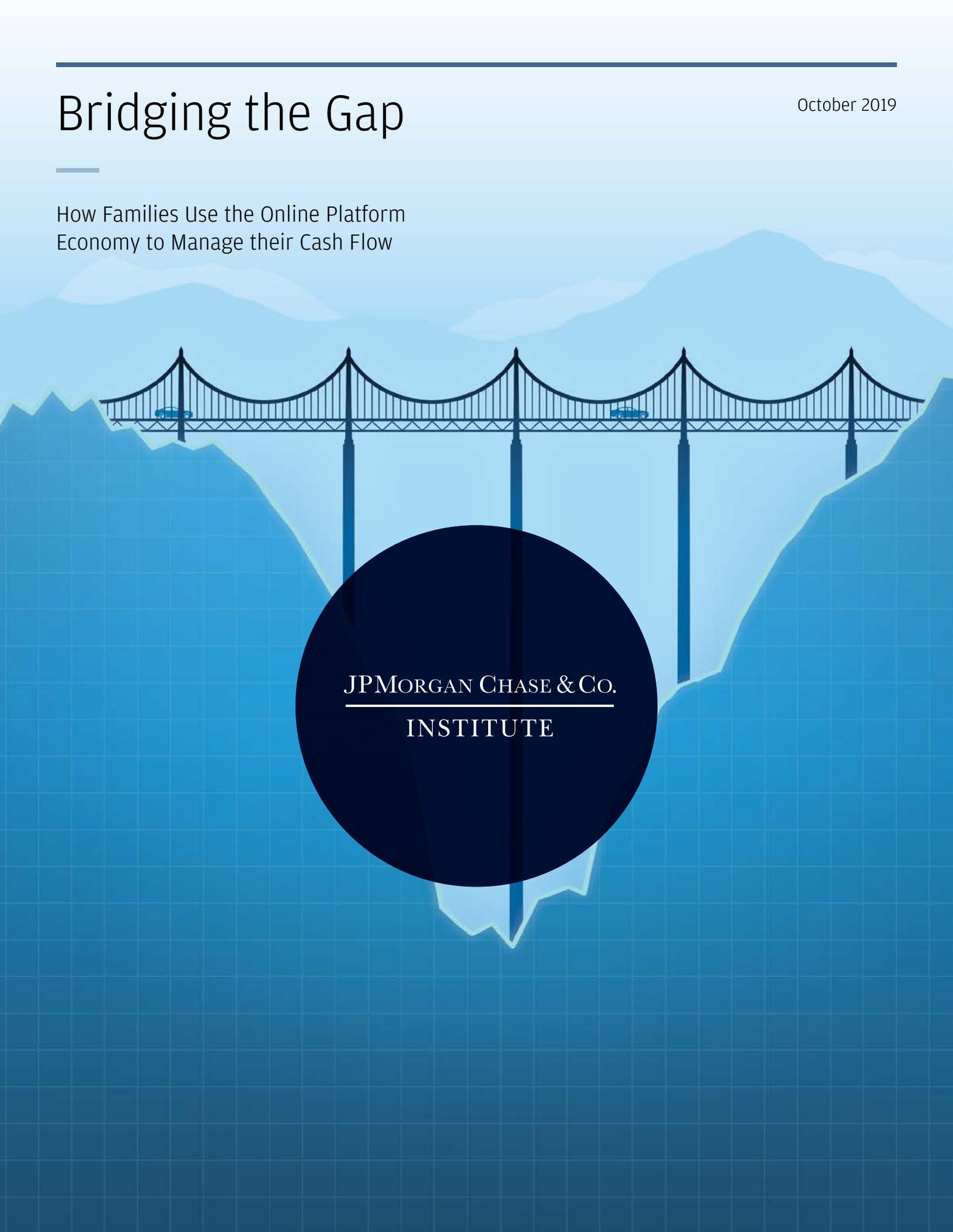

Bridging the Gap

October 2019

How Families Use the Online Platform
Economy to Manage their Cash Flow



JPMORGAN CHASE & CO.

INSTITUTE

Abstract

When a family experiences a cash-flow interruption, they can adjust by spending down savings, borrowing, cutting expenditures, or generating supplementary income. With the rise of the Online Platform Economy, this last option has likely become more available. In this report, we leverage the JPMorgan Chase Institute Online Platform Economy data set, which tracks payments from 128 online platforms to 2.3 million families participating on platforms between October 2012 and March 2018, to investigate whether and how families use the Online Platform Economy as a cash-flow management tool to smooth their income.

We take two converse perspectives to examine this question. First, we track the evolution of income and cash balances in the weeks leading up to and immediately following a family's entry into the Online Platform Economy. Second, we track how Online Platform Economy participation rates and average weekly platform revenues evolve around discrete cash flow events. In total, we analyze five specific events: a family's

first entry to the Online Platform Economy, a job loss, a job gain, a tax refund receipt, and a tax payment.

We find that in the ten weeks leading up to a family joining the Online Platform Economy, income and cash balances decline by 10 percent, suggesting that families turn to the Online Platform Economy when their payroll incomes are interrupted. Additionally, we find evidence that employment events catalyze changes in platform participation, especially in the transportation sector, and especially for families with male primary account holders. In contrast, tax-related cash flows—the arrival of a tax refund or a tax payment—have no effect on platform participation rates. Altogether, our results indicate that families use the Online Platform Economy as a cash-flow management tool to bridge an income gap between jobs but not during tax time. Our insights add an important dimension to discussions regarding both appropriate policy design for and regulation of these labor markets.

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develops analyses and insights on the inner workings of the economy, frames critical problems, and convenes stakeholders and leading thinkers.

The mission of the JPMorgan Chase Institute is to help decision makers—policymakers, businesses, and

nonprofit leaders—appreciate the scale, granularity, diversity, and interconnectedness of the global economic system and use timely data and thoughtful analysis to make more informed decisions that advance prosperity for all.

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Executive Summary

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When a family experiences a cash flow interruption, they can adjust by borrowing, cutting expenditures, or generating supplementary income. With the rise of the Online Platform Economy, this last option has likely become more available.

When a family experiences a cash-flow interruption, they can adjust by spending down savings, borrowing, cutting expenditures, or generating supplementary income. With the rise of the Online Platform Economy, this last option has likely become more available. In this study, we report that supply-side participation in the Online Platform Economy functions as a cash-flow management tool for many families.

We leverage the JPMorgan Chase Institute Online Platform Economy data set to investigate whether and how families use the Online Platform Economy to smooth income. We do this by taking two converse perspectives. First, we track the evolution of income and cash balances in the weeks leading up to and immediately following a family's first joining the Online Platform Economy. Conversely,

we then track how Online Platform Economy participation rates and average weekly platform revenues evolve around discrete cash-flow events. In total, we analyze five specific events occurring in the years 2016 and 2017:

1. **Online Platform Economy Entry:** A family receives its first direct deposit from a platform company, indicating that a family member has begun providing labor or capital in the Online Platform Economy. This event was experienced by just over 460,000 families in our sample.
2. **Job loss:** A family receives its first direct deposit from the public unemployment insurance system implying an involuntary job loss in the preceding weeks. This event was experienced by just over 170,000 families in our sample.
3. **Job gain:** A family receives its first payroll direct deposit after two months without payroll income, implying a newly employed family member.¹ This event was experienced by just over 769,000 families in our sample.
4. **Tax refund:** A family receives its first Federal, State, or local tax refund of the year, directly deposited into their checking account. This event was experienced by just over 8.2 million families in our sample.
5. **Tax payment:** A family makes its first electronic payment of the year to a Federal, State, or local tax authority. This event was experienced by just over 2.4 million families in our sample.

The JPMorgan Chase Institute Online Platform Economy Data Set

Out of a sample of **39 million Chase checking accounts**, we tracked payments directed through **128 online platforms** to 2.3 million families participating in the Online Platform Economy **between October 2012 and March 2018**.

The 128 online platforms meet the following criteria:

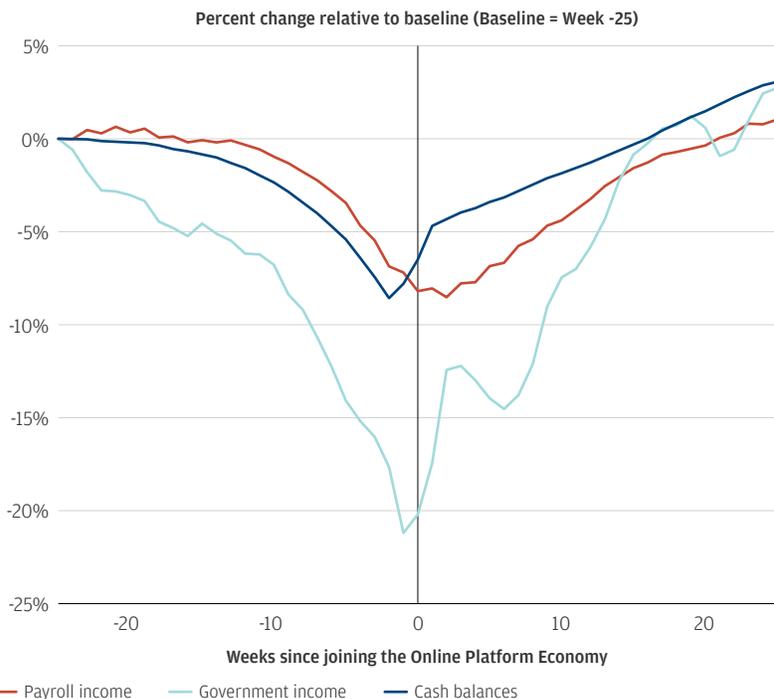
1. Connect independent suppliers to customers
2. Mediate the flow of payment from customer to supplier
3. Empower participants to enter and leave the market whenever they want



Finding One

Income and cash balances decline by around 10 percent in the ten weeks leading up to a family joining the Online Platform Economy.

Average cash balances and average weekly take-home payroll income remain roughly constant until about ten weeks before a family begins participating in the Online Platform Economy. Then, both begin to decline in tandem, implying that families may be using liquid balances to maintain their expenditures while missing payroll income. About two weeks before joining the Online Platform Economy, average cash balances and payroll incomes are down almost 10 percent. Income from government sources (including, for example, social benefits like unemployment insurance) begin to decline twenty weeks before joining, but fall most sharply in the final ten weeks.



