends in firm creation (α_t). Standard errors are clustered at the MSA level. The coefficient of interest, β, estimates the marginal effect of the post period on a firm outcome for entrepreneurs with a specific individual characteristic.

[Insert Table 6 Here]

The first firm outcome that we evaluate is a firm's survival. We define *Survival* as an indicator variable equaling one if a firm files taxes in a particular year after founding.[15] Based on the findings in Section 3.3, we continue to examine whether the effects differ for firms created by women and women with dependents. Table 6 provides the results. Panel A reports results for newly created firms started by gig founders and Panel B compares our estimates with all newly created firms. Columns (1) and (3) report the heterogeneous response of female entrepreneurs. Columns (2) and (4) provide estimates for female entrepreneurs with dependents.

We primarily find that female entrepreneurs with prior experience in the gig economy largely create firms in the post period that are less likely to survive. By contrast, female founders in the universe of newly created firms started in 2020 and 2021 exhibit a significantly higher likelihood of survival. In columns (1) and (2) of Panel A, we find that gig-founded firms started by female entrepreneurs are between 0.8 to 0.9 percentage points less likely to survive. When we focus on all firms in Panel B, female-founded firms are 0.5 to 0.6

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[15]Specifically, a firm is observed in a particular year if a Schedule C with the same EIN is filed by a tax filer with the same SSN as at the firm's founding.

percentage points more likely to survive (columns (1) and (2)). There is no significant difference in survival two years after for gig-founder firms (Panel A, columns (3) and (4)), which differs from all newly created firms (Panel B, columns (3) and (4)).

[Insert Table 7 Here]

Table 7 examines firms' profitability. We define $Profitability$ as the inverse hyperbolic sine of a firm's gross profits as reported in a firm's Schedule C for a particular year after a firm is started. The estimates for profitability at founding are reported in columns (1) and (3) and one year after founding in columns (2) and (4). We broadly find that firms started by women and women with dependents have higher profitability in the post period. In Panel A, columns (3) and (4) show that the profitability of gig-founded firms started by women with dependents in 2020 and 2021 is 19.6% and 12.6% higher at founding and in the following year, respectively.[16] We compare the effects to all firms in Panel B. While the estimates are quite similar in terms of direction and magnitude, we find that the effects in this sample are larger for female entrepreneurs (columns (1) and (2)) relative to those with dependents (columns (3) and (4)). For example, profitability is 13.7% higher one year after founding for firms started by women during the post period.

[Insert Table 8 Here]

We conclude this section by evaluating the propensity of firms to employ individuals at founding and the year after founding. We define $Has\ Employees$ as an indicator variable equaling one if a firm has any employees in a particular year. Table 8 reports the estimates. Contrary to our findings for survival and profitability, we mostly find that firms started by women and women with dependents are less likely to employ workers, which is larger in magnitude during the post period.

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[16]For the profitability specifications, we report the exponentiated coefficient minus one in the text. The tables contain the raw coefficients.

We explore the robustness of our results to firms with employees. In Appendix Tables A6 and A7, we re-estimate the specifications for survival and performance on the subset of firms with at least one employee in the two-year period after founding. The results at gig-founded firms attenuate and are largely statistically insignificant. This is consistent with the results that gig-founded firms are less likely to have employees.

Taken together, our findings suggest that firms created by women in 2020 and 2021 exhibit higher survival rates and profitability. However, these firms tend to grow leaner in terms of employment. The results on survival and performance are consistent with Denes, Lagaras, and Tsoutsoura (2023), suggesting that entrepreneurs who previously worked in the gig economy start firms that tend to be riskier.

5   Effects of Transitions into the Gig Economy

5.1   Income

We study the effects for individuals transitioning to the gig economy. We start by evaluating the income of individuals participating in the gig economy and entering into entrepreneurship. We rely on a cohort analysis where we restrict our sample to female tax filers who received a W2 as the primary source of income in 2019. For this sample, we track their adjusted gross income from 2016 to 2021. We estimate the following specification to compare income for individuals who transitioned to the gig economy or to entrepreneurship in 2020 or 2021:

$$Y_{it} = \alpha_i + \alpha_t + \beta \cdot \text{Post}_t \cdot \text{Transition}_i + \varepsilon_{it}, \tag{5}$$

where Y_{it} is an income measure for individual i who in tax year t. $Post_t$ is an indicator variable equal to one for the period from 2020 to 2021. $Transition_i$ is an indicator variable equaling one if individual i transitions to the gig economy or entrepreneurship in 2020 or 2021. We include individual (α_i) and tax year (α_t) fixed effects to capture time-invariant individual

heterogeneity and to absorb time trends, respectively. Standard errors are clustered at the MSA level. The coefficient of interest, β, estimates the marginal effect on an income measure for transitions to the gig economy or entrepreneurship in 2020 or 2021.

[Insert Table 9 Here]

Table 9 reports the estimates. In Panel A, our first income measure is *Log AGI*, which is the log of the individual's adjusted gross income in a particular year. We construct a balanced panel and assume that an individual's income is zero if there is no information in a particular year. Column (1) evaluates income for women who transitioned from salaried employment in 2019 to the gig economy in 2020 or 2021. We find that there is a 47.6% increase for individuals who became gig workers relative to those who did not participate in the gig economy in 2020 or 2021.[17] In column (2), we examine women who started a firm during the post period after previous experience in the gig economy and show that there is a 25.2% increase in their income. As a benchmark, column (3) provides estimates for women who started a firm in 2020 or 2021. We continue to find income increases for female entrepreneurs, though it is lower in magnitude compared to women who are gig founders.

Panel B assesses the likelihood of observing AGI in a particular year. We define *No Information on Income* as an indicator variable equaling one if an individual's adjusted gross income is not available in a particular year. This approach allows us to estimate the propensity for women to participate in an income-generating activity. In column (1), we find that there is a 4.8 percentage point decrease in the likelihood of having no information on income for women who were gig workers in 2020 or 2021. Column (2) shows that there is a 3.5 percentage-point decline for women who started a new firm after prior gig experience. Column (3) highlights that this estimate is similar to all firms started by women.

We examine the robustness of these estimates. In Appendix Table A8, we focus on first-time transitions in the gig economy or entrepreneurship. In Appendix Table A9, we focus on

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[17]When the outcome is log AGI, we report the exponentiated coefficient minus one in the text. The tables contain the raw coefficients.

newly created firms with employees in the two-year period after founding. The estimates are broadly consistent with those in Table 9. Additionally, they are notably larger in magnitude for first-time transitions. In sum, our results provide evidence that individuals transitioning into the gig economy or entrepreneurship appear to benefit in terms of their income. A caveat to the findings in this section is that there might be selection on individuals deciding to work in the gig economy or start a new firm.

5.2   Persistence

We conclude by examining whether transitions to the gig economy or entrepreneurship are transitory or persist into the following years. If these transitions are used by individuals to stabilize their income, then they might be transitory. On the other hand, individuals might remain in the gig economy or entrepreneurship if they are relatively better off.

For this analysis, we restrict to individuals who create new firms from 2016 to 2021 and estimate equation (4). We follow founders over time and identify the propensity to continue being entrepreneurs in the first two years after founding.[18] The outcome is *Business Owner*, which is an indicator variable equaling one if the founder owns a firm in a particular year after founding. This variable captures subsequent entrepreneurial entry even if the focal firm of a founder is defunct.

[Insert Table 10 Here]

Table 10 provides the results. In Panel A, we focus on entrepreneurs of gig-founder firms. In columns (1) and (2), we find that there is no change in the likelihood of owning a business either one or two years after founding if the founder is a woman. Columns (3) and (4) show that there is a higher propensity to stay as an entrepreneur for women with dependents in 2020 or 2021. The increase in business ownership for this group is 2.0 percentage points in the first year after a firm's founding and 2.4 percentage points in following two years.

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[18]For this analysis, we look at business ownership until 2022.

In Panel B, we compare our estimates to all entrepreneurs. We find that there are similar, though somewhat larger, effects for women with dependents. We also show that women are more likely to remain business owners in this sample. Combined, these results suggest that transitions from the gig economy to entrepreneurship are largely not transitory and appear to persist in the following couple of years. They highlight that the effect of labor market disruptions in 2020 and 2021 could continue into future years.

6   Conclusion

Using U.S. administrative tax data, we study how the gig economy and entrepreneurship evolved in 2020 and 2021 following labor market disruptions. We find an aggregate rise in participation in the gig economy and transitions from the gig economy into entrepreneurship. At the same time, we also show that there has been an increase in overall entrepreneurial entry. Prior literature documents that women, particularly women with dependents, were differentially impacted in 2020 and 2021 stemming from childcare disruptions. We evaluate the response by these groups and find that there were pronounced shifts into gig work and entrepreneurship, while there was a reduction in those founders who started new firms after working in the gig economy. These findings indicate that the flexible opportunities especially benefit groups facing labor supply constraints.

We investigate firms created during the period of labor market disruptions. There are notable shifts in the composition of firms created in 2020 and 2021, with greater representation in trade and personal services. We generally find that firms created by women with previous experience in the gig economy are less likely to survive and have employees, while they have higher profitability. We additionally show that income rises for those transitioning to the gig economy and entrepreneurship and that the transitions to entrepreneurship persist.

These findings offer novel insights for tax administration. First, they highlight that there

are increases in filings with income derived from both the gig economy and entrepreneurship, as measured with Schedule C. Second, the results indicate that there are differences in the characteristics of individuals undertaking these transitions. Third, the results suggest that these changes could persist into future years. Overall, there are important implications for the tax administration as the gig economy and entrepreneurship evolve.

