



The Online Platform Economy in 2018



Drivers, Workers, Sellers, and Lessors

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Executive Summary

Technological innovation is transforming economic exchange. Just a decade ago, the Online Platform Economy comprised a handful of marketplaces connecting independent sellers to buyers of physical goods. Today, many consumers use software platforms to procure almost any kind of good or service from independent suppliers as a routine part of daily life. Have these innovations created new viable options for making a living?

For this study, we extend the JPMorgan Chase Institute Online Platform Economy dataset in order to track supply-side participation and earnings. We identify 38 million payments directed through 128 different online platforms to 2.3 million distinct Chase checking accounts, out of a de-identified sample of 39 million, between October 2012 and March 2018. Our description distinguishes four sectors of the Online Platform Economy:

1. The **transportation** sector, in which **drivers** transport people or goods
2. The **non-transport work** sector, in which **workers** offer a growing variety of services including dog walking, home repair, telemedicine, and many others
3. The **selling** sector, in which independent **sellers** of goods find buyers through online marketplaces
4. The **leasing** sector, in which **lessors** find lessees to rent homes, parking spaces, and many other types of assets.

Data

The JPMorgan Chase Institute Online Platform Economy dataset

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 platforms met the following criteria:

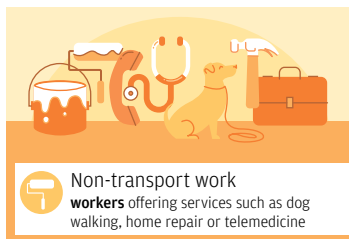
- 1 Connect independent suppliers to customers
- 2 Mediate the flow of payment from customer to supplier
- 3 Empower participants to enter and leave the market whenever they want

We defined four distinct sectors in the Online Platform Economy:

Labor Platforms



Capital Platforms

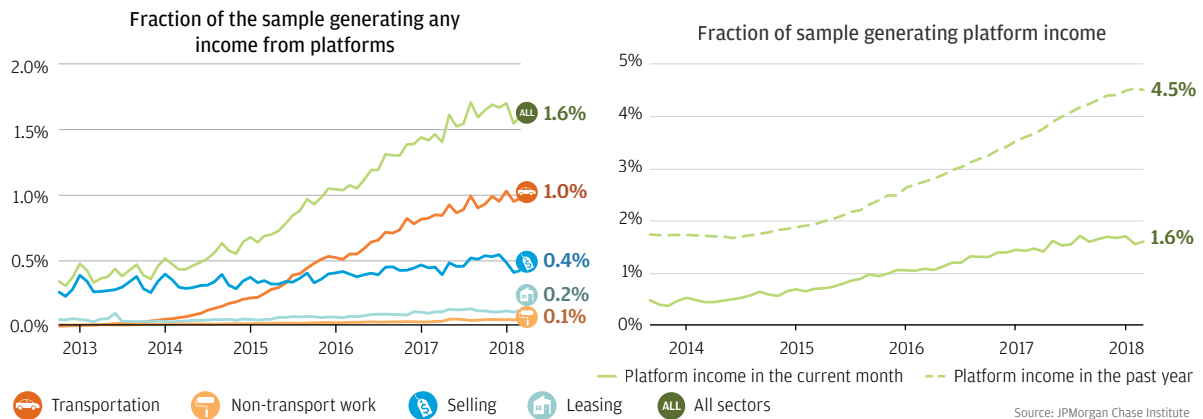


Source: JPMorgan Chase Institute

Finding One

Online Platform Economy has continued to grow. Between 2013 and 2018, transportation platforms have grown to dominate in terms of both the number of participants and total transaction volume.

The fraction of our sample earning platform income increased from 0.3 percent in the first quarter of 2013 to 1.6 percent in the first quarter of 2018. As of March 2018, 4.5 percent of families had participated in the Online Platform Economy at some point over the prior year. Between 2013 and 2018, transportation platforms have grown to dominate in terms of both the number of participants and total transaction volume. By March 2018, transportation platforms accounted for as many participants and as many dollars as the other three sectors combined.