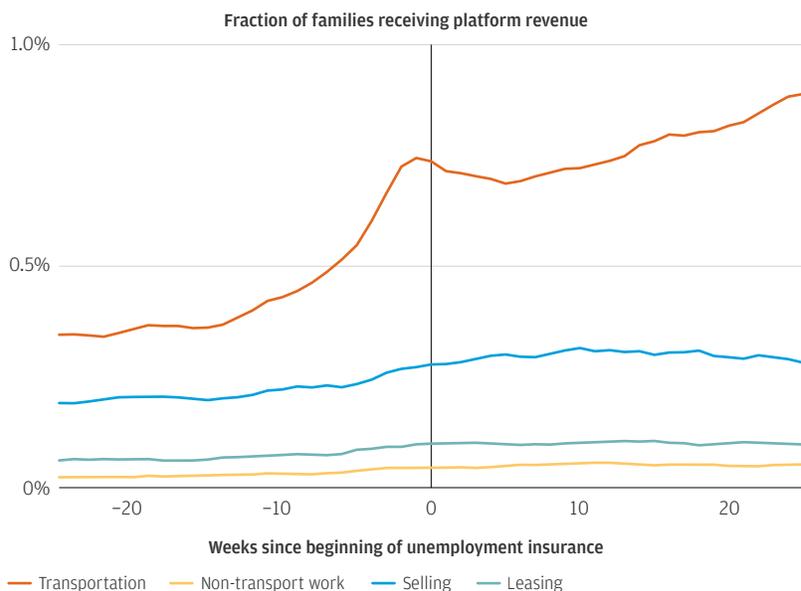
Note: OPE Entry Sample of 460,000 families receiving their first direct deposit from a platform company, after at least twenty-six weeks without platform deposits.

Source: JPMorgan Chase Institute

Finding Two

Employment events catalyze changes in platform participation, especially in the transportation sector. Driver participation and revenues increase when people lose a job and decrease when they gain a job.

In the wake of an involuntary job loss, many families turn to transportation platforms to supplement their income, and some also begin selling assets. Transportation platform participation rates increase from 0.43 percent to 0.74 percent around this event—an increase of 0.31 percentage points, or 72 percent. Participation rates on selling platforms increase from 0.22 percent to 0.28 percent—an increase of 0.06 percentage points, or 27 percent.

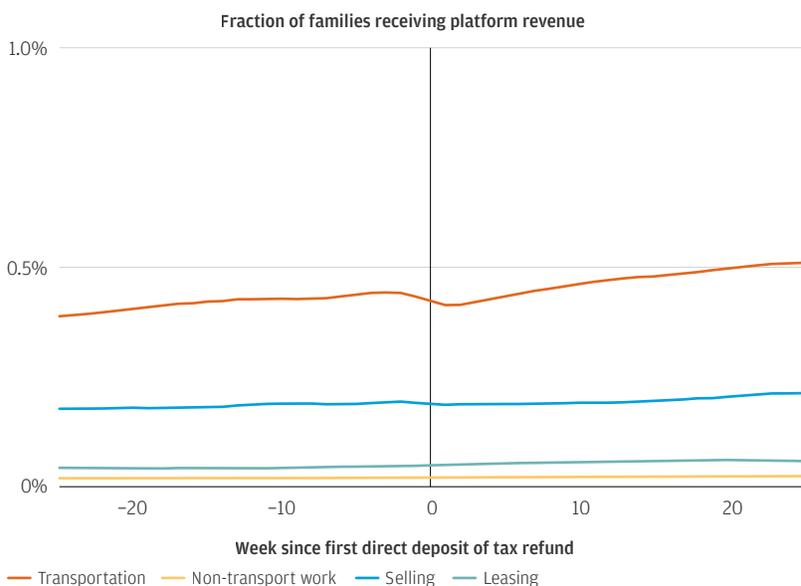


Note: Job Loss Sample of 170,000 families receiving their first direct deposit from the public unemployment insurance (UI) system, after at least six months without UI deposits. Source: JPMorgan Chase Institute

Finding Three

Unlike changes in employment, tax-related cash flows have no effect on participation revenues in the Online Platform Economy.

Tax refunds and tax payments do not catalyze changes in participation in the Online Platform Economy, other than a minor dip in driver participation in the week when a tax refund is received. Nor do families flex their engagement in response to these cash-flow events—for example, by using cash from a refund to buy back some leisure time.



Note: Tax Refund Sample of 8.2 million families receiving their first Federal, State, or local tax refund of the year, directly deposited into their checking account. Source: JPMorgan Chase Institute

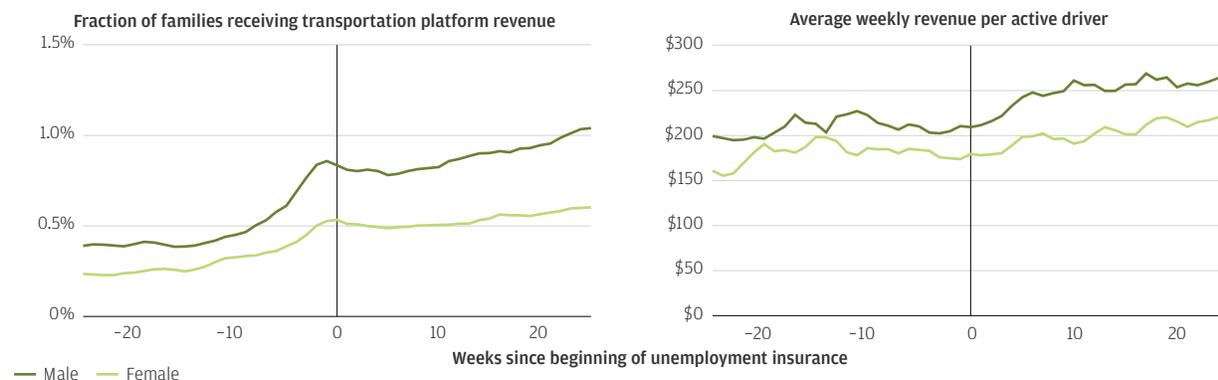
Finding Four

Men are more likely than women to use the Online Platform Economy to smooth income through involuntary job loss.

Families are more likely to turn to platforms to smooth income around

an involuntary job loss if the primary account holder is a man. Regardless of gender, however, families turning to the Online Platform Economy during a spell of involuntary unemployment are most likely to join the transportation

sector. Average revenues per driver, and the gender gap in those averages, remain stable in the weeks leading up to a first unemployment insurance payment. Notably, the gap increases to about \$50 in the weeks after.



Note: Job Loss Sample of 170,000 families receiving their first direct deposit from the public unemployment insurance (UI) system, after at least six months without UI deposits. Source: JPMorgan Chase Institute

Taken together, our findings indicate that the Online Platform Economy—and particularly its transportation sector—play an income-smoothing function for families between jobs. However, the tax-related cash flow events do not coincide with changes in platform participation or revenues. These findings add an important dimension to discussions around the design of policy and regulation of these labor markets. We see four especially important implications:

First, as policymakers weigh approaches to improve the pay, benefits, and protections of platform workers, they ought to take into consideration potential impacts those same approaches might have on the very characteristics of platform work—low barriers to entry and high flexibility—that allows families to use it to smooth their income. Families in need of an income-smoothing tool may be turning to transportation platforms in particular because barriers to entry on these platforms may be lower than other sectors,

and because it may be comparatively easy to generate revenues in the transportation sector with only occasional and periodic engagement. As policy discussions continue around portable benefits schemes, it is important to consider separately the needs of workers who intend to use platforms or other gigs as a primary source of income over the long-term from those who intend to use them as a temporary income-smoothing tool.

Second, the Online Platform Economy may be more available as an income-smoothing tool for some families than for others. Women (or family members who share accounts with women) experiencing interruptions to their payroll income are less likely to turn to the Online Platform Economy. To the extent that this difference may reflect structural disparities, it would require attention from both policymakers and platform providers.

Third, although fewer than 1 percent of families experiencing involuntary job loss actually turn to the Online Platform

Economy to smooth their income, for those families the additional \$150-\$250 per week in platform revenues may be crucial. Fully accounting for the additional marginal costs associated with platform participation is likely difficult even for participants, so the extent to which platform participation is effective in generating real income remains unknown. However, the additional cash flow may address important immediate needs.

Finally, high rates of labor churn in the Online Platform Economy have been taken in some policy discussions as an indication that joining may have proved to be a bad financial decision for many drivers. However, our findings imply that one function driving through the Online Platform Economy may play is to bridge a gap between jobs. In that case, the fact that many drivers find another job and become inactive shortly after joining should not necessarily be interpreted as “voting with their feet” against the viability of the Online Platform Economy as an option for generating income.

Introduction

Over the past five years, the growth of the Online Platform Economy has provided families with new, flexible opportunities to generate income. When a family experiences a cash-flow interruption, they can adjust by spending down savings, borrowing, cutting expenditures, or generating supplementary income. With the rise of the Online Platform Economy, this last option has likely become more available. The opportunity to generate quick cash by repurposing time or assets is one of the primary value propositions that platforms offer to their supply-side participants.² In fact, in recent JPMorgan Chase Institute research, we reported that families have increasingly been using those opportunities to generate supplementary income (Farrell et al., 2018).

To what extent does supply-side participation in the Online Platform Economy function as a cash-flow management tool for families? In this study, we leverage the JPMorgan Chase Institute Online Platform Economy data set to investigate this question (Figure 1). We do this by taking two converse perspectives. First, we track the evolution of income and cash balances in the weeks leading up to and immediately following a family's first joining the Online Platform Economy. Conversely, we then track how Online Platform Economy participation rates and average weekly platform revenues evolve around discrete cash-flow events.³ We study five events occurring in the years 2016 or 2017:

1. **Joining the Online Platform Economy:** A family receives its first direct deposit from a platform company, indicating that a family member has begun providing labor or capital in the Online Platform Economy. This event was experienced by just over 460,000 families in our sample.
2. **Job loss:** A family receives its first direct deposit from the public unemployment insurance (UI) system, implying an involuntary job loss in the weeks leading up. This event was experienced by just over 170,000 families in our sample.
3. **Job gain:** A family receives its first payroll direct deposit after two months without payroll income, implying a newly employed family member. This event was experienced by just over 769,000 families in our sample.
4. **Tax refund:** A family receives its first Federal, State, or local tax refund of the year, directly deposited into their checking account. This event was experienced by just over 8.2 million families in our sample.
5. **Tax payment:** A family makes its first electronic payment of the year to a Federal, State, or local tax authority. This event was experienced by just over 2.4 million families in our sample.



This study leverages participation and revenue data from 128 platforms to provide insight into how families use the Online Platform Economy as a cash-flow management tool.