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Figure 1: Aggregate Unemployment

The figure reports the number of individuals receiving any unemployment income based on Form 1099-G from 2016 to 2021.
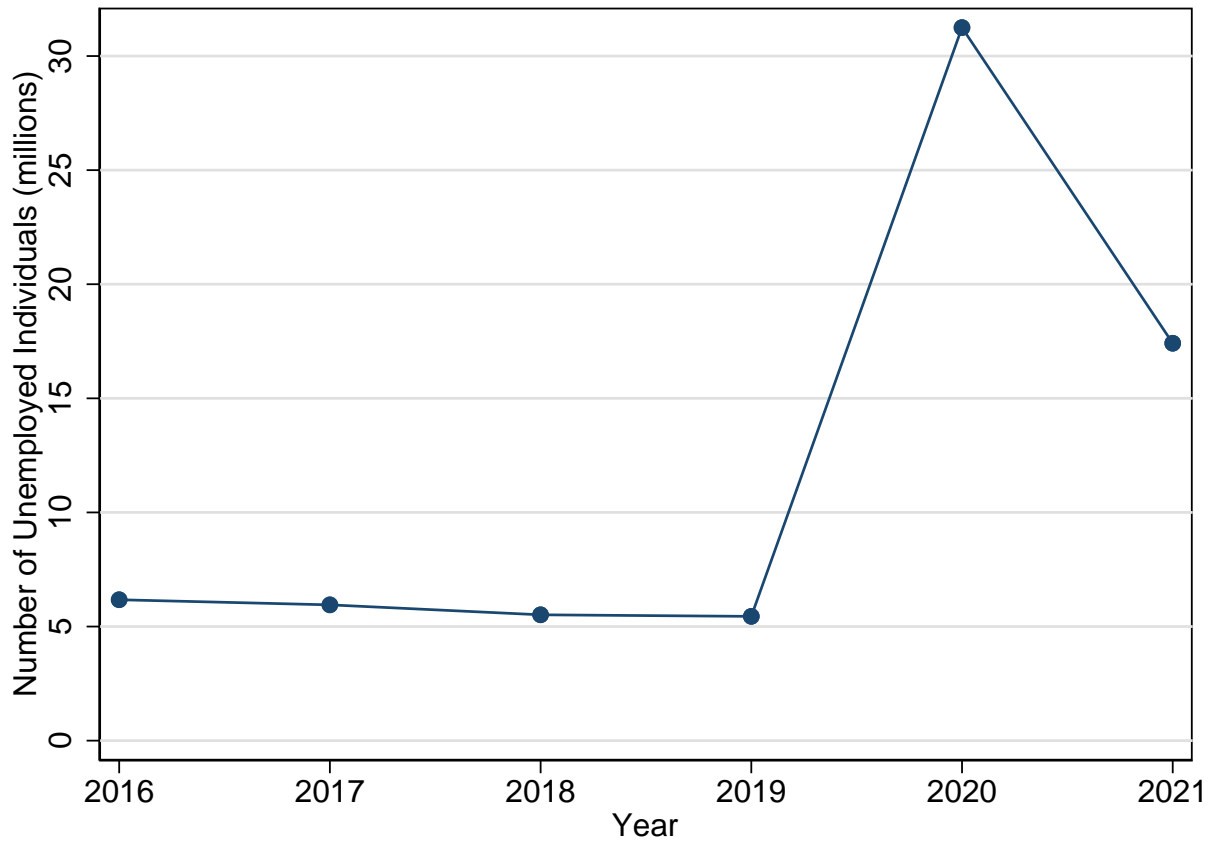
Figure 2: Participation in the Gig Economy and Entrepreneurship

The figure reports the share of individuals participating in the gig economy and creating new firms. Panel A reports the share of gig workers. Panel B shows the share of individuals who start firms in a particular year and had prior experience in the gig economy. Panel C reports the number of newly created firms started by individuals with prior experience in the gig economy. Panel D reports the share of individuals who start firms in a particular year.

Panel A: Share of Gig Workers

Panel B: Share of Gig Founders

Panel C: Number of Gig-Founded Firms

Panel D: Share of Founders
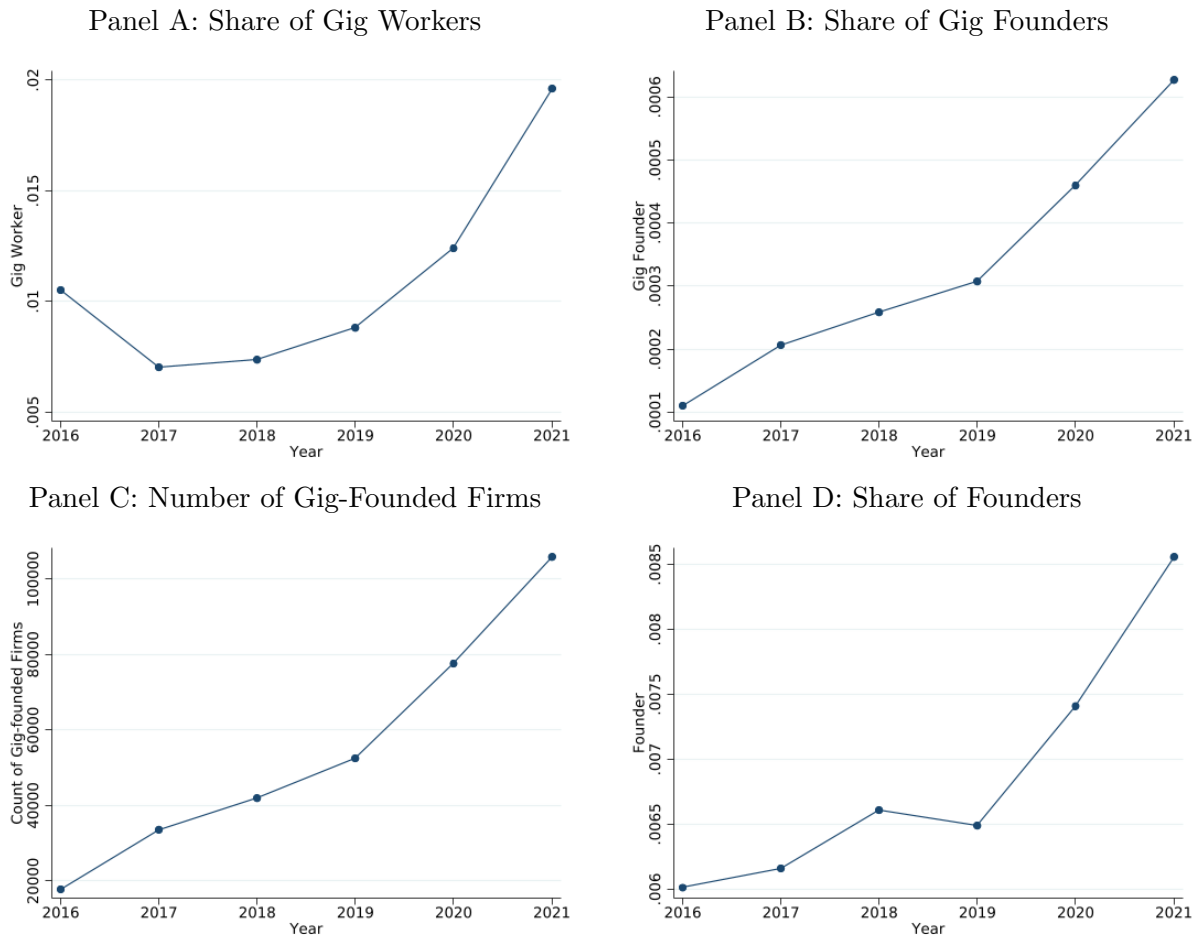
Figure 3: Labor Market Disruptions in Industries

This figure examines the role of gender in labor market disruptions. *Female Proportion* is the share of females employed in a particular industry in 2019. *Percent Change in Unemployment* is the percent change in the number of unemployed individuals from 2019 to 2020 in a particular industry.
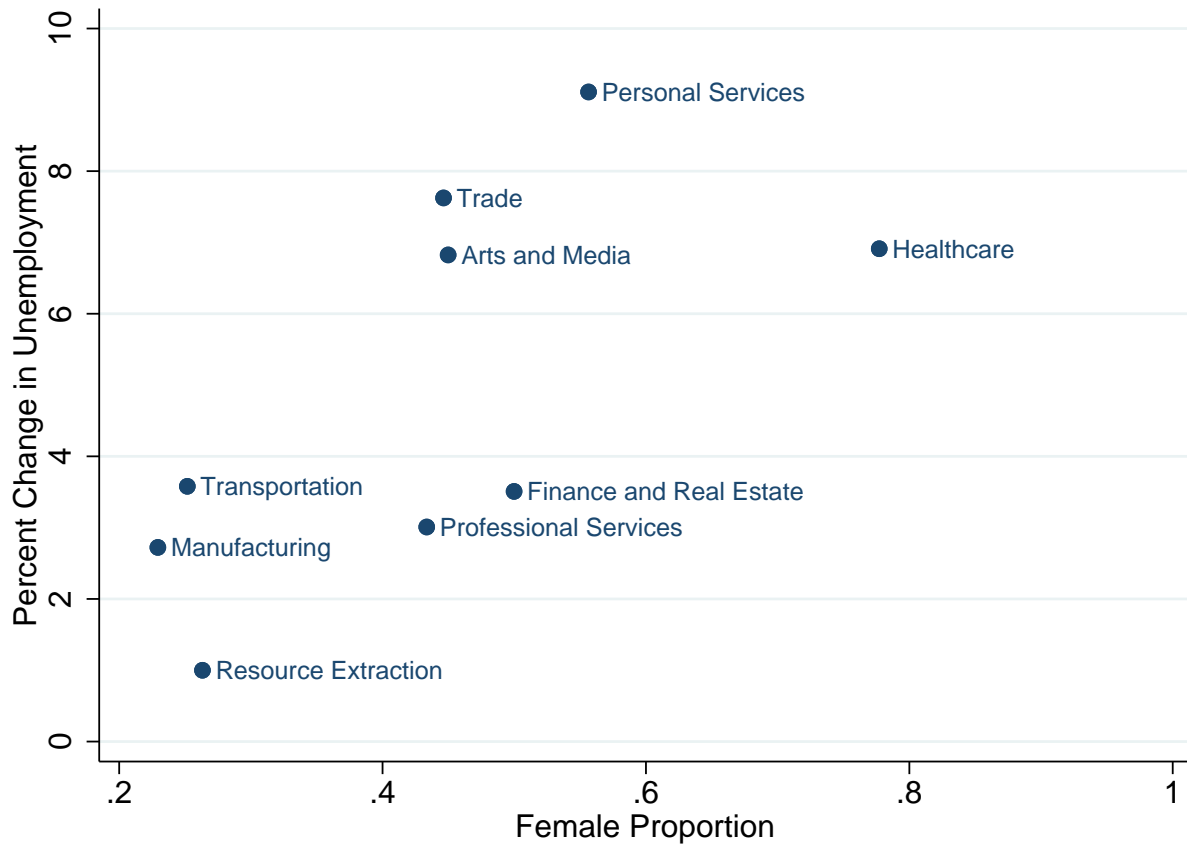
Figure 4: Unemployment by Gender and Dependents