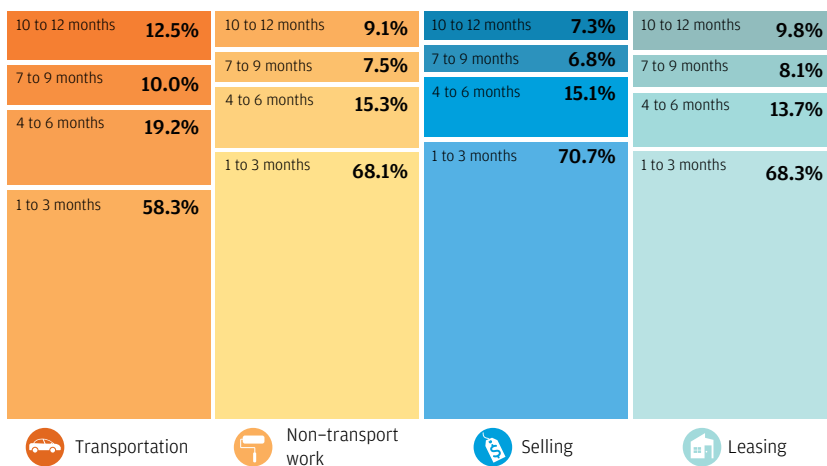


Finding Two

Most participants in the Online Platform Economy are active in just a few months out of the year.

Among those who generated earnings through transportation platforms at any point in a year, 58 percent had earnings in just three or fewer months of that year. In the other sectors, engagement was even more sporadic, with less than 20 percent of participants generating earnings in more than half the year.





Fraction of participants, by number of months with positive earnings in the year ending July 2017

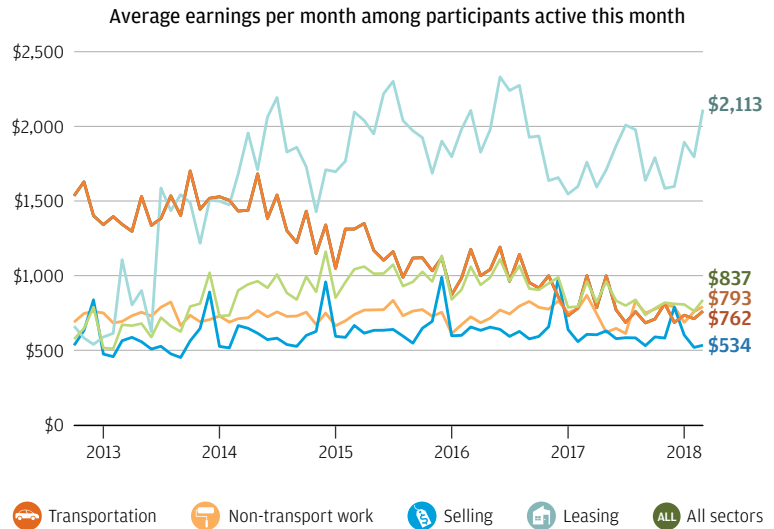


Finding Three

The growth in the supply of drivers has come alongside a 53 percent decline in transportation earnings.

Between 2013 and 2017, earnings fell by 53 percent in the transportation sector and grew by 69 percent in the leasing sector. Earnings in the non-transport work and selling sectors were volatile but showed no strong trends.

Percent change in earnings between 2013 and 2017	
	-53%
	+1.9%
	+9.4%
	+69%



Finding Four

Platform earnings represent a major source of income for families during the months when they participate, but only 20 percent of income among those who participated at any point in the prior year.