This study is novel in three ways. First, it constitutes a uniquely broad look across the Online Platform Economy, combining participation and revenue data on 128 platforms across four distinct sectors. This is important because, as we show in previous JPMorgan Chase Institute research, over 15 percent of all participants in the Online Platform Economy—and 20 percent of platform drivers—generate income on multiple platforms in the same month (Farrell et al., 2018). By covering more platforms, we reduce the likelihood of missing an income response. Second, with this broad view comes an ability to compare across sectors of the Online Platform Economy, enabling us to pin down the particularly potent role that transportation platforms play in income smoothing, relative to other platform sectors. Finally, while other studies have examined trends in cash flows and assets around the time of joining the Online Platform Economy, this is the first study to our knowledge that takes the converse perspective, looking at platform participation and revenues around the time of cash-flow events.⁴

Figure 1: The JPMorgan Chase Institute Online Platform Economy Data Set



about one sixth of families make a single lump-sum tax payment, which represents on average 2.5 weeks' take-home income. Despite their substantial size, these payments do not disrupt families' spending or saving patterns overall (Farrell et al., 2019a). Do some families owing tax payments turn to the Online Platform Economy to help cover the payments? Do families who receive tax refunds use the cash infusion to buy off-platform time? In this study, we find that the answer to both of these questions is "no."



Our findings are:

- **Finding 1:** Income and cash balances decline by around 10 percent in the ten weeks leading up to a family joining the Online Platform Economy.
- **Finding 2:** Employment events catalyze changes in platform participation, especially in the transportation sector. Driver participation and revenues increase when people lose a job and decrease when they gain a job.
- **Finding 3:** Unlike changes in employment, tax-related cash flows have no effect on participation revenues in the Online Platform Economy.
- **Finding 4:** Men are more likely than women to use the Online Platform Economy to smooth income through involuntary job loss.

Taken together, these findings indicate that the Online Platform Economy—and particularly its transportation sector—play an income-smoothing function for families between payroll jobs. However, tax-related cash-flow events do not coincide with changes in platform participation or revenues. These findings add an important dimension to discussions around the design of policy and regulation of these labor markets. Policy interventions which are designed to improve the viability of participation in the Online Platform Economy as a full-time occupation may not be exactly the same as those which are designed to improve its viability as a temporary income-smoothing tool.

Finding One

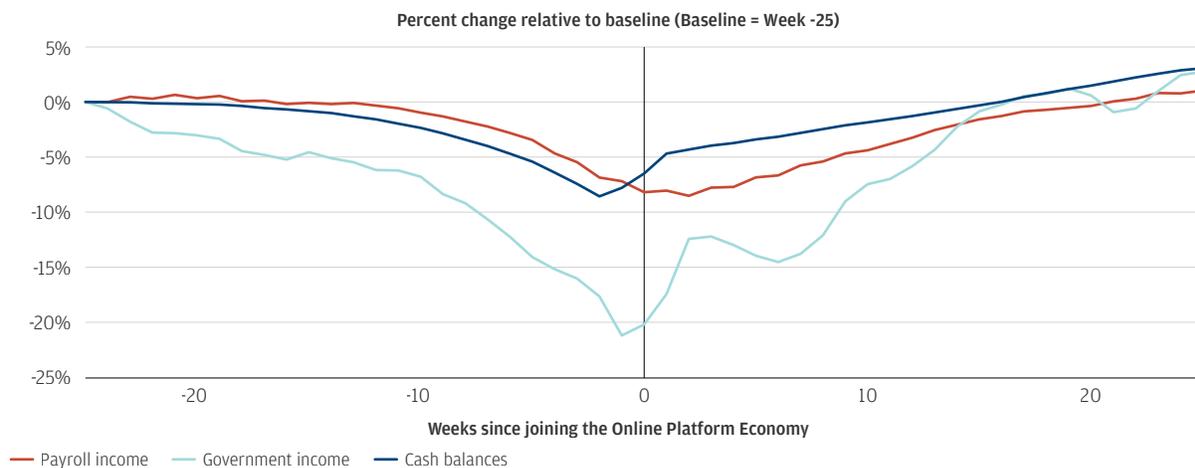
Income and cash balances decline by around 10 percent in the ten weeks leading up to a family joining the Online Platform Economy.

Figure 2 tracks percent change in weekly payroll income, government income, and total cash balances among the 460,000 families in our sample who joined the Online Platform Economy in 2016 or 2017, in the year around their joining (that is, starting twenty-six weeks before they joined and ending twenty-five weeks after). Average cash balances and average weekly take-home payroll income remain roughly constant

until about ten weeks before a family joins (at \$2,200 and \$400 respectively, as shown in Figure 13 in the Appendix, which tracks the same series in absolute terms). Then, both begin to decline in tandem, implying that families may be using liquid balances to maintain their expenditures while missing payroll income. About two weeks before joining the Online Platform Economy, average cash balances and payroll income are

down almost 10 percent. Families tend to join the Online Platform Economy just as payroll income reaches their nadir. Income from government sources (including, for example, social benefits like unemployment insurance) is 85 percent lower than payroll income—about \$55 per week on average twenty-five weeks before a family joins. It begins to decline twenty weeks before joining, but falls most sharply in the final ten weeks.

Figure 2: Payroll income, income from government sources, and total cash balances all decline in the weeks leading up to a family joining the Online Platform Economy



Note: OPE Entry Sample of 460,000 families receiving their first direct deposit from a platform company, after at least twenty-six weeks without platform deposits.

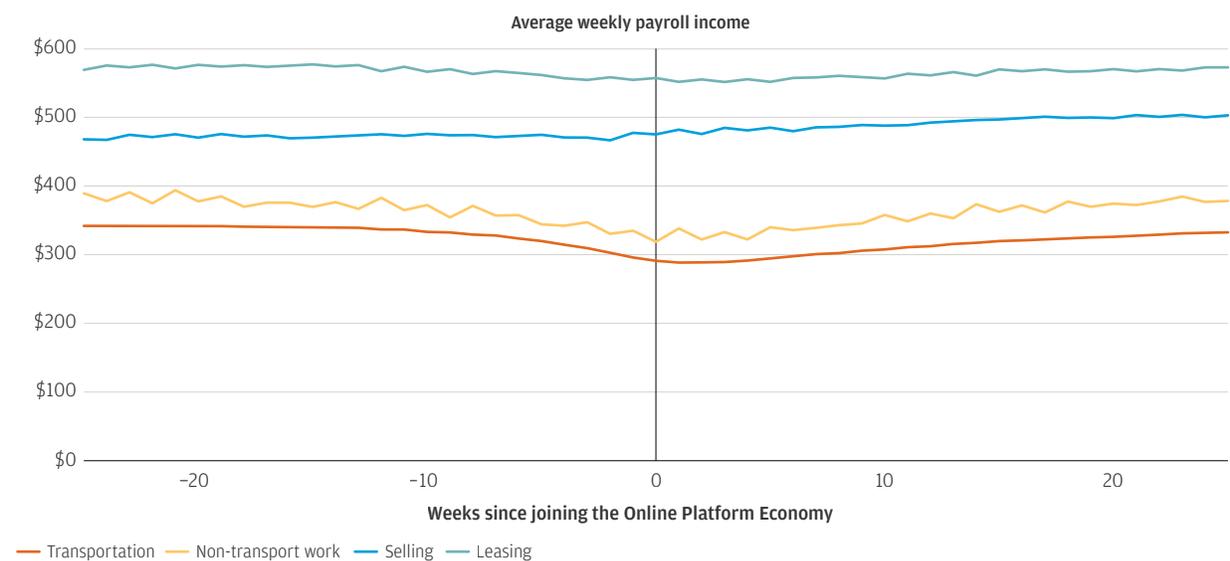
Source: JPMorgan Chase Institute

The averages in Figure 2 mask important differences across sectors of the Online Platform Economy. In previous JPMorgan Chase Institute work, we observe substantial demographic and socioeconomic differences on average among drivers, workers, sellers, and lessors (Farrell et al., 2018). This may partially reflect variation in the costs of entry across the sectors; for example, in order to lease out assets a family must first own the assets to be leased. In Figure 3, we track average

take-home payroll income in absolute (dollar) terms, distinguishing families based on the sector in which they joined. Those who join the transportation sector have the lowest average take-home payroll incomes and experience the sharpest decline prior to joining. Those who join the selling and leasing sectors do not experience notable changes in take-home payroll income prior to joining. As shown in Figure 14 in the Appendix, the evolutions in the averages shown

in Figure 3 reflect evolutions in the fraction of families with no observed payroll income, suggesting that the decline in average weekly payroll income around the time that families join the Online Platform Economy in large part reflects participant families losing or quitting payroll jobs, and not families earning less at their jobs (for example, through voluntary or involuntary reductions in hours).

Figure 3: Payroll income is lowest, and declines most sharply, among families who end up joining the transportation sector of the Online Platform Economy



Note: OPE Entry Sample of 460,000 families receiving their first direct deposit from a platform company, after at least twenty-six weeks without platform deposits.

Source: JPMorgan Chase Institute

This pattern is also reflected in average cash balances, which decline by 15 percent in the weeks leading up to a family joining the transportation sector and only 5 percent in the weeks leading up to a family joining the leasing sector. Furthermore, among those who join the leasing sector, average cash balances are consistently 3.5 to 4 times that of those joining the transportation sector (see Figure 15 in the Appendix).

Taken together, the results in this section suggest that families—especially

lower-income families and those with less cash on hand—may turn to the Online Platform Economy when their payroll incomes are interrupted. They appear to favor transportation and, to a lesser extent, non-transport work platforms over selling and leasing platforms as an income-smoothing tool. On average, these families begin spending down savings as soon as their payroll income begins to decline, and then join one or more transportation or non-transport work platform about eight to ten weeks later.

These patterns naturally bring the converse question to the fore. Families joining the Online Platform Economy tend to experience interruptions in payroll income; but do families experiencing payroll interruptions tend to join the Online Platform Economy? In the next section, we focus on payroll interruptions which are followed by payments from the public unemployment insurance system, since these are the most likely to be involuntary.

Finding Two

Employment events catalyze changes in platform participation, especially in the transportation sector. Driver participation and revenues increase when people lose a job and decrease when they gain a job.

In the previous section, we report that those who join the Online Platform Economy tend to experience changes in payroll income in the weeks leading up to starting platform participation. To better understand how families use platform participation as an income-smoothing tool, we shift our focus in this section to look directly at employment events, and investigate whether those who lose or gain a job tend to join or quit the Online Platform Economy.