This figure reports the composition of individuals receiving any unemployment income from Form 1099-G based on gender and dependents. The sample period is 2016 to 2021.
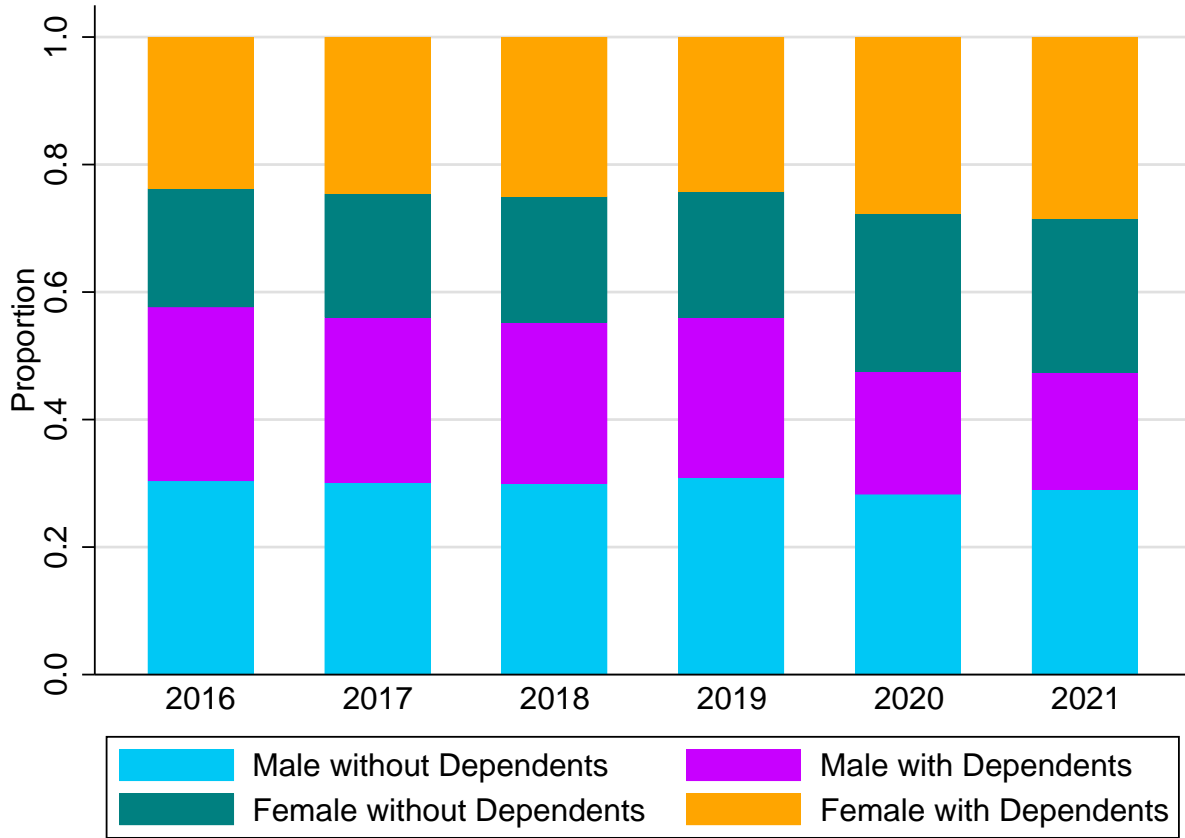
Figure 5: Gig Economy and Entrepreneurship by Gender and Dependents

This figure shows the proportion of women and women with dependents participating in the gig economy or starting new firms. Panel A shows the proportion for gig workers, Panel B provides it for entrepreneurs who previously worked in the gig economy, and Panel C focuses on the universe of newly created firms. The sample is from 2016 to 2021.

Panel A: Gig Workers

Panel B: Gig Founders

Panel C: Founders
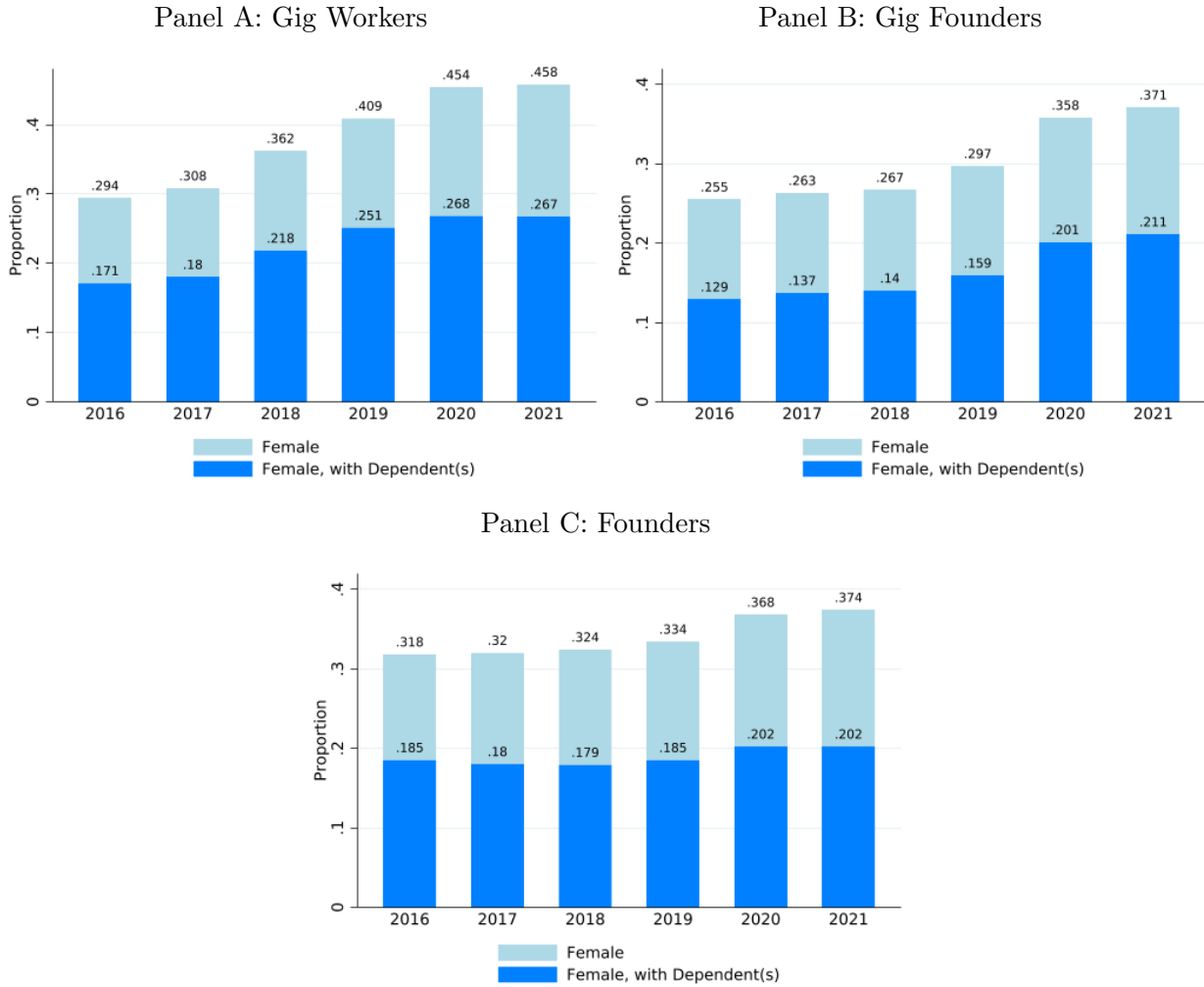
Figure 6: Industry Composition of Newly Created Firms

This figure provides the industry composition of new firms created in 2016 to 2021. *Pre* includes firms created in 2016 to 2019. *Post* captures new firms in 2020 and 2021. Panel A shows the shares for firms started by a founder with experience in the gig economy. Panel B provides industry shares of newly created firms for all firms. Panel C (E) reports the industry distribution of newly created firms for gig-founded firms by female (male) entrepreneurs. Panel D (F) displays the industry distribution for all firms started by female (male) entrepreneurs.

Panel A: Gig-Founded Firms

Panel B: All Firms

Panel C: Gig-Founded Firms: Female

Panel D: All Firms: Female

Panel E: Gig-Founded Firms: Male

Panel F: All Firms: Male
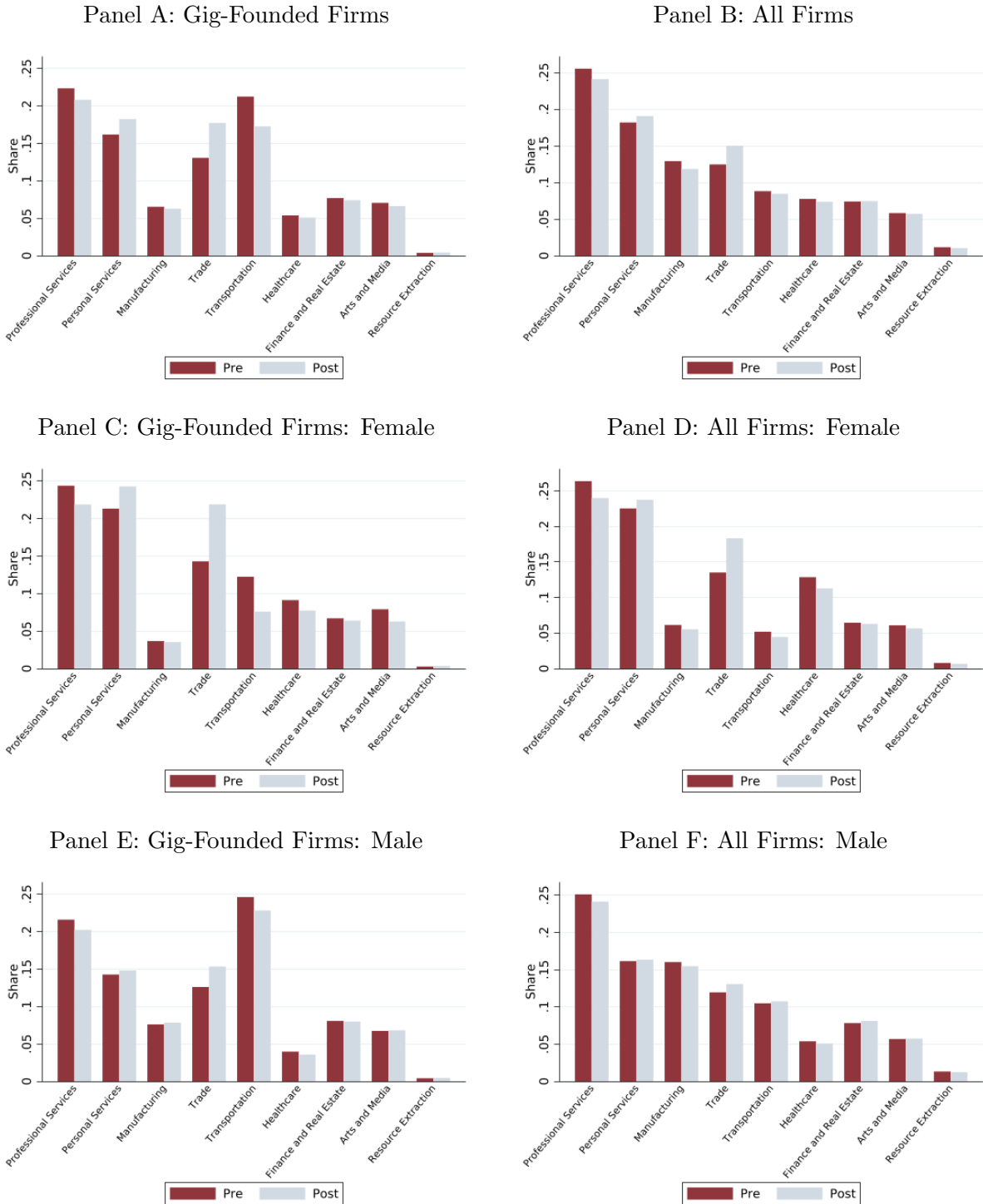
Table 1: Summary Statistics

This table provides summary statistics for variables used in our analyses. Panel A includes variables at the individual-year level, Panel B has firm outcomes, and Panel C contains variables for the cross-section of entrepreneurs. All variables are defined in Appendix A.