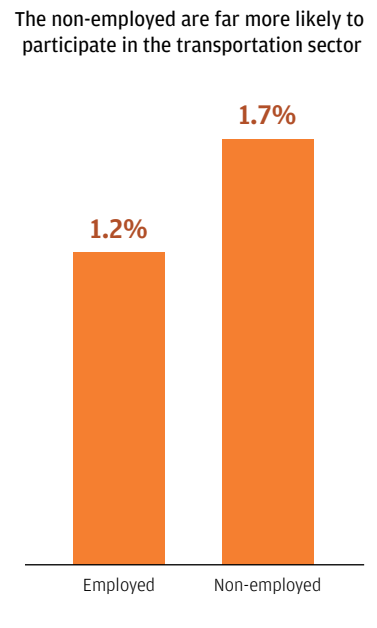
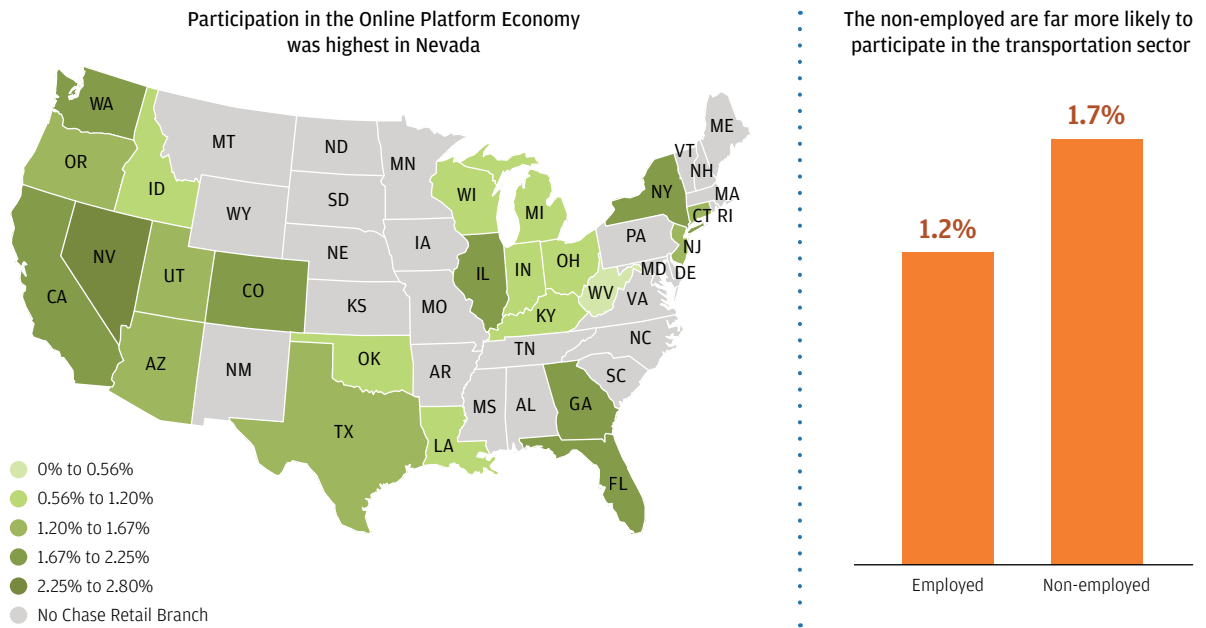
In January 2018, platform earnings represented 54 percent of total observed take-home income among active participants. However, platforms are not replacing traditional sources of family income. Among those who have participated in the Online Platform Economy at any point in a year, average platform earnings represent roughly 20 percent of total observed take-home income in any month of that year.



Finding Five

Participation rates in the Online Platform Economy varied significantly across the nation.

Among 23 states and 26 cities, Nevada and San Francisco had the highest participation rates, with roughly 2.8 percent of families generating platform earnings in March 2018. The nonemployed and men were more likely than the employed and women to participate on transportation platforms. The young were more likely to participate in all sectors.



Conclusion

The Online Platform Economy is growing. As it grows, its sectors are diverging in important ways, raising the question as to whether they require tailored policy approaches. While freelance driving has been the engine of growth for the Online Platform Economy, it is not a full time job for most participants. In fact, alongside the rapid growth in the number of drivers has come a steady decline in average monthly earnings. Non-transportation work platforms continue to innovate on the types of contracts between independent suppliers and their customers. In selling and leasing sectors, high platform earnings are concentrated among a few participants. More broadly, we do not find evidence that the Online Platform Economy is replacing traditional sources of income for most families. Taken together, our findings indicate that regardless of whether or not platform work could in principle represent the “future of work,” most participants are not putting it to the type of use that would usher in that future.

Introduction

Technological innovation is transforming economic exchange. Individuals and households have an expanding array of options for how to generate income, thanks to new online marketplaces connecting them directly to consumers or businesses interested in paying for their time, skills, or assets. The Online Platform Economy is supported by software providers who perform two crucial functions. They connect independent suppliers to demanders of goods and services, and they mediate payment. Performing these functions reduces startup costs for suppliers and allows them to calibrate their effort, joining and leaving the market whenever they want. Just a decade ago, the Online Platform Economy comprised a handful of marketplaces connecting independent sellers to buyers of physical goods. Today, platforms connect drivers to passengers, property owners to renters, and artisans to customers, among many other transactions. Relying on platforms to access almost any kind of good or service from some independent supplier has become a routine part of daily life for many consumers. Have these innovations created new viable options for how to make a living?