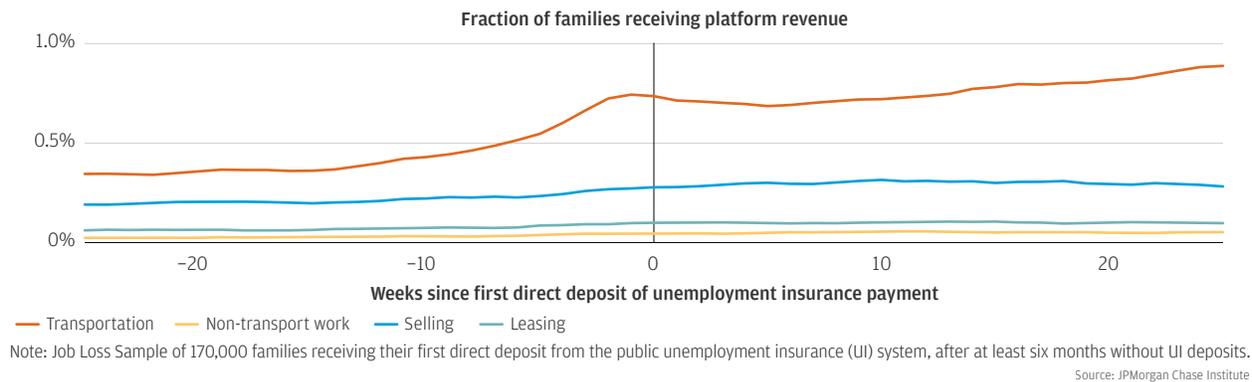
In Figure 4, we focus on a specific employment-related event—the first direct deposit of a payment from the public unemployment insurance system. Even in the current economy, in which labor demand is strong by historical standards, involuntary job losses impact a small but significant fraction of families. According to the Bureau of Labor Statistics (2019), just over 1 percent of workers experienced an involuntary job loss in each month of our study period, from January 2016 through December 2017. For our study,

we focus on a subset of these families—those experiencing their first observed period of involuntary unemployment; over 171,000 families in our sample experienced this event. We identify these families based on their receiving a first payment from the unemployment insurance system (for more details, see the Data Appendix). By design, the unemployment insurance payment should always follow an involuntary job loss. As we show in Figure 16 in the Appendix, that connection is properly reflected in our data—the fraction of families receiving payroll income declines beginning around ten weeks before the first unemployment insurance payment. As Figure 4 shows, this period coincides with sharp growth in transportation platform participation rates, from 0.43 percent to 0.74 percent—an increase of 0.31 percentage points, or 72 percent.⁵ Notably, participation rates on selling platforms increase from 0.22 percent to 0.28 percent—an increase of 0.06 percentage points, or 27 percent. Participation in the other sectors is consistently

negligible throughout the year around the event of receiving unemployment insurance. These results suggest that in the wake of an involuntary job loss, many families turn to transportation platforms to supplement their income, and some also begin selling goods. The contrast between this pattern and the one shown in Figure 3 is instructive. It illustrates that, on average, families who join non-transport work platforms have recently experienced reductions in their payroll income (Figure 3), but negligibly few of those who experience involuntary job losses turn to non-transport work platforms (Figure 4).

In the wake of an involuntary job loss, many families turn to transportation platforms to supplement their income, and some also begin selling goods.

Figure 4: In the weeks leading up to a first unemployment insurance payment, participation rates on transportation and selling platforms increase by 72 and 27 percent, respectively



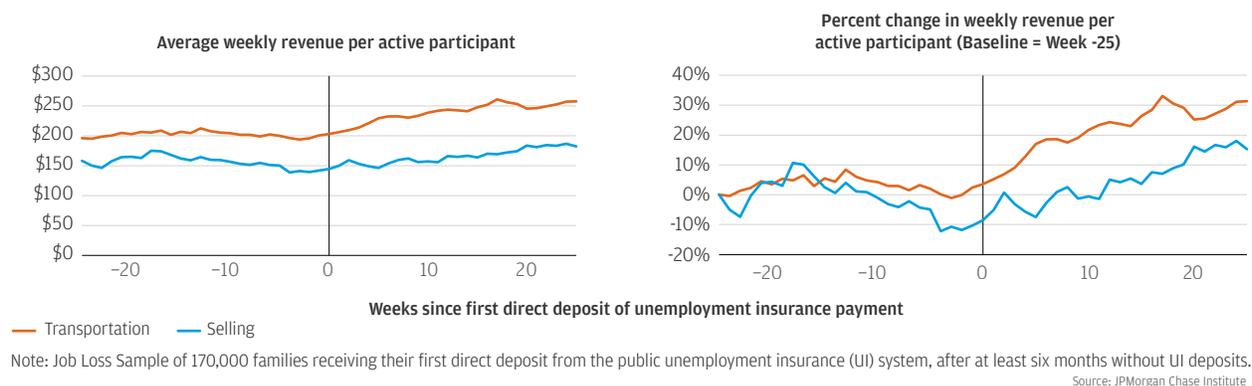
The results in Figure 4 indicate that families experiencing involuntary job loss are most likely to turn to transportation and selling platforms to generate income. What does this mean for average weekly revenues per participant? In previous JPMorgan Chase Institute research, we show that there is considerable variation across families and over time, not only in the likelihood of participating at all in the Online Platform Economy, but also in how frequently families engage (Farrell et al., 2018). This might imply that more families participate, and that those who do participate may spend more time on the platforms, pushing up average weekly revenues per participant. On the other hand, many

of these new joiners may be less experienced and therefore may generate relatively low revenues when they first join, pulling down the average.

In Figure 5, we show that in fact, average weekly revenue increases per participant around involuntary job loss. We do not show average revenues in the non-transport work or leasing sectors, because there are too few participating families (as shown in Figure 4, participation rates in these sectors are consistently negligible among these 171,000 families). The left panel of Figure 5 illustrates that average revenues in the transportation sector are \$203 per active driver in the week of the first unemployment insurance

payment, about equal to where they were ten weeks prior (\$204). In the selling sector, revenues are slightly lower in the week of the first unemployment insurance payment (\$145 per active seller) compared with ten weeks prior (\$156). As the right panel shows, however, there is a decline in both averages of weekly revenue in the weeks leading up to receipt of the first unemployment payment. As we will see in Figure 6, this coincides with the time when participation is rising most sharply, which bounces back in the subsequent weeks. The decline may reflect lower revenues among the newest joiners, which would pull the averages down temporarily.

Figure 5: Average weekly revenue per driver and seller increases after involuntary job loss



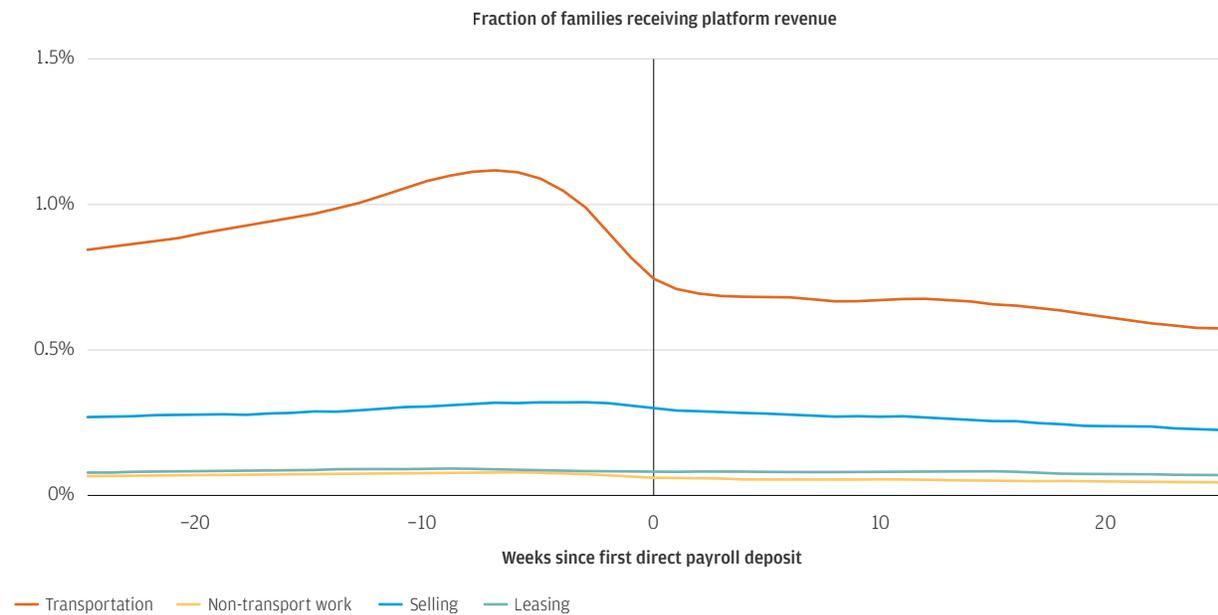
The results in Figures 4 and 5 show that families turning to the Online Platform Economy around the time that they begin receiving unemployment insurance payments (and, implicitly, around the time when they lost a job involuntarily) are most likely to turn to the selling and transportation sectors. In the current economy, with labor demand relatively strong, the number of workers starting new jobs in any given month exceeds the number experiencing an involuntary job loss by a factor of two (Bureau of Labor Statistics, 2019). Is the response symmetric among these families? That is, given that families who

lose a payroll job involuntarily are more likely to turn toward the Online Platform Economy, are those who start a new payroll job likely to turn away from it?

In Figure 6, we track participation rates among 769,000 families who received a first payroll deposit after a period of two or more months without payroll income to show a symmetric pattern in the transportation sector especially—these families are likely to turn away from transportation platforms in the weeks leading up to their first payroll direct deposit. For most of the period without payroll, participation

in transportation platforms increases steadily, peaking at 1.1 percent seven weeks before the first direct deposit. This is likely around the time a family member might have been hired or started a new job. Over the next nine weeks, participation falls precipitously to 0.69 percent. Participation on selling platforms peaks at 0.32 percent five weeks before the first payroll direct deposit, and then declines steadily but gradually over the next seven weeks to 0.29 percent.⁶ Participation on non-transport work platforms also declines over the same period, from 0.08 percent to 0.06 percent.

Figure 6: Participation on transportation platforms declines sharply in the weeks leading up to a family receiving a first direct payroll deposit from a new employer



Note: Job Gain Sample of 769,000 families receiving their first payroll direct deposit after at least two months without payroll income.