Panel A: Individual-Year Variables

Variable	Number of Observations	Mean	Median	Standard Deviation
Gig Worker	912,615,991	0.011	0.000	0.104
Gig Founder	912,615,991	0.000	0.000	0.018
Founder	912,615,991	0.007	0.000	0.083
Female	912,615,991	0.516	1.000	0.500
Female with Dependents	912,615,991	0.275	0.000	0.446

Panel B: Firm Variables

Variable	Number of Observations	Mean	Median	Standard Deviation
Has Employees at Founding	6,024,082	0.162	0.000	0.369
Has Employees in One Year	4,226,787	0.180	0.000	0.385
Profitability at Founding	6,024,081	7.407	9.393	5.151
Profitability in One Year	3,925,917	8.585	10.309	4.930
Survival One Year After Founding	6,024,082	0.702	1.000	0.458
Survival Two Years After Founding	4,742,122	0.566	1.000	0.496
Female	6,024,082	0.342	0.000	0.474
Female with Dependents	6,024,082	0.182	0.000	0.386

Panel C: Entrepreneur Variables

Variable	Number of Observations	Mean	Median	Standard Deviation
Business Owner in One Year	5,989,430	0.657	1.000	0.475
Business Owner in Two Years	4,715,474	0.529	1.000	0.499
Female	5,989,430	0.343	0.000	0.475
Female with Dependents	5,989,430	0.182	0.000	0.386

Table 2: Gig Participation and Entrepreneurial Entry

Gig Worker is an indicator variable equaling one if an individual receives gig income in that particular year. *Gig Founder* is an indicator variable equaling one if an individual starts a firm in that particular year and has received gig income in a previous year. *Founder* is an indicator variable equaling one if an individual starts a firm in that particular year. *Post* is an indicator variable equaling one if the year is 2020 or 2021. The control is log MSA GDP in a particular year. All models include MSA fixed effects. The sample includes all U.S. tax filers from 2016 to 2021 aged 25 to 65. The unit of observation is an individual-year. Appendix A provides additional details on variable definitions. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

	Gig Worker		Gig Founder		Founder	
	(1)	(2)	(3)	(4)	(5)	(6)
Post	0.754***	0.702***	0.032***	0.026***	0.163***	0.146***
	(0.058)	(0.058)	(0.005)	(0.004)	(0.014)	(0.012)
MSA FE	Yes	Yes	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes	No	Yes
R^2	0.004	0.004	0.000	0.000	0.001	0.001
Observations	912,615,991	912,615,991	912,615,991	912,615,991	912,615,991	912,615,991

Table 3: Who Responds?

This table examines the role of characteristics in gig participation and entrepreneurship. Panel A examines gig workers, Panel B shows firm creation by gig workers, and Panel C focuses on all newly created firms. *Gig Worker* is an indicator variable equaling one if an individual receives gig income in that particular year. *Gig Founder* is an indicator variable equaling one if an individual starts a firm in that particular year and has received gig income in a previous year. *Founder* is an indicator variable equaling one if an individual starts a firm in that particular year. *Post* is an indicator variable equaling one if the year is 2020 or 2021. *Female* is an indicator variable equaling one if an individual is a female. *Female with Dependents* is an indicator variable equaling one if an individual is a female and has any dependents. The control is log MSA GDP in a particular year. All models include MSA fixed effects. The sample includes all U.S. tax filers from 2016 to 2021 aged 25 to 65. The unit of observation is an individual-year. Appendix A provides additional details on variable definitions. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Gig Worker

	Gig Worker			
	(1)	(2)	(3)	(4)
Post × Characteristic	0.194***	0.194***	0.341***	0.342***
	(0.027)	(0.027)	(0.022)	(0.022)
Post	0.655***	0.603***	0.659***	0.607***
	(0.060)	(0.059)	(0.054)	(0.054)
Characteristic	-0.587***	-0.587***	-0.316***	-0.315***
	(0.130)	(0.130)	(0.081)	(0.082)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes
R²	0.005	0.005	0.004	0.004
Total Observations	912,615,991	912,615,991	912,615,991	912,615,991

Table 3 (continued)

Panel B: Gig Founders

	Gig Founder			
	(1)	(2)	(3)	(4)
Post × Characteristic	-0.012***	-0.012***	-0.001	-0.001
	(0.002)	(0.002)	(0.002)	(0.002)
Post	0.038***	0.032***	0.032***	0.026***
	(0.005)	(0.005)	(0.005)	(0.004)
Characteristic	-0.022***	-0.022***	-0.015***	-0.015***
	(0.003)	(0.003)	(0.002)	(0.002)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes
R^2	0.000	0.000	0.000	0.000
Observations	912,615,991	912,615,991	912,615,991	912,615,991

Panel C: Founders

	Founder			
	(1)	(2)	(3)	(4)
Post × Characteristic	0.020**	0.020**	0.049***	0.049***
	(0.008)	(0.008)	(0.008)	(0.008)
Post	0.154***	0.137***	0.146***	0.129***
	(0.011)	(0.010)	(0.012)	(0.010)
Characteristic	-0.490***	-0.489***	-0.314***	-0.313***
	(0.012)	(0.012)	(0.011)	(0.011)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes
R^2	0.002	0.002	0.001	0.001
Observations	912,615,991	912,615,991	912,615,991	912,615,991

Table 4: Who Responds?: Dynamics

Gig Worker is an indicator variable equaling one if an individual receives gig income in that particular year. *Gig Founder* is an indicator variable equaling one if an individual starts a Schedule C firm in that particular year and has received gig income in a previous year. *Founded* is an indicator variable equaling one if an individual starts a Schedule C firm in that particular year. *Post*2020 is an indicator variable equaling one if the observation is from 2020. *Post*2021 is an indicator variable equaling one if the observation is from 2021. *Female* is an indicator variable equaling one if an individual is female. *Female with Dependents* is an indicator variable equaling one if an individual is female and the individual has any dependents based on Form 1040 The control is log MSA GDP in a particular year. The fixed effects are indicators for each MSA. The sample includes all U.S. tax filers from 2016 to 2021 with ages 25 to 65. The unit of observation is an individual-year. Appendix A provides additional details on variable definitions. For ease of interpretation, the coefficients and standard errors are multiplied by 100. All models include MSA fixed effects. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Gig Worker

	Gig Worker			
	(1)	(2)	(3)	(4)
Post2020 × Characteristic	0.277***	0.277***	0.318***	0.319***
	(0.028)	(0.028)	(0.023)	(0.023)
Post2021 × Characteristic	0.102**	0.102**	0.375**	0.374***
	(0.044)	(0.044)	(0.028)	(0.028)
Post2020	0.256***	0.260***	0.310***	0.314***
	(0.032)	(0.032)	(0.030)	(0.031)
Post2021	1.068***	1.118***	1.015***	1.065***
	(0.100)	(0.125)	(0.085)	(0.112)
Characteristic	-0.587***	-0.587***	-0.316***	-0.316***
	(0.130)	(0.130)	(0.081)	(0.082)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes
R^2	0.005	0.005	0.005	0.005
Observations	912,615,991	912,615,991	912,615,991	912,615,991

Panel B: Gig Founders

	Gig Founder			
	(1)	(2)	(3)	(4)
Post2020 × Characteristic	-0.008***	-0.008***	-0.001	-0.001
	(0.002)	(0.002)	(0.001)	(0.001)
Post2021 × Characteristic	-0.016***	-0.016***	-0.001	-0.001
	(0.003)	(0.003)	(0.002)	(0.002)
Post2020	0.028***	0.027***	0.024***	0.023***
	(0.004)	(0.004)	(0.003)	(0.004)
Post2021	0.049***	0.040***	0.041***	0.032***
	(0.007)	(0.007)	(0.006)	(0.005)
Characteristic	-0.022***	-0.022***	-0.015***	-0.015***
	(0.003)	(0.003)	(0.002)	(0.002)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes
R^2	0.000	0.000	0.000	0.000
Observations	912,615,991	912,615,991	912,615,991	912,615,991

Panel C: Founder

	Founders			
	(1)	(2)	(3)	(4)
Post2020 × Characteristic	0.048***	0.048***	0.058***	0.058***
	(0.007)	(0.007)	(0.008)	(0.008)
Post2021 × Characteristic	-0.011	-0.011	0.041***	0.041***
	(0.009)	(0.009)	(0.009)	(0.009)
Post2020	0.082***	0.081***	0.088***	0.087***
	(0.010)	(0.010)	(0.011)	(0.011)
Post2021	0.228***	0.216***	0.205***	0.193***
	(0.013)	(0.012)	(0.013)	(0.012)
Characteristic	-0.490***	-0.490***	-0.314***	-0.314***
	(0.012)	(0.012)	(0.011)	(0.011)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes
R^2	0.002	0.002	0.001	0.001
Observations	912,615,991	912,615,991	912,615,991	912,615,991

Table 5: Heterogeneous Effects by Treatment Intensity

Gig Worker is an indicator variable equaling one if an individual receives gig income in that particular year. *Gig Founder* is an indicator variable equaling one if an individual starts a firm in that particular year and has received gig income in a previous year. *Founder* is an indicator variable equaling one if an individual starts a firm in that particular year. *Post* is an indicator variable equaling one if the year is 2020 or 2021. *Female* is an indicator variable equaling one if an individual is a female. *Female with Dependents* is an indicator variable equaling one if an individual is a female and has any dependents. Treatment intensity is based on geographic variation in school closures and split by the median value across counties. The control is log MSA GDP in a particular year. All models include MSA fixed effects. The sample includes all U.S. tax filers from 2016 to 2021 aged 25 to 65. The unit of observation is a firm. Appendix A provides additional details on variable definitions. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Gig Worker