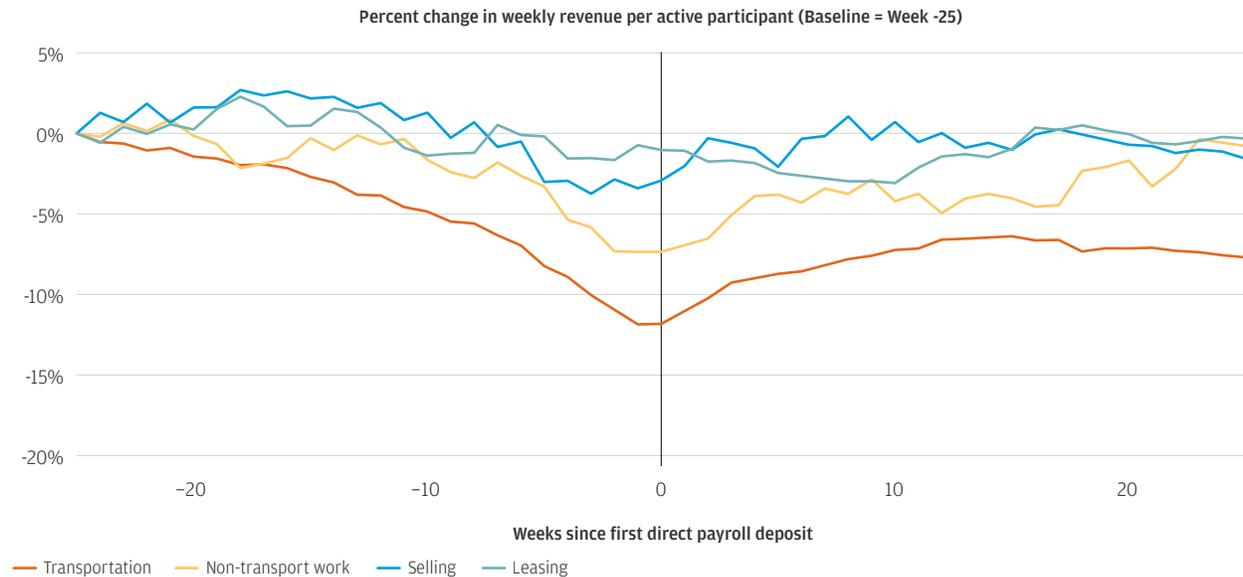
Source: JPMorgan Chase Institute

Faced with involuntary job loss, families turn to driving or to selling assets.

Figure 7 tracks percent change in weekly revenues among participants in each week around the job gain event. Among families who participate on transportation, non-transport work, and selling platforms, average weekly revenues decline steadily in the weeks

leading up to their first payroll direct deposit, and then bounce back in the weeks after; this likely reflects families cutting back as they approach a paycheck, and then the most marginal participants quitting entirely, thereby pushing the average back up.

Figure 7: Average revenue per participant declines substantially among active drivers and workers in the weeks leading up to a first payroll direct deposit from a new employer



Note: Job Gain Sample of 769,000 families receiving their first payroll direct deposit after at least two months without payroll income. Source: JPMorgan Chase Institute

The patterns in this section suggest that transportation and selling platforms especially can function as flexible income-smoothing tools for families who need them. Faced with an involuntary job loss, families turn to driving or to selling assets. The fact that participation on

non-transportation work and leasing platforms is consistently negligible among families experiencing involuntary job loss may reflect a relatively high cost of entry in these sectors. Symmetrically, families turn away from platforms as they begin receiving payroll income from a new employer.

Do these overall patterns carry over to other significant cash-flow events which are not directly related to employment? In the next section, we focus on tax-related events—receiving a refund or making a payment—to shed light on this question.

Finding Three

Unlike changes in employment, tax-related cash flows have no effect on participation revenues in the Online Platform Economy.

The results discussed in the previous two sections indicate that the Online Platform Economy—and, especially, its transportation sector—functions as an income-smoothing tool during times of change in employment. What about non-payroll-related cash-flow events? In recent JPMorgan Chase Institute research, we reported that tax refunds and tax payments represent significant cash-flow events for the families who experience them. The average tax refund represents six weeks' worth of take-home income for families who receive them, and the average payment represents 2.5 weeks' worth of take-home income for families who make them (Farrell et al., 2019a). Although they are

highly predictable, tax refunds in particular catalyze an immediate sharp increase in spending and reset long-run spending and saving patterns. We also show that, overall, neither refunds nor payments trigger changes in labor income, but that may be because many jobs do not offer opportunities for workers to flex their earnings up or down in response to their cash flow. Do refunds or payments catalyze changes in the likelihood of participating in the Online Platform Economy? Do they trigger changes in average revenues?

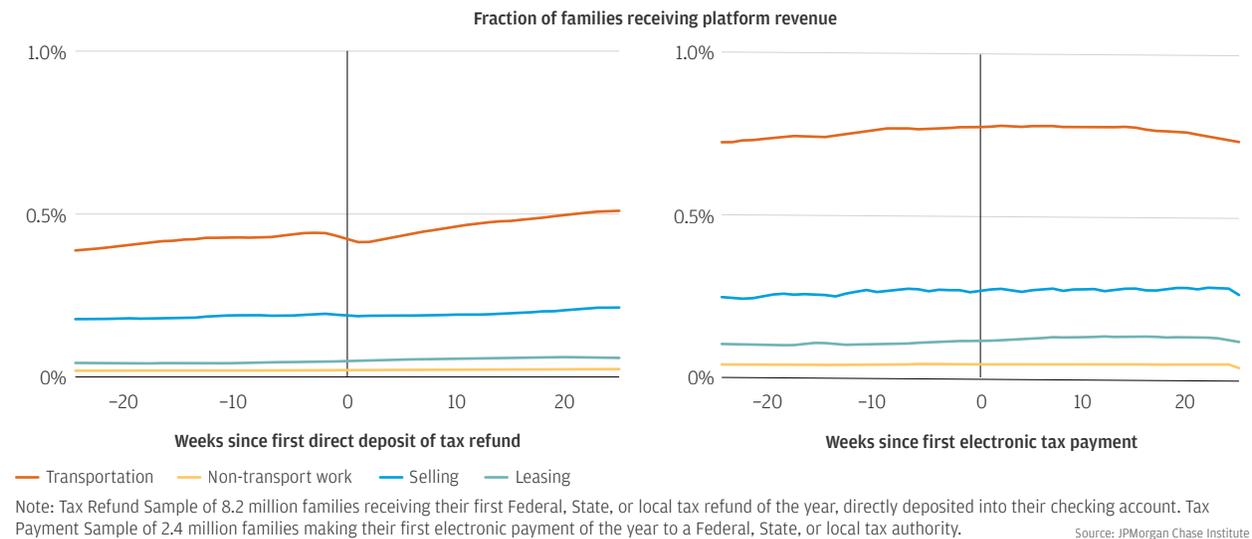
In Figure 8, we track participation rates in the Online Platform Economy in the year around a tax refund or tax payment. The left panel shows

a dip in driver participation in the week that a tax refund is received—from 0.44 percent to 0.41 percent, a dip of 0.03 percentage points or 7 percent. Other than this change, neither event catalyzes a change in the likelihood of participating in the Online Platform Economy.



Neither tax refunds nor tax payments catalyze significant changes in participation in the Online Platform Economy.

Figure 8: Tax refunds and tax payments do not catalyze changes in participation in the Online Platform Economy, other than a brief dip in participation on driving platforms in the week of tax refund receipt

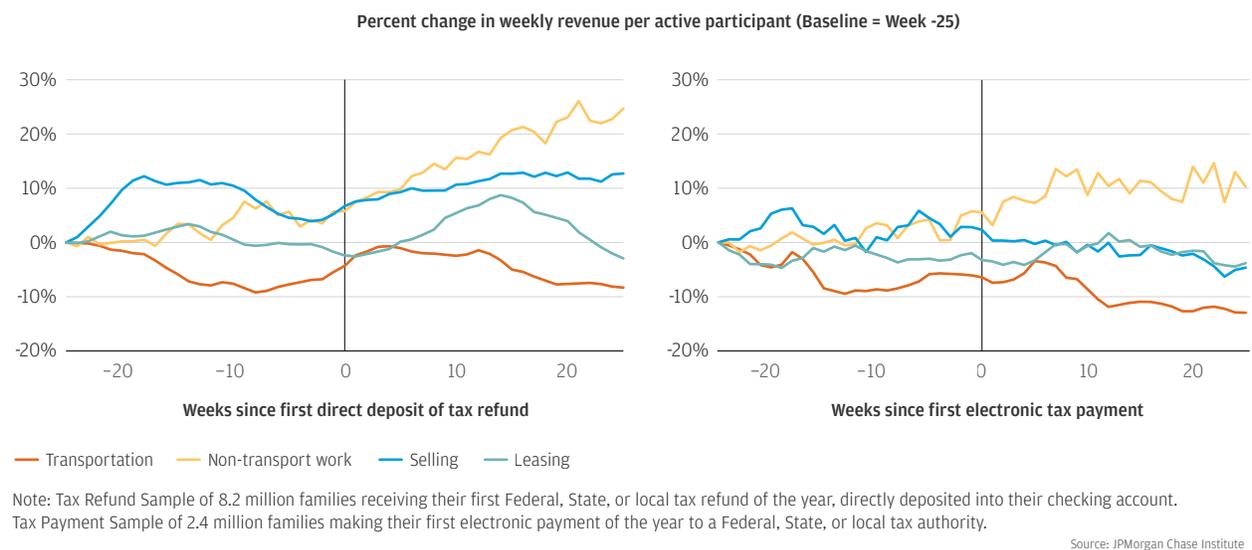


Even if they do not stop participating when they receive a tax refund, or start participating when they make a tax payment, families might flex their engagement (as reflected in platform revenues) in response to these cash-flow events, for example driving more hours to help cover a payment, or

using a refund to cut back. However, Figure 9 illustrates that neither of these happens to any appreciable degree. If anything, average weekly revenues per driver increase slightly (by less than 5 percent) when a tax refund is received; this may be an artifact of the decline in participation

shown in Figure 8, since those who stop participating were likely to have been marginal participants who were generating relatively low revenues. Are some types of families more likely to make use of platforms as a cash-flow management tool? We explore this question in the next section.

Figure 9: Average weekly revenues among platform participants do not decline when a tax refund is received, and do not increase when a tax payment is made



Finding Four

Men are more likely than women to use the Online Platform Economy to smooth income through involuntary job loss.

In the previous two sections, we showed that families use platform revenues—especially transportation revenues—to smooth income through involuntary job loss, but not to smooth over the large positive cash flows generated by tax refunds or negative cash flows generated by tax payments. In light of the importance of transportation platforms as an income-smoothing tool, there are important questions that arise from the facts that platform drivers are so predominantly young and male and that there is a gender gap in driving revenues and earnings (Kooti et al., 2017; Farrell et al., 2018; Parrott and Reich, 2018; Cook et al., 2018; Caldwell and Oehlsen, 2018). Do those gender differences correlate with differences to the extent to which some families use platforms to smooth their incomes?