	Gig Worker							
Treat. Intensity	Low		High		Low		High	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post	0.202***	0.201***	0.182***	0.182***	0.346***	0.346***	0.333***	0.334***
× Characteristic	(0.018)	(0.018)	(0.045)	(0.045)	(0.025)	(0.025)	(0.027)	(0.027)
Post	0.648***	0.573***	0.665***	0.630***	0.658***	0.582***	0.662***	0.627***
	(0.080)	(0.079)	(0.061)	(0.055)	(0.076)	(0.075)	(0.050)	(0.047)
Characteristic	-0.282***	-0.281***	-0.856***	-0.856***	-0.120***	-0.119***	-0.485***	-0.485***
	(0.088)	(0.088)	(0.153)	(0.153)	(0.053)	(0.053)	(0.101)	(0.101)
Characteristic	Female	Female	Female	Female	Female with Dependents	Female with Dependents	Female with Dependents	Female with Dependents
Control	No	Yes	No	Yes	No	Yes	No	Yes
MSA FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.004	0.005	0.005	0.005	0.004	0.004	0.004	0.004
Observations	427,184,796	427,184,796	485,431,195	485,431,195	427,184,796	427,184,796	485,431,195	485,431,195

Table 5 (continued)

Panel B: Gig Founder

| Treat. Intensity | Gig Founder | | | | | | | |
| | Low | | High | | Low | | High | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post	-0.012***	-0.012***	-0.012***	-0.012***	-0.003*	-0.003*	0.001	0.001
× Characteristic	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Post	0.031***	0.025***	0.044***	0.039***	0.026***	0.020***	0.037***	0.032***
	(0.007)	(0.006)	(0.005)	(0.004)	(0.005)	(0.005)	(0.004)	(0.004)
Characteristic	-0.017***	-0.017***	-0.026***	-0.026***	-0.012***	-0.012***	-0.018***	-0.018***
	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)
Characteristic	Female	Female	Female	Female	Female with Dependents	Female with Dependents	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes	No	Yes	No	Yes
R^2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Observations	427,184,796	427,184,796	485,431,195	485,431,195	427,184,796	427,184,796	485,431,195	485,431,195

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Table 5 (continued)

Panel C: Firm Founder

Treat. Intensity	Founder							
	Low		High		Low		High	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post	-0.001	-0.002	0.038***	0.039***	0.035***	0.035***	0.061***	0.061***
× Characteristic	(0.007)	(0.007)	(0.008)	(0.008)	(0.007)	(0.007)	(0.011)	(0.011)
Post	0.159***	0.135***	0.150***	0.137***	0.144***	0.121***	0.148***	0.136***
	(0.013)	(0.011)	(0.015)	(0.013)	(0.014)	(0.012)	(0.015)	(0.012)
Characteristic	-0.514***	-0.514***	-0.469***	-0.469***	-0.311***	-0.311***	-0.316***	-0.316***
	(0.020)	(0.020)	(0.014)	(0.014)	(0.016)	(0.016)	(0.010)	(0.010)
Characteristic	Female	Female	Female	Female	Female with Dependents	Female with Dependents	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes	No	Yes	No	Yes
R^2	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001
Observations	427,184,796	427,184,796	485,431,195	485,431,195	427,184,796	427,184,796	485,431,195	485,431,195

Table 6: Firm Survival

Survival is an indicator variable equaling one if a firm files taxes in a particular year after founding. *Female* is an indicator variable equaling one if an individual is a female. *Female with Dependents* is an indicator variable equaling one if an individual is a female and has any dependents. *Post* is an indicator variable equaling one if the year is 2020 or 2021. All models include MSA, founding year, and industry fixed effects. Industries are defined at the four-digit NAICS code level. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Gig-founded Firms

	Survival After Founding			
	One Year	Two Years	One Year	Two Years
	(1)	(2)	(3)	(4)
Post × Characteristic	-0.889**	-0.869*	0.180	0.530
	(0.421)	(0.463)	(0.513)	(0.525)
Characteristic	-1.562***	-2.121***	0.014	0.048
	(0.302)	(0.327)	(0.387)	(0.381)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.035	0.039	0.035	0.038
Observations	300,192	203,722	300,192	203,722

Panel B: All Firms

	Survival After Founding			
	One Year	Two Years	One Year	Two Years
	(1)	(2)	(3)	(4)
Post × Characteristic	0.464***	0.590***	0.943***	1.104***
	(0.099)	(0.143)	(0.141)	(0.185)
Characteristic	-3.956***	-4.598***	-2.098***	-2.418***
	(0.388)	(0.437)	(0.454)	(0.521)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.040	0.042	0.039	0.041
Observations	6,024,079	4,742,119	6,024,079	4,742,119

Table 7: Firm Profitability

Profitability is the inverse hyperbolic sine of a firm's gross profits in a particular year. *Female* is an indicator variable equaling one if an individual is a female. *Female with Dependents* is an indicator variable equaling one if an individual is a female and has any dependents. *Post* is an indicator variable equaling one if the year is 2020 or 2021. All models include MSA, founding year, and industry fixed effects. Industries are defined at the four-digit NAICS code level. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Gig-founded Firms

	Profitability			
	At Founding	One Year	At Founding	One Year
	(1)	(2)	(3)	(4)
Post × Characteristic	11.246***	-7.358	17.869***	11.892**
	(4.072)	(5.945)	(4.564)	(5.339)
Characteristic	-53.543***	-55.569***	-42.581***	-53.131***
	(3.932)	(5.888)	(4.246)	(4.760)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.079	0.091	0.077	0.089
Observations	300,192	186,770	300,192	186,770

Panel B: All Firms

	Profitability			
	At Founding	One Year	At Founding	One Year
	(1)	(2)	(3)	(4)
Post × Characteristic	34.518***	12.814***	26.179***	11.781***
	(3.217)	(2.191)	(4.196)	(2.775)
Characteristic	-66.101***	-61.608***	-44.395***	-47.514***
	(2.924)	(2.638)	(3.981)	(3.224)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.084	0.090	0.082	0.088
Observations	6,024,079	3,925,913	6,024,079	3,925,913

Has Employees is an indicator variable equaling one if a firm has any employees in a particular year. *Post* is an indicator variable equaling one if the year is 2020 or 2021. *Female* is an indicator variable equaling one if an individual is a female. *Female with Dependents* is an indicator variable equaling one if an individual is a female and has any dependents. All models include county, year, and industry fixed effects. Industries are defined at the four-digit NAICS code level. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the county level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Gig-Founded Firms

	Has Employees			
	At Founding	One Year	At Founding	One Year
	(1)	(2)	(3)	(4)
Post × Characteristic	-0.830**	-0.782*	-0.133	-0.709
	(0.365)	(0.454)	(0.362)	(0.449)
Characteristic	-2.655***	-3.500***	-3.217***	-3.583***
	(0.300)	(0.277)	(0.343)	(0.392)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.041	0.049	0.041	0.048
Observations	300,192	200,132	300,192	200,132

Panel B: All Firms

	Has Employees			
	At Founding	One Year	At Founding	One Year
	(1)	(2)	(3)	(4)
Post × Characteristic	-0.484***	-0.621***	-0.452***	-0.514***
	(0.108)	(0.100)	(0.140)	(0.125)
Characteristic	-3.149***	-3.974***	-2.725***	-3.473***
	(0.207)	(0.267)	(0.256)	(0.318)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.044	0.054	0.043	0.052
Observations	6,024,079	4,226,785	6,024,079	4,226,785

Table 9: Income

Log AGI is the log of the individual's adjusted gross income in a particular year. *No Information on Income* is an indicator variable equaling one if an individual's adjusted gross income is not available in a particular year. *Gig Worker* is an indicator variable equaling one if an individual receives gig income in that particular year. *Gig Founder* is an indicator variable equaling one if an individual starts a firm in that particular year and has received gig income in a previous year. *Founder* is an indicator variable equaling one if an individual starts a firm in that particular year. All models include individual and year fixed effects. The sample includes all female tax filers from 2016 to 2021 who received a W2 in 2019. The unit of observation is an individual-year. Appendix A provides additional details on variable definitions. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Log AGI

	Log AGI		
	(1)	(2)	(3)
Post × Transition	38.936***	22.498***	17.160***
	(1.679)	(2.092)	(0.813)
Transition	Gig Worker	Gig Founder	Founder
Individual FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
R^2	0.566	0.566	0.566
Observations	292,624,751	292,624,751	292,624,751

Panel B: No Information on Income

	No Information on Income		
	(1)	(2)	(3)
Post × Transition	-4.751***	-3.500***	-3.425***
	(0.163)	(0.172)	(0.070)
Transition	Gig Worker	Gig Founder	Founder
Individual FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
R^2	0.410	0.410	0.410
Observations	292,624,751	292,624,751	292,624,751

Table 10: Persistence

Business Owner is an indicator variable equaling one if the founder owns a firm in a particular year after founding. *Post* is an indicator variable equaling one if the year is 2020 or 2021. *Female* is an indicator variable equaling one if an individual is a female. *Female with Dependents* is an indicator variable equaling one if an individual is a female and has any dependents. All models include MSA, founding year, and industry fixed effects. Industries are defined at the four-digit NAICS code level. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Gig Founders

	Business Owner			
	One Year	Two Years	One Year	Two Years
	(1)	(2)	(3)	(4)
Post × Characteristic	0.544	-0.027	1.961***	2.429***
	(0.560)	(0.536)	(0.605)	(0.487)
Characteristic	-3.652***	-3.506***	-1.630***	-0.774
	(0.461)	(0.469)	(0.527)	(0.539)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.020	0.023	0.020	0.023
Observations	297,976	202,290	297,976	202,290

Panel B: Founders

	Business Owner			
	One Year	Two Years	One Year	Two Years
	(1)	(2)	(3)	(4)
Post × Characteristic	2.374***	2.803***	3.127***	3.881***
	(0.132)	(0.185)	(0.199)	(0.227)
Characteristic	-6.954***	-7.722***	-4.673***	-4.993***
	(0.472)	(0.519)	(0.606)	(0.662)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.031	0.0335	0.028	0.030
Observations	5,989,427	4,715,471	5,989,427	4,715,471

Appendix A   Variable Definitions

This appendix provides variable definitions.

- *Business Owner* is a variable equaling one if the founder owns a Schedule C firm in a particular year after founding.

- *Female* is an indicator equaling one if an individual is female.

- *Female with Dependents* is an indicator variable equaling one if an individual is female and has any dependents based on Form 1040.