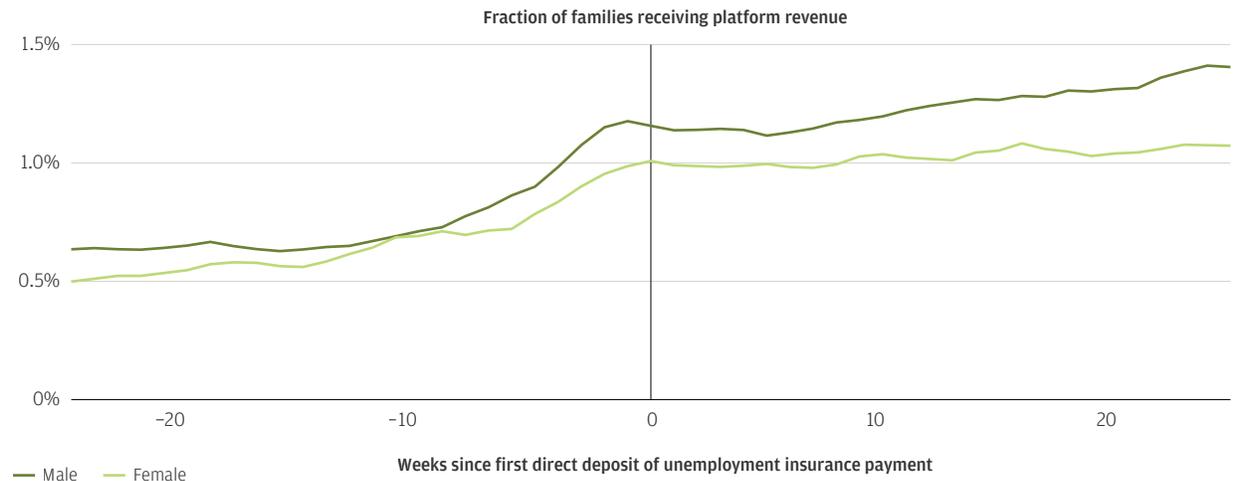


The gender gap in transportation platform participation and revenues widens around an involuntary job loss.

In Figure 10, we reinvestigate the patterns from Figure 4—the extent to which families turn to platforms around the time that they begin receiving unemployment insurance payments—this time combining all four sectors of the Online Platform Economy, but stratifying families based on the gender of the primary account holder. As we have discussed, and as

shown in Figure 16 in the Appendix, payroll employment begins declining about ten weeks before this event, but accelerates significantly around six weeks later. During the ten weeks prior to receipt of the first unemployment insurance payment, platform participation increased from 0.69 percent to just under 1 percent among families in which the primary account holder is a woman and from 0.71 percent to just over 1.18 among families in which the primary account holder is a man. These translate to proportional increases of 43 percent and 60 percent, respectively. Furthermore, although not shown here, most of the growth in both cases occurs on transportation platforms; we do not see evidence of women turning to one sector while men turn to another.

Figure 10: When a family begins collecting unemployment insurance, platform participation increases from 0.7 percent to 1 percent if the primary account holder is a woman, and to 1.2 percent if a man



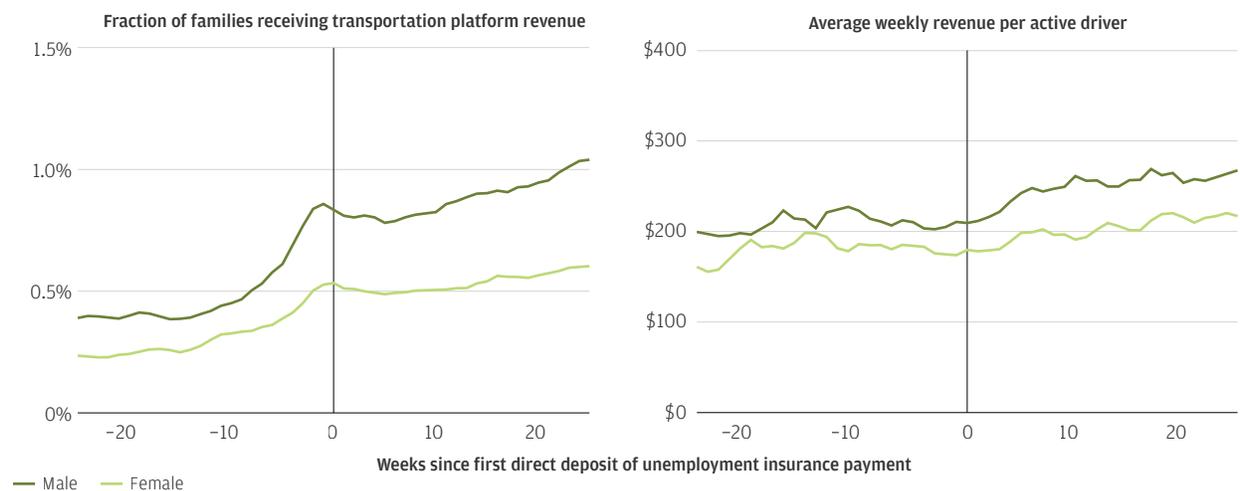
Note: Job Loss Sample of 170,000 families receiving their first direct deposit from the public unemployment insurance (UI) system, after at least six months without UI deposits. Source: JPMorgan Chase Institute

The results in Figure 10 indicate that men (or family members who share accounts with men) are more likely to rely on platforms to smooth income around an involuntary job loss. In Figure 11, we restrict analysis to the transportation sector, where families are most likely to turn. The

left panel confirms that participation increases more sharply among families where the primary account holder is a man. The right panel shows that average revenues per driver remain stable in both types of families even as participation rates are increasing in the weeks leading

up to the first unemployment insurance payment, resulting in a stable gender revenue gap of around \$30 throughout the period leading up to the first unemployment insurance payment. Notably, the gap increases to about \$50 in the weeks after.

Figure 11: Transportation platform participation and average weekly revenues increase more sharply around job loss for male account holders than female account holders



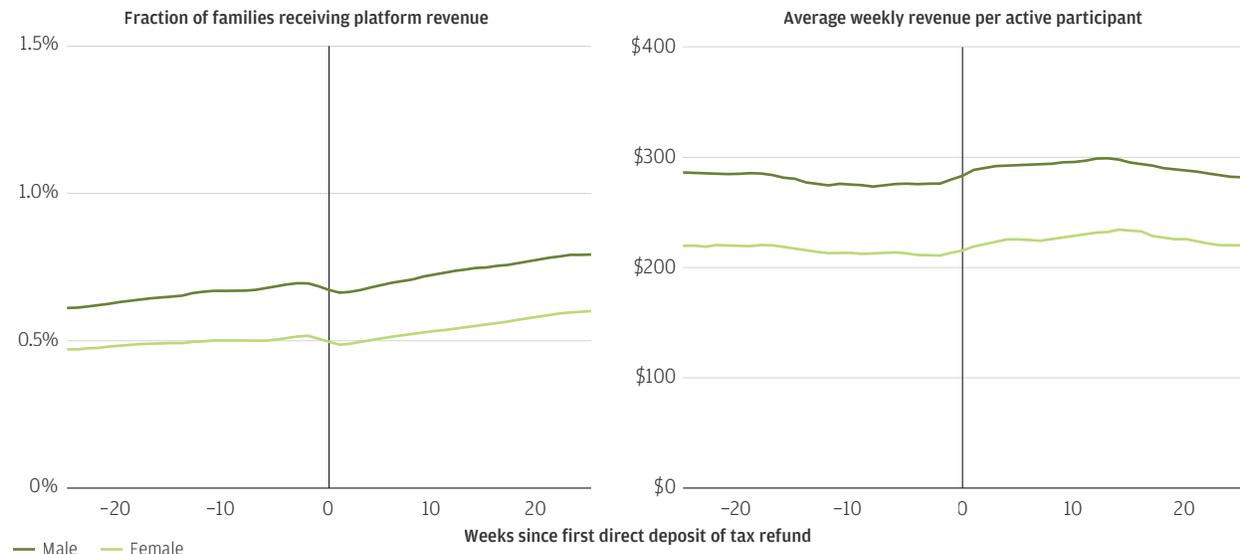
Note: Job Loss Sample of 170,000 families receiving their first direct deposit from the public unemployment insurance (UI) system, after at least six months without UI deposits. Source: JPMorgan Chase Institute

The results in Figures 10 and 11 indicate that families in which the primary account holder is a man are more likely to turn to platforms to smooth their income around a period of involuntary unemployment. The revenues come primarily from driving; as families join, there is no decline in the gender gap in transportation revenues. Taken together, these two patterns imply that the Online Platform Economy is a more potent income-smoothing tool for men (or family members who share accounts with men).

In contrast with job-related events, we showed in Figure 8 that cash flow from tax refunds does not catalyze changes in platform participation or revenue overall. In Figure 12, we show that this pattern is consistent across families regardless of the gender of the primary account holder. Both types of families experience a dip in participation immediately following receipt of a tax refund, and a coincident bump in revenues, likely because those who stop participating are marginal participants who had been generating lower weekly revenues.

The Online Platform Economy is a more potent income-smoothing tool for men than for women.

Figure 12: Regardless of gender of the primary account holder, there is only a brief dip in platform participation when families receive a tax refund



Note: Tax Refund Sample of 8.2 million families receiving their first Federal, State, or local tax refund of the year, directly deposited into their checking account.

Source: JPMorgan Chase Institute

Conclusions and Implications

The Online Platform Economy, and especially its transportation sector, is a potential source of income for a significant and rapidly growing fraction of families. As more families have joined the Online Platform Economy, the evidence suggests that it has increasingly become a source of supplementary income (Farrell et al., 2018). In this study, we find that one important context in which many families may turn to platforms is to smooth income during periods between payroll jobs. Consistent with findings reported by other researchers, we find that families who join the Online Platform Economy tend to have experienced a decline in payroll income and to have spent down savings in the weeks leading up to joining (Koustas, 2018; Koustas, 2019). We extend this result by also establishing the converse—families who experience an involuntary job separation tend to turn to transportation and selling platforms in the weeks after that event, and families who gain a job tend to reduce their participation in the Online Platform Economy.

Importantly, we find that families do not use the Online Platform Economy as an income-smoothing tool in response to tax refunds or tax payments, which are infrequent, lump-sum transfer events. Why do changes in payroll flows trigger changes in platform participation and revenues, while these significant lump-sum events do not? One explanation would be that the tax events are highly

predictable, so families would be able to smooth through them using standard cash-flow management tools like savings accounts or credit cards. However, the predictability of tax refunds does not preclude them triggering sharp changes in spending and consumption; so, why not income as well? Another would be that the tax events are true cash-flow events whereas employment-related events may represent a change in lifetime income and long-run financial well-being. However, as we show in previous JPMorgan Chase Institute research, the vast majority of families who experience a spell of unemployment are re-employed within a few months; therefore, the employment-related events in these cases are more likely to be more like cash-flow interruptions or resumptions than changes in long-run socioeconomic status. Another possibility is that changes in payroll flows, unlike these lump-sum events, are likely to reflect changes in the opportunity cost of time. Finding the time to drive likely becomes easier after an involuntary job separation, and harder after getting a new job. However, this would less likely explain why participation on selling platforms increases in the wake of involuntary job separation. Finally, families might mentally account for changes in payroll flows differently from large annual lump-sum transfers. In previous research, we have shown that the cash from tax refunds is spent differently from other income—it is more likely

to be spent on bigger-ticket items or to pay down debt (Farrell et al., 2019a). It may also be, therefore, that families implicitly or explicitly account for platform revenues and payroll income as more interchangeable with each other, and distinct from annual lump-sum transfers like tax refunds or tax payments.