- *Female Young Dependents* is an indicator variable equaling one if an individual is female and has any dependents who are 12 or younger based on Form 1040.

- *First-Time Founder* is an indicator variable equaling one if an individual starts their first Schedule C firm in that particular year.

- *First-Time Gig Founder* is an indicator variable equaling one if an individual starts their Schedule C firm for the first time in that particular year and has received gig income in a previous year.

- *First-Time Gig Worker* is an indicator variable equaling one if an individual receives gig income for the first time in that particular year.

- *Founder* is an indicator variable equaling one if an individual starts a Schedule C firm in that particular year.

- *Founder with Employees* is an indicator variable equaling one if an individual starts a Schedule C firm in that particular year that had employment in the first or second year.

- *Gig Founder* is an indicator variable equaling one if an individual starts a Schedule C firm in that particular year and has received gig income in a previous year.

- *Gig Founder with Employees* is an indicator variable equaling one if an individual starts a Schedule C firm in that particular year that had employment in the first or second year and has received gig income in a previous year.

- *Gig Worker* is an indicator variable equaling one if an individual receives gig income in that particular year.

- *Has Employees* is an indicator variable equaling one if the firm employed a W2 or 1099 worker in a particular year.

- *Log AGI* is the log of the adjusted gross income of the individual's household in a particular year.

- *No Information on Income* is an indicator variable equaling one if we do not observe their AGI in that year.

- *Post* is an indicator variable equaling one if the observation is from 2020 or later.

- *Post*2020 is an indicator equaling one if the observation is from 2020.

- *Post*2021 is an indicator equaling one if the observation is from 2021.

- *Profitability* is a variable equaling the inverse hyperbolic sine of a firm's gross profits in a particular year.

- *Survival* is an indicator variable equaling one if a firm files taxes in a particular year after founding.

Figure A1: Labor Market Transitions: Proportions from Previous Labor Income

This figure provides the proportions of labor market transitions based on an individual's previous labor income. Each panel shows individuals deriving their primary income from that source in the current year. The colors in each panel represent the proportion of individuals deriving their primary labor income from the indicated source in the previous year.
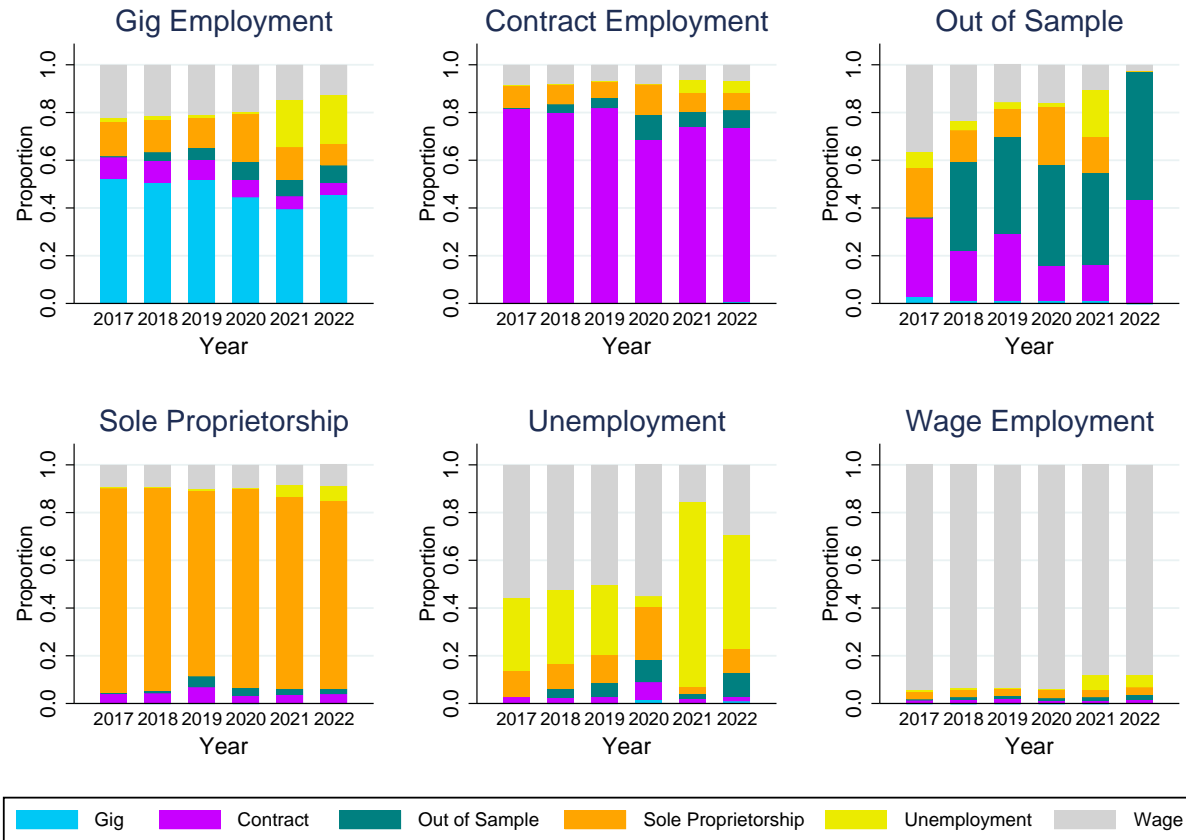
Figure A2: Labor Market Transitions: Proportions to Current Labor Income

This figure provides the proportions of labor market transitions based on an individual's current labor income. Each panel shows individuals deriving their primary labor income from that source in the current year. The colors in each panel represent the proportion of individuals deriving their primary labor income from the indicated source in the next year.
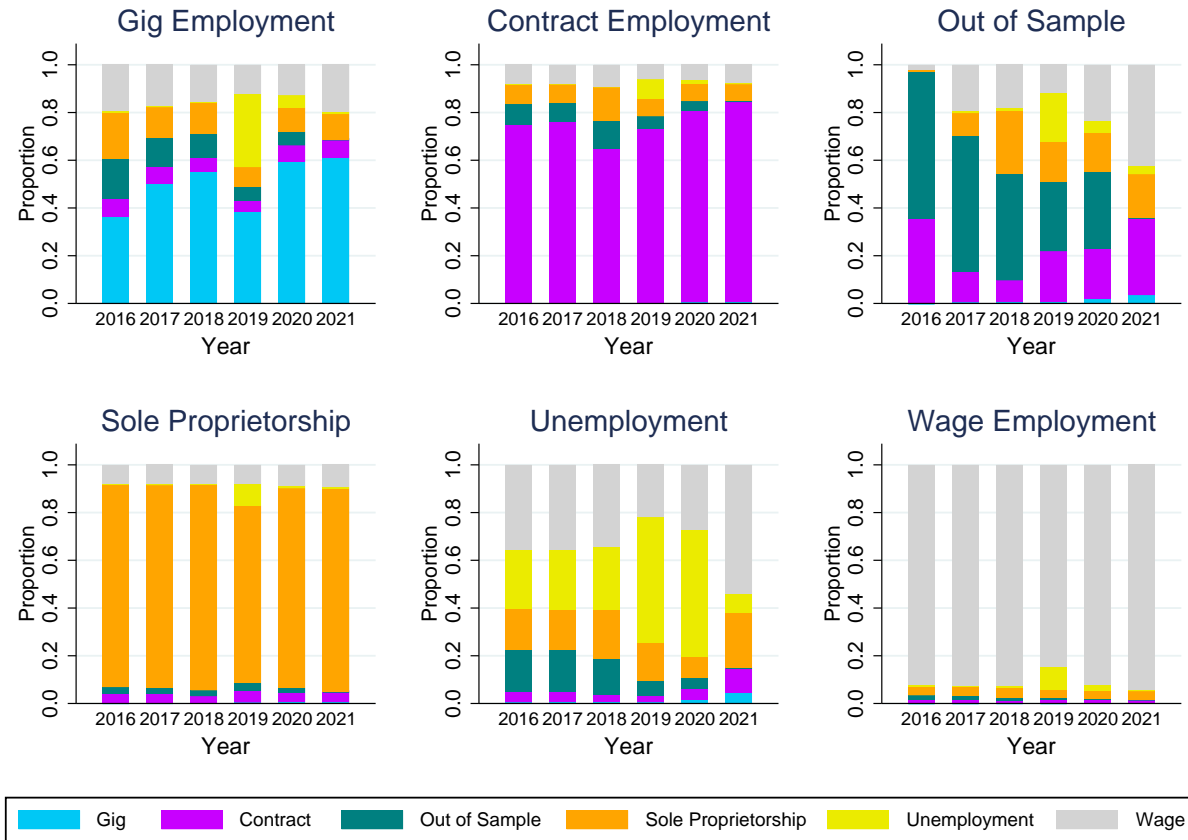
Figure A3: Labor Market Transitions: Counts from Previous Labor Income

This figure provides the counts of labor market transitions based on an individual's previous labor income. Each panel shows individuals deriving their primary income from that source in the current year. The colors in each panel represent the count of individuals deriving their primary labor income from the indicated source in the previous year.

Figure A4: Labor Market Transitions: Counts to Current Labor Income

This figure provides the counts of labor market transitions based on an individual's current labor income. Each panel shows individuals deriving their primary labor income from that source in the current year. The colors in each panel represent the count of individuals deriving their primary labor income from the indicated source in the next year.
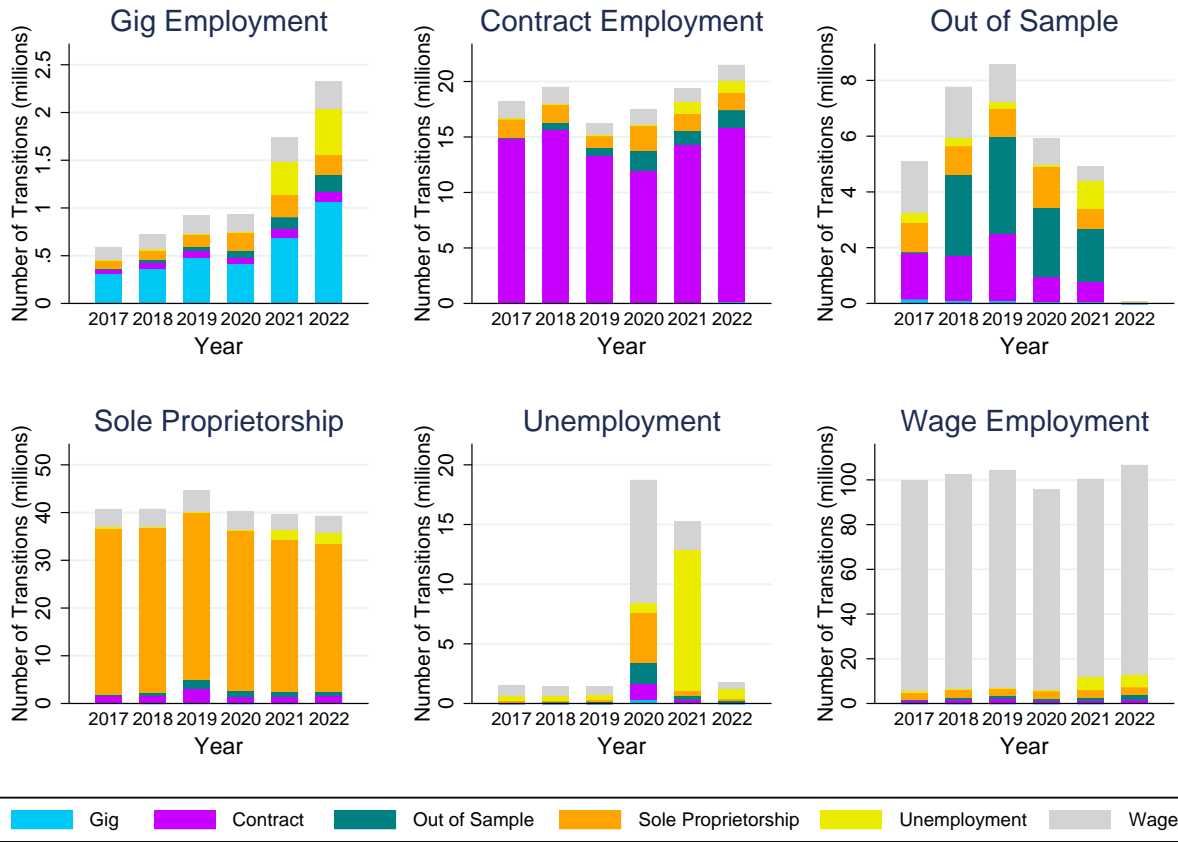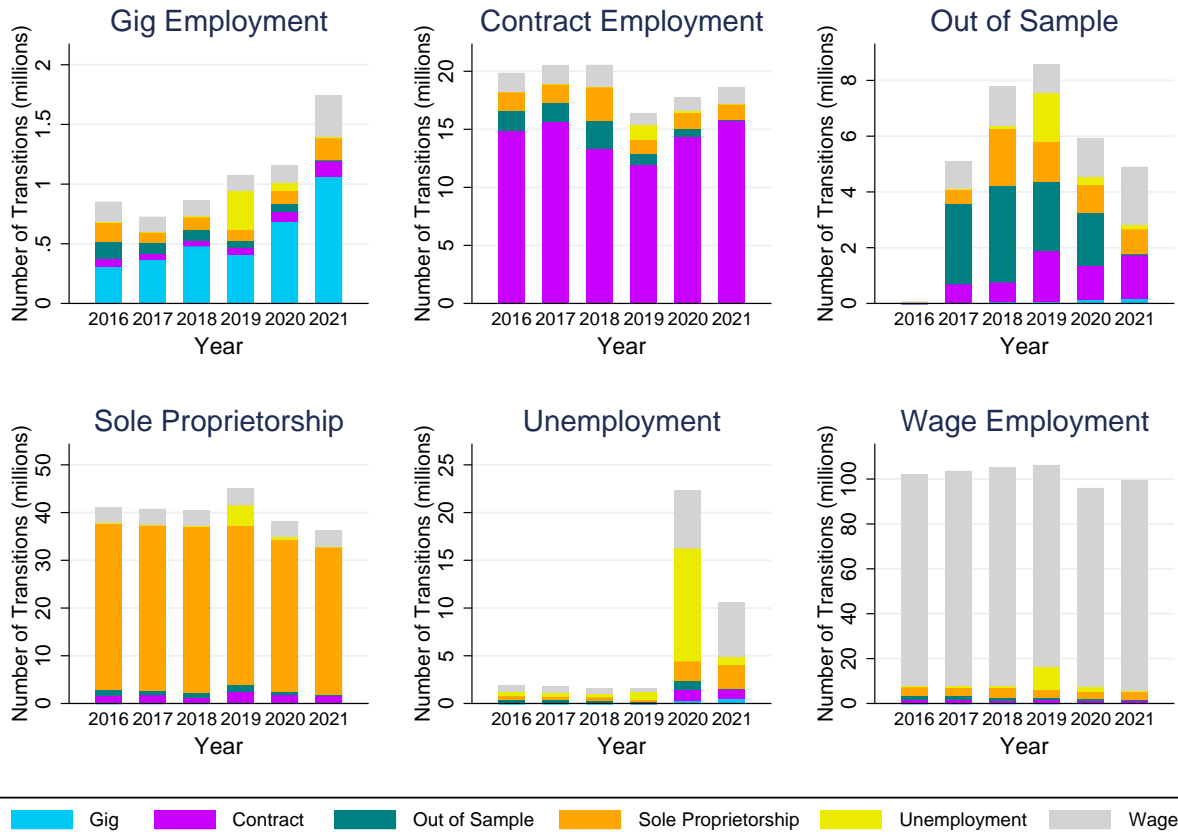
Table A1: First-Time Gig Participation and Entrepreneurial Entry

First-time Gig Worker is an indicator variable equaling one if an individual receives gig income for the first time in that particular year. *First-time Gig Founder* is an indicator variable equaling one if an individual starts a firm for the first time in that particular year and has received gig income in a previous year. *First-Time Founder* is an indicator variable equaling one if an individual starts a firm for the first time in that particular year. *Post* is an indicator variable equaling one if the year is 2020 or 2021. The control is log MSA GDP in a particular year. All models include MSA fixed effects. The sample includes all U.S. tax filers from 2016 to 2021 aged 25 to 65. The unit of observation is an individual-year. Appendix A provides additional details on variable definitions. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

	First-Time Gig Worker		First-Time Gig Founder		First-Time Founder	
	(1)	(2)	(3)	(4)	(5)	(6)
Post	0.387***	0.403***	0.026***	0.022***	0.132***	0.119***
	(0.025)	(0.027)	(0.004)	(0.003)	(0.011)	(0.010)
MSA FE	Yes	Yes	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes	No	Yes
R^2	0.002	0.002	0.000	0.000	0.001	0.001
Observations	912,615,991	912,615,991	912,615,991	912,615,991	912,615,991	912,615,991

Table A2: Entrepreneurial Entry: At Least One Employee

Gig Founder is an indicator variable equaling one if an individual starts a firm in that particular year and has received gig income in a previous year. *Founder* is an indicator variable equaling one if an individual starts a firm in that particular year. This table focuses on newly created firms with at least one employee at founding. *Post* is an indicator variable equaling one if the year is 2020 or 2021. The control is log MSA GDP in a particular year. All models include MSA fixed effects. The sample includes all U.S. tax filers from 2016 to 2021 aged 25 to 65. The unit of observation is an individual-year. Appendix A provides additional details on variable definitions. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

	Gig Founder		Founder	
	(1)	(2)	(3)	(4)
Post	0.005***	0.004***	0.007***	0.007***
	(0.001)	(0.001)	(0.001)	(0.001)
MSA FE	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes
R^2	0.000	0.000	0.000	0.000
Observations	912,615,991	912,615,991	912,615,991	912,615,991

First-Time Gig Worker is an indicator variable equaling one if an individual receives gig income for the first time in that particular year. *First-Time Gig Founder* is an indicator variable equaling one if an individual starts their Schedule C firm for the first time in that particular year and has received gig income in a previous year. *First-Time Founder* is an indicator variable equaling one if an individual starts their first Schedule C firm in that particular year. *Female* is an indicator variable equaling one if an individual is female. *Female has Dependents* is an indicator variable equaling one if an individual is female and has at least one dependent. The control is log MSA GDP in a particular year. All models include MSA fixed effects. The sample includes all U.S. tax filers from 2016 to 2021 with ages 25 to 65. The unit of observation is an individual-year. Appendix A provides additional details on variable definitions. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: First-Time Gig Worker

	First-time Gig Worker			
	(1)	(2)	(3)	(4)
Post × Characteristics	0.216***	0.216***	0.259***	0.259***
	(0.019)	(0.019)	(0.016)	(0.016)
Post	0.275***	0.292***	0.317***	0.333***
	(0.023)	(0.023)	(0.022)	(0.024)
Characteristic	-0.213***	-0.213***	-0.083***	-0.083***
	(0.045)	(0.045)	(0.026)	(0.026)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes
R^2	0.002	0.002	0.002	0.002
Observations	912,615,991	912,615,991	912,615,991	912,615,991

Panel B: First-Time Gig Founder

	First-Time Gig Founder			
	(1)	(2)	(3)	(4)
Post × Characteristic	-0.008***	0.008***	0.000	0.000
	(0.002)	(0.002)	(0.001)	(0.001)
Post	0.031***	0.026***	0.026***	0.021***
	(0.004)	(0.004)	(0.004)	(0.003)
Characteristic	-0.018***	-0.018***	-0.013***	-0.013***
	(0.003)	(0.003)	(0.002)	(0.002)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes
R^2	0.000	0.000	0.000	0.000
Observations	912,615,991	912,615,991	912,615,991	912,615,991

Panel C: First-Time Founder

	First-Time Founder			
	(1)	(2)	(3)	(4)
Post × Characteristic	0.033***	0.033***	0.047***	0.048***
	(0.007)	(0.007)	(0.007)	(0.007)
Post	0.115***	0.103***	0.115***	0.103***
	(0.009)	(0.008)	(0.009)	(0.008)
Characteristic	-0.400***	-0.400***	-0.255***	-0.255***
	(0.009)	(0.009)	(0.009)	(0.009)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes
R^2	0.001	0.001	0.001	0.001
Observations	912,615,991	912,615,991	912,615,991	912,615,991

Table A4: Who Responds? Young Dependents

This table examines the role of characteristics in the response to the pandemic. Panel A examines gig workers, Panel B shows firm creation by gig workers, and Panel C focuses on all newly created firms. *Gig Worker* is an indicator variable equaling one if an individual receives gig income in a particular year. *Gig Founder* is an indicator variable equaling one if an individual starts a Schedule C firm in a particular year and has received gig income in a previous year. *Founder* is an indicator variable equaling one if an individual starts any new firms in a particular year. *Post* is an indicator variable equaling one if the year is 2020 or 2021. *Female* is an indicator variable equaling one if an individual is female. *Female Young Dependents* is an indicator variable equaling one if an individual is female and the individual has any dependents who are 12 or younger based on Form 1040. The control is log MSA GDP in a particular year. All models include MSA fixed effects. The sample includes all U.S. tax filers from 2016 to 2021 aged 25 to 65. The unit of observation is an individual-year. Appendix A provides additional details on variable definitions. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Gig Worker