Our findings regarding changes in participation and revenue which coincide with job losses and job gains have four important implications for policy.

First, **as policymakers weigh approaches to improve the pay, benefits, and protections of platform workers, they ought to take into consideration the potential impacts those same approaches might have on the very characteristics of platform work—low barriers to entry and high flexibility—that allow families to use it to smooth their income.** Our findings suggest that families are especially likely to turn to platform work when cash balances have decreased and they are in need of an income-smoothing tool—especially during a stint of unemployment. They may choose transportation platforms specifically because barriers to entry on these platforms are lower than other sectors, and because it may be comparatively easy to generate revenues in the transportation sector with only occasional and periodic engagement. Policies and regulations that increase barriers to entry or give participants less flexibility in when they work might make platform

work less readily accessible to those seeking to use it to smooth income. In addition, as policy discussions continue around portable benefits schemes, it is important to consider separately the needs of workers who intend to use platforms or other gigs as a primary source of income over the long-term from those who intend to use them as a temporary income-smoothing tool. For families who are looking to smooth income, expanding the public unemployment insurance system to provide stop-gap non-wage benefits might be just as appealing as a mandatory benefits contribution per transaction.

Second, **the Online Platform Economy may be more available as an income-smoothing tool for some families than for others.**

Women (or family members who share accounts with women) experiencing interruptions to their payroll income are less likely to turn to the Online Platform Economy, and their platform earnings on average are smaller in proportion to their initial payroll earnings. To the extent that this difference may reflect structural disparities, it may be a worthy focus of attention by both policymakers and platform providers.

Third, **although fewer than 1 percent of families experiencing non-voluntary job loss actually turn to the Online Platform Economy to smooth their income, for this small minority of families the additional \$150-\$250 per week in platform revenues may be crucial.**

Fully accounting for the additional marginal costs associated with platform participation is likely difficult even for participants, so the extent to which platform participation is effective in generating actual income remains unknown. However, the additional cash flow may address important immediate needs. In previous JPMorgan Chase Institute research, we show evidence that there is still room for the transportation sector to absorb more drivers without harming revenue prospects (Farrell et al., 2019b). However, if labor demand declines significantly, a surge in the number of drivers may test the bounds of that capacity.

Finally, **high rates of labor churn in the Online Platform Economy should not be taken as an indication that many participants viewed joining as a bad financial decision.** In previous JPMorgan Chase Institute research, we report that very few participants

in the Online Platform Economy participate consistently for extended periods of time; other researchers have reported this pattern as well (Farrell et al., 2016; Farrell et al., 2018; Farrell et al., 2019b; Mishel, 2018). To be sure, high rates of churn may be a source of concern for the platforms themselves. From a participant perspective, if one of the reasons for transportation sector participation is to bridge a gap between payroll jobs, then one would expect many drivers to become inactive shortly after joining, as prior JPMorgan Chase Institute research has shown. This pattern should not necessarily be interpreted as drivers “voting with their feet” against the viability of the Online Platform Economy as an option for generating income. Rather, the Online Platform Economy may have provided a mechanism for participants to bridge the gap, functioning exactly as intended.

Data Asset and Methodology

Sampling

This study leverages the JPMorgan Chase Institute Online Platform Economy data set, which we have used in previous research and described in detail (Farrell et al., 2018). The sample comprises 39 million unique, de-identified Chase checking accounts on which the primary account holder is at least 18 years of age. It is a repeated monthly cross-section of these accounts. An account is included in our sample in each month starting with October 2012 and ending

with March 2018, as long as we observe at least five outflows from its checking account in that month. This inclusion criterion provides confidence that the account is a major financial tool for the family, and therefore that the account activity we observe provides a reasonably complete view of the family's financial life. The average account meets this inclusion criterion in thirty-one out of the sixty-six months of the study period, yielding a total of 1.1 billion account-months.

Box 1: JPMC Institute—Public Data Privacy Notice

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The Institute provides valuable insights to policymakers, businesses, and nonprofit leaders. But these insights cannot come at the expense of customer privacy. We take precautions to ensure the confidence and security of our account holders' private information.

Identifying Platform Revenues

A family's platform revenues are the sum of electronic deposits originating from 128 specific platform companies, which we identified a priori based on three criteria:

- Each platform must connect independent suppliers to customers.
- Each platform must mediate payment from the customer to the supplier.
- Each platform must empower participants to enter and leave the market whenever they want.

We categorize each platform into one of four sectors based on the nature of its primary business: transportation, non-transportation work, leasing, and selling (Farrell et al., 2018).

The revenues we observe are the product of unit prices and quantities supplied (for example, transportation revenues are the product of effective hourly wages and hours driven). We cannot distinguish these two components in the administrative banking data; trends in revenues may represent trends in either or both. Furthermore, we report revenues but do not attempt to use the administrative banking data to compute profits.

We may observe some of the costs associated with participating, such as expenditures for car fuel, but since many platforms are built to enable their participants to use their own assets to generate income, it is difficult to allocate capital inputs like effective rental rates for a driver's personal car, or to otherwise

disentangle supplier costs from a family's consumption expenses.

Event Identification

This study tracks outcomes around five types of events. We include only events occurring during either calendar year 2016 or 2017. Furthermore, an event is only included in the study if the family experiencing it fulfills the sample inclusion criteria laid out in the previous section throughout the event study period, which begins twenty-six weeks before the event and ends twenty-five weeks after. In addition to these general calendar criteria, each event also has its own specific inclusion criteria.

Online Platform Economy entry (469,701 events)

The event tracked in the first section (Figures 2, 3, 13, 14, and 15) occurs when two criteria are met:

- A family in the sample receives a direct deposit of greater than \$1 from one or more platforms on our list of 128.
- At no point over at least the previous twenty-six weeks has that family received a direct deposit of greater than \$1 from any platform on our list of 128.

The choice to require that transactions exceed \$1 is motivated by the fact that many platforms will transact token amounts of \$1 or less when a potential participant first registers, just to verify that they have provided valid bank account information to be used for later direct deposits. For the purposes of

our study, registering on a platform and not generating any additional revenue does not qualify as "joining" the Online Platform Economy.

Job loss (171,776 events)

In Figures 4, 5, 10, 11, and 16 we track financial outcomes around the first direct deposit of an unemployment insurance payment. This event occurs when four criteria are met:

- A family in the sample receives a directly deposited payment from the public unemployment insurance system.
- The family has not received an unemployment insurance payment in any calendar month over at least the previous six.
- The family receives at least one more directly deposited unemployment insurance payment before the end of the next calendar month, and never has an interruption of more than one calendar month between payments.
- The family never receives more than \$3000 in unemployment insurance payments or more than six payments in a single calendar month.

These criteria mirror those used in previous JPMorgan Chase Institute Research (Farrell et al., 2016; Ganong and Noel, 2018).

Job gain (769,067 events)

In Figures 6 and 7 we track financial outcomes around the first payroll direct deposit from a new employer. This event occurs when two criteria are met:

- A family receives a payroll direct deposit.
- The family has received no observed payroll income for at least the past sixty days.

This event is not specifically symmetric with the job losses preceding the unemployment insurance event above. Those job losses were intended to be primarily involuntary, whereas the first payroll direct deposit event may or may not bring an end to a period of involuntary unemployment. It could represent a resumption of employment after two months or more of unemployment, but it could also represent a return to the labor force, or entry into the labor force, or the end of a period of self-employment, or may even just represent a family switching from getting a paper paycheck to direct deposit.

Tax refund (8,203,509 events)

In the left panels of Figures 8 and 9, and in Figure 12, we track financial outcomes around the receipt of the

first directly deposited tax refund of the calendar year. This event occurs when two criteria are met:

- A family receives a direct deposit into their Chase checking account from a Federal, State, or local tax authority.
- The family has not received a direct deposit from any tax authority into the checking account on any previous day in the same calendar year.

As we have shown in previous JPMorgan Chase Institute research, this event is experienced by over three-quarters of families (Farrell et al., 2019a). The average tax refund represents about six weeks' worth of take-home income for recipient families; the day it is received is the most positive cash flow day of the year for almost a third of recipient families.

Tax payment (2,432,401 events)

In the right panels of Figures 8 and 9 we track financial outcomes around

making an electronic tax payment. This event occurs when two criteria are met:

- A family makes an electronic payment directly from their Chase checking account to a Federal, State, or local tax authority.
- The family has not made an electronic payment to any tax authority on any previous day in the same calendar year.

It is important to note that our analysis in this study combines families who make lump-sum tax payments with families making regular (for example, quarterly) payments. As we show in previous JPMorgan Chase Institute research, most lump-sum payments occur in the two weeks leading up to the income tax filing deadline in mid-April, and the cash-flow impact of these lump-sum payments are significantly greater than those of payments that are spread out throughout the year (Farrell et al., 2019b).

Appendix

Figure 13: Average take-home payroll income and average cash balances are steady until about ten weeks before a family joins the Online Platform Economy

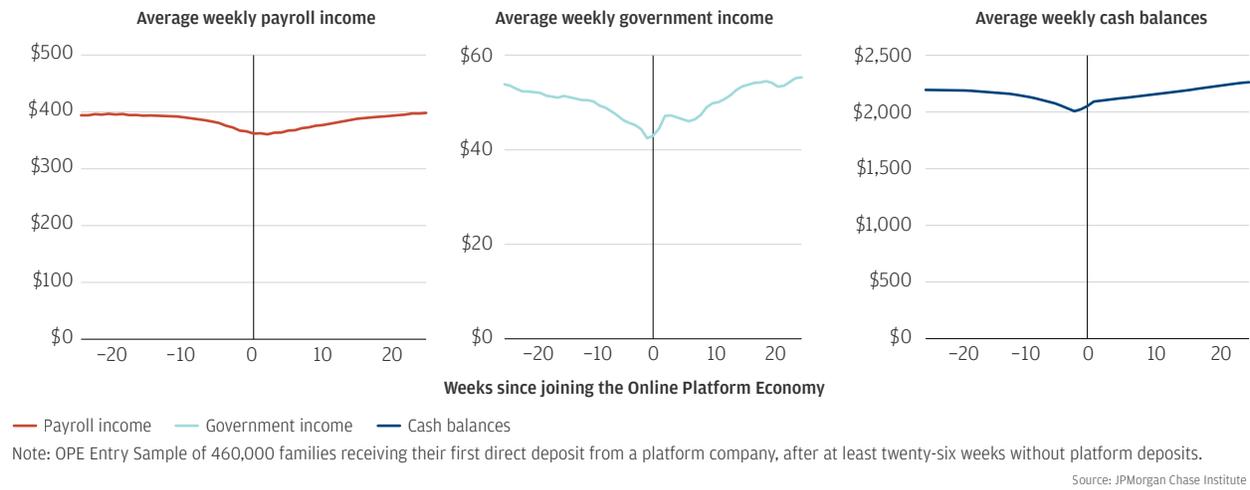


Figure 14: The proportion of families with payroll income declines in the weeks leading up to joining the Online Platform Economy

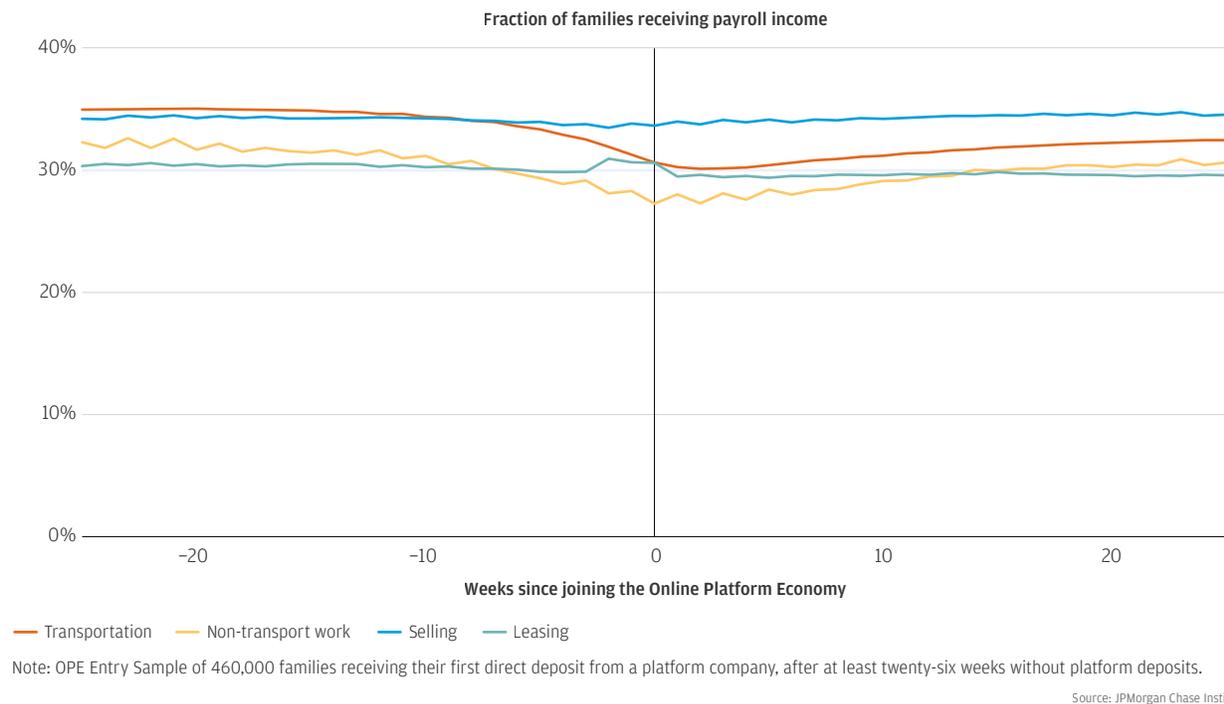
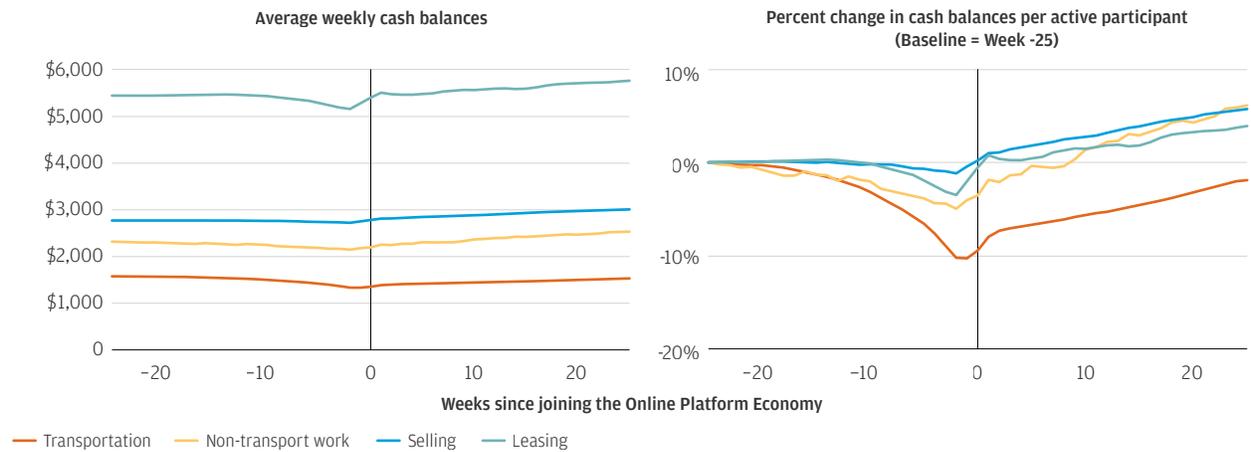


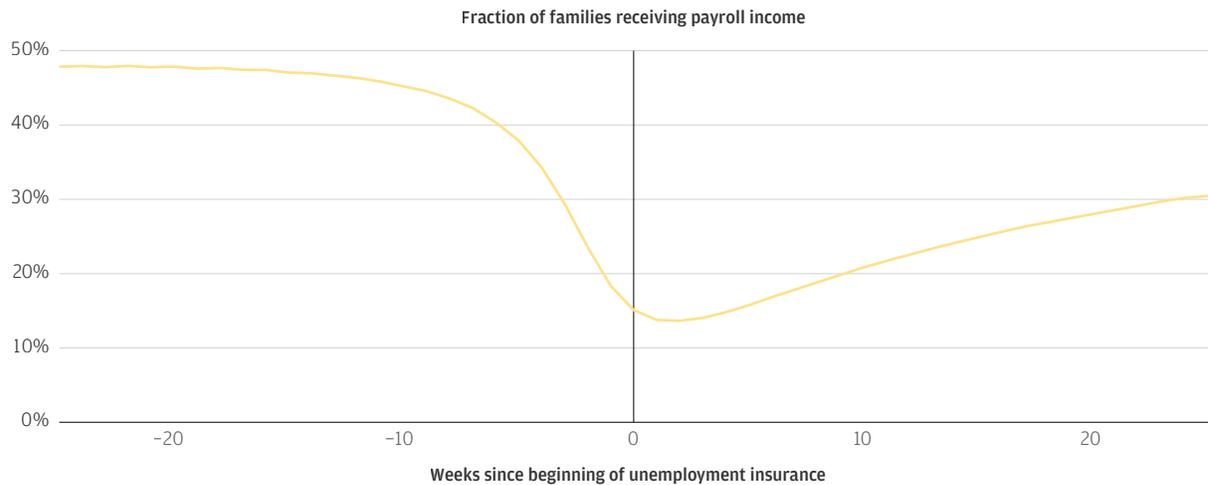
Figure 15: Average cash balances among those joining the leasing sector are consistently 3.5 to 4 times those of families joining the transportation sector; average cash balances fall more sharply in proportional terms before a family joins the transportation sector compared with before a family joins the leasing sector



Note: OPE Entry Sample of 460,000 families receiving their first direct deposit from a platform company, after at least twenty-six weeks without platform deposits.

Source: JPMorgan Chase Institute

Figure 16: Receiving a first direct deposit of unemployment insurance coincides with a decrease in the proportion of families receiving payroll income around eight to thirteen weeks earlier



Note: Job Loss Sample of 170,000 families receiving their first direct deposit from the public unemployment insurance (UI) system, after at least six months without UI deposits.

Source: JPMorgan Chase Institute

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Endnotes

- 1 Payroll is distinct from platform revenue, in that it represents a direct deposit to the checking account that is processed as payroll. Platform revenue is identified via checking account inflows originating from one of the 128 companies that comprise our Online Platform Economy work.
- 2 As illustrated in Figure 1, one defining characteristic of a platform is that it links supply-side participants (in the case of transportation platforms for example, these would be drivers) with demand-side participants (in the transportation example, passengers). This report is focused on supply-side participation; throughout, when we refer to “participants” and “participation rates,” we are referring to supply-side participation and supply-side participation rates.
- 3 Throughout this report, we conceptualize the employment-related and tax-related events as “cash-flow events,” even though especially the employment events might also represent changes to total lifetime income. For example, in order for involuntary job loss to be nothing more than a cash-flow interruption, it must be the case that the income that was lost during the spell of unemployment is eventually replaced. We observe that most spells of unemployment among the families in our “job loss” event study are shorter than six months, which is in keeping with findings reported in previous JPMorgan Chase Institute Research (Farrell et al., 2016). In the current economy, with relatively strong labor demand, the job loss and job gain events described here are most likely to primarily impact the pattern of cash flow for most families, rather than significantly alter total lifetime income.
- 4 To date, research on gig economy revenues and household income has been sparse as few sources of data are able to accurately capture both. Koustas (2018) was the first to conduct a high-frequency study involving rideshare revenues, finding that debt and high credit card utilization are key predictors of the decision to join one specific transportation platform (Uber), and that for those drivers, platform income replaces 73 percent of the income missing from the lost payroll job.
- 5 Baseline participation rates on transportation platforms among these 171,000 families are similar to the overall averages in the JPMorgan Chase Institute Online Platform Economy data set (Farrell et al., 2018). As we reported in previous JPMorgan Chase Institute research, average monthly participation rates on transportation platforms varied from 0.5 percent to 1 percent in 2016 and 2017; this would translate to weekly participation rates between 0.3 percent and 0.6 percent, in line with the 0.38 percent baseline participation rate shown in Figure 5.
- 6 Notably, participation among these 769,000 families are generally higher than that among the 171,000 families who experienced an involuntary job loss. As shown in Figure 4, participation among this latter group of families was 0.43 percent on transportation platforms and 0.22 percent on selling platforms when they are employed, and 0.74 and 0.28 when they are not employed.

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