	Gig Worker		First-time Gig Worker	
	(1)	(2)	(3)	(4)
Post × Characteristic	0.416***	0.415***	0.312***	0.312***
	(0.025)	(0.025)	(0.020)	(0.020)
Post	0.706***	0.654***	0.351***	0.367***
	(0.056)	(0.056)	(0.023)	(0.025)
Characteristic	-0.198***	-0.197***	-0.021	-0.021
	(0.063)	(0.063)	(0.019)	(0.019)
Characteristic	Female Young Dependents	Female Young Dependents	Female Young Dependents	Female Young Dependents
MSA FE	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes
R^2	0.004	0.004	0.002	0.002
Observations	912,615,991	912,615,991	912,615,991	912,615,991

Table A4 (continued)

Panel B: Gig Founders

	Gig Founder		First-Time Gig Founder		Gig Founder with Employees	
	(1)	(2)	(3)	(4)	(5)	(6)
Post × Characteristic	0.002*	0.002*	0.004***	0.004***	-0.001***	-0.001***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)
Characteristic	-0.012***	-0.012***	-0.010***	-0.009***	-0.003***	-0.003***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.000)	(0.000)
Post	0.032***	0.026***	0.026***	0.021***	0.005***	0.004***
	(0.005)	(0.004)	(0.004)	(0.003)	(0.001)	(0.001)
Characteristic	Female	Female	Female	Female	Female	Female
	Young	Young	Young	Young	Young	Young
	Dependents	Dependents	Dependents	Dependents	Dependents	Dependents
MSA FE	Yes	Yes	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes	No	Yes
R^2	0.000	0.000	0.000	0.000	0.000	0.000
Observations	912,615,991	912,615,991	912,615,991	912,615,991	912,615,991	912,615,991

Panel C: Founders

	Founder		First-Time Founder		Founder with Employees	
	(1)	(2)	(3)	(4)	(5)	(6)
Post × Characteristic	0.064***	0.064***	0.067***	0.066***	0.005***	0.005***
	(0.009)	(0.009)	(0.008)	(0.008)	(0.001)	(0.001)
Characteristic	-0.222***	-0.221***	-0.173***	-0.173***	-0.069***	-0.069***
	(0.011)	(0.011)	(0.010)	(0.010)	(0.001)	(0.001)
Post	0.156***	0.139***	0.124***	0.112***	0.007***	0.007***
	(0.013)	(0.011)	(0.010)	(0.009)	(0.001)	(0.001)
Characteristic	Female	Female	Female	Female	Female	Female
	Young	Young	Young	Young	Young	Young
	Dependents	Dependents	Dependents	Dependents	Dependents	Dependents
MSA FE	Yes	Yes	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes	No	Yes
R^2	0.001	0.001	0.001	0.001	0.000	0.000
Observations	912,615,991	912,615,991	912,615,991	912,615,991	912,615,991	912,615,991

Table A5: Who Responds? At Least One Employee

Gig Founder is an indicator variable equaling one if an individual starts a firm in that particular year and has received gig income in a previous year. *Founder* is an indicator variable equaling one if an individual starts a firm in that particular year. This tables focuses on newly created firms with at least one employee in two-year period after founding. *Post* is an indicator variable equaling one if the year is 2020 or 2021. *Female* is an indicator variable equaling one if an individual is a female. *Female with Dependents* is an indicator variable equaling one if an individual is a female and has any dependents. The control is log MSA GDP in a particular year. All models include MSA fixed effects. The sample includes all U.S. tax filers from 2016 to 2021 aged 25 to 65. The unit of observation is an individual-year. Appendix A provides additional details on variable definitions. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Gig Founder with Employees

	Gig Founder			
	(1)	(2)	(3)	(4)
Post × Characteristic	-0.004***	-0.004***	-0.002***	-0.002***
	(0.001)	(0.001)	(0.000)	(0.000)
Post	0.007***	0.006***	0.005***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)
Characteristic	-0.006***	-0.006***	-0.004***	-0.004***
	(0.001)	(0.001)	(0.001)	(0.001)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes
R^2	0.000	0.000	0.000	0.000
Observations	912,615,991	912,615,991	912,615,991	912,615,991

Panel B: Founder with Employees

	Founder			
	(1)	(2)	(3)	(4)
Post × Characteristic	0.003**	0.003**	0.006***	0.006***
	(0.001)	(0.001)	(0.001)	(0.001)
Post	0.006***	0.006***	0.004***	0.004***
	(0.002)	(0.002)	(0.002)	(0.001)
Characteristic	-0.140***	-0.140***	-0.093***	-0.093***
	(0.003)	(0.003)	(0.002)	(0.002)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Control	No	Yes	No	Yes
R^2	0.000	0.000	0.000	0.000
Observations	912,615,991	912,615,991	912,615,991	912,615,991

Table A6: Firm Survival: At Least One Employee

Survival is an indicator variable equaling one if a firm files taxes in a particular year after founding. *Female* is an indicator variable equaling one if an individual is a female. *Female with Dependents* is an indicator variable equaling one if an individual is a female and has any dependents. *Post* is an indicator variable equaling one if the year is 2020 or 2021. The sample for this table includes firms with at least one employee at founding. All models include MSA, founding year, and industry fixed effects. Industries are defined at the four-digit NAICS code level. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Gig-founded Firms

	Survival			
	One Year	Two Years	One Year	Two Years
	(1)	(2)	(3)	(4)
Post × Characteristic	2.114***	1.667	1.685	0.565
	(0.736)	(1.304)	(1.078)	(1.934)
Characteristic	-2.953***	-3.037***	-0.274	0.037
	(0.585)	(0.651)	(0.827)	(0.833)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.058	0.063	0.058	0.062
Observations	53,782	53,782	38,733	38,733

Panel B: All Firms

	Survival			
	One Year	Two Years	One Year	Two Years
	(1)	(2)	(3)	(4)
Post × Characteristic	1.022***	1.148***	1.581***	1.529***
	(0.194)	(0.255)	(0.245)	(0.324)
Characteristic	-4.455***	-5.035***	-2.502***	-3.098***
	(0.445)	(0.511)	(0.568)	(0.633)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.058	0.057	0.057	0.056
Observations	1,199,470	1,199,470	985,069	985,069

Table A7: Firm Profitability: At Least One Employee

Profitability is the inverse hyperbolic sine of a firm's gross profits in a particular year. *Female* is an indicator variable equaling one if an individual is a female. *Female with Dependents* is an indicator variable equaling one if an individual is a female and has any dependents. *Post* is an indicator variable equaling one if the year is 2020 or 2021. The sample for this table includes firms with at least one employee at founding. All models include MSA, founding year, and industry fixed effects. Industries are defined at the four-digit NAICS code level. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Gig-founded Firms

	Profitability			
	At Founding	One Year	At Founding	One Year
	(1)	(2)	(3)	(4)
Post × Characteristic	21.671***	-5.390	15.750	8.605
	(8.130)	(8.373)	(9.561)	(9.839)
Characteristic	-56.839***	-42.508***	-45.230***	-48.616***
	(7.505)	(7.737)	(7.479)	(8.022)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.066	0.072	0.064	0.071
Observations	53,782	36,006	53,782	36,006

Panel B: All Firms

	Profitability			
	At Founding	One Year	At Founding	One Year
	(1)	(2)	(3)	(4)
Post × Characteristic	49.579***	24.930***	40.122***	22.309***
	(3.040)	(2.244)	(4.130)	(3.030)
Characteristic	-83.958***	-63.467***	-59.013***	-49.305***
	(3.922)	(2.944)	(5.690)	(3.518)
Characteristic	Female	Female	Female with Dependents	Female with Dependents
MSA FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.080	0.070	0.077	0.068
Observations	1,199,470	836,380	1,199,470	836,380

Table A8: Income: First-time Transitions

Log AGI is the log of the individual's adjusted gross income in a particular year. *No Information on Income* is an indicator variable equaling one if an individual's adjusted gross income is not available in a particular year. *Gig Worker* is an indicator variable equaling one if an individual receives gig income in that particular year. *Gig Founder* is an indicator variable equaling one if an individual starts a firm in that particular year and has received gig income in a previous year. *Founder* is an indicator variable equaling one if an individual starts a firm in that particular year. For this table, transitions are based on the first time. All models include individual and year fixed effects. The sample includes all female tax filers who receive a W2 in 2019 from 2016 to 2021. The unit of observation is an individual-year. Appendix A provides additional details on variable definitions. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Log AGI

	Log AGI		
	(1)	(2)	(3)
Post × Transition	54.588***	46.551***	34.586***
	(1.059)	(2.120)	(1.149)
Transition	First-time	First-time	First-time
	Gig Worker	Gig Founder	Founder
Individual FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
R^2	0.566	0.566	0.566
Observations	292,624,751	292,624,751	292,624,751

Panel B: No Information on Income

	No Information on Income		
	(1)	(2)	(3)
Post × Transition	-6.905***	-6.840***	-5.633***
	(0.124)	(0.163)	(0.087)
Transition	First-time	First-time	First-time
	Gig Worker	Gig Founder	Founder
Individual FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
R^2	0.410	0.410	0.410
Observations	292,624,751	292,624,751	292,624,751

Table A9: Income: At Least One Employee

Log AGI is the log of the individual's adjusted gross income in a particular year. *No Information on Income* is an indicator variable equaling one if an individual's adjusted gross income is not available in a particular year. *Gig Worker* is an indicator variable equaling one if an individual receives gig income in that particular year. *Gig Founder* is an indicator variable equaling one if an individual starts a firm in that particular year and has received gig income in a previous year. *Founder* is an indicator variable equaling one if an individual starts a firm in that particular year. All models include individual and year fixed effects. The sample includes all female tax filers who receive a W2 in 2019 from 2016 to 2021. The unit of observation is an individual-year. Appendix A provides additional details on variable definitions. For ease of interpretation, the coefficients and standard errors are multiplied by 100. Standard errors are reported in parentheses and clustered at the MSA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Log AGI

	Log AGI	
	(1)	(2)
Post × Transition	21.247***	9.100***
	(3.575)	(1.825)
Transition	Gig Founder with Employees	Founder with Employees
Individual FE	Yes	Yes
Year FE	Yes	Yes
R^2	0.566	0.566
Observations	292,624,751	292,624,751

Panel B: No Information on Income

	No Information on Income	
	(1)	(2)
Post × Transition	-3.347***	-3.092***
	(0.309)	(0.095)
Transition	Gig Founder with Employees	Founder with Employees
Individual FE	Yes	Yes
Year FE	Yes	Yes
R^2	0.41	0.41
Observations	292,624,751	292,624,751