Previous research at the JPMorgan Chase Institute indicated that as of June 2016, over 4 percent of a sample of 5.6 million checking account holders had generated income at least one time since October 2012 through at least one of 42 platforms (Farrell and Greig, 2016). In this study we extend the current study to March 2018, and expand the sample to 39 million unique de-identified account holders and 128 platforms. We track 38 million payments directed through these platforms to 2.3 million distinct Chase account holders in order to identify levels and trends in supply-side participation in the Online Platform Economy.¹

In previous work, we distinguished between labor platforms, on which participants sold time or skills, and capital platforms, on which they sold goods or leased property. In this report, we further disaggregate the Online Platform Economy into four sectors:²



The **transportation** sector, in which **drivers** transport people or goods



The **non-transport work** sector, in which **workers** offer a growing variety of services including dog walking, home repair, telemedicine, and many others



The **selling** sector, in which independent **sellers** find buyers of goods like hand-crafted products or used books



The **leasing** sector, in which **lessors** find lessees to rent homes, parking spaces, and many other types of assets.

Our findings indicate important differences across these four sectors. In the first quarter of 2013, selling platforms accounted for 72 percent of total transaction volume, and transportation platforms accounted for 6.4 percent. By the first quarter of 2018, the analogous shares were 19 percent and 56 percent, respectively.

Despite significant growth and evolution, we do not find evidence that the Online Platform Economy is replacing traditional sources of income for most families. Engagement in the Online Platform Economy remains an occasional activity for most participants. Among those generating income through platforms in a given year, a majority earn income in just three or fewer months. In the months when they do generate income, platform earnings tend to represent half or more of total earnings, but most participants are also generating income from other sources even while participating in the Online Platform Economy. Perhaps most striking, by March 2018 average monthly earnings in the fastest growing sector—transportation—had fallen by 53 percent since their peak in the first quarter of 2014. Median monthly earnings fell even more sharply in this sector, by 80 percent. Whereas half of drivers in the first quarter of 2014 were earning \$900 or more per month on transportation platforms, the fraction earning that much in the first quarter of 2018 was less than 25 percent. Taken together, our findings indicate that whether or not platform work could in principle represent the “future of work,” most participants are not putting it to the type of use that would usher in that future.

Findings

1. The Online Platform Economy has continued to grow. Between 2013 and 2018, transportation platforms have grown to dominate in terms of both the number of participants and total transaction volume.
2. Most participants in the Online Platform Economy are active in just a few months out of the year, though drivers are slightly more engaged than participants in the non-transport work and selling sectors.
3. The growth in the supply of drivers has come alongside a 53 percent decline in transportation earnings. Between 2013 and 2017, earnings grew by 69 percent in the leasing sector but showed no strong trends in the other sectors.

4. Platform earnings represent a major source of income for families during the months when they participate in the Online Platform Economy but just 20 percent of income among those who have participated at any point over the prior year.
5. Participation in the Online Platform Economy varied significantly across the nation. Among 23 states and 26 cities, Nevada and San Francisco had the highest participation rates in the Online Platform Economy. The non-employed and men were more likely to drive than the employed and women. The young were more likely to participate in all sectors.

Box 1: How does our measurement of the Online Platform Economy relate to measures of the Gig Economy?

Our view into the Online Platform Economy is based on payments mediated by 128 software platforms into consumer checking accounts. As we discuss in detail in Box 2, we intentionally selected these 128 specific platforms, ensuring that each satisfied three key criteria: they all connect independent suppliers directly with demanders, they mediate payment, and they empower participants to enter and leave the market whenever they want.

Based on this approach, we identified 1.6 percent of account holders who generated income in the Online Platform Economy as of March 2018. These participants represent a small but growing part of the overall contingent worker landscape, which is also sometimes called the Gig Economy. A platform participant is not the traditional contingent worker who sources their business through their own marketing efforts and word of mouth, or who contracts with and receives payment directly from clients. Although there is a wide range of definitions and sources of data used to size the Gig Economy, two recent national surveys estimated that roughly 27 percent of workers had generated income through the Gig Economy on either a primary or supplemental basis (Manyika et al, 2016; MBO Partners, 2018). This is an order of magnitude larger than the narrower Online Platform Economy. As a result, some of the growth in the Online Platform Economy that we observe in this report may not reflect growth in the Gig Economy overall. Instead, it might reflect the migration of previously existing forms of contingent work onto online platforms. In fact, a recent survey of how Gig Economy workers are paid shows that an increasing share is being paid through software platforms rather than directly from customers (PYMNTS.COM, 2017).

Although the Online Platform Economy is a subset of the Gig Economy, trends in this subset may not always show up in traditional measures of contingent work. For example, in the recent Contingent Worker Survey (Bureau of Labor Statistics, 2018), the fraction of workers reporting that their sole or main job was an alternative work arrangement declined from 10.7 percent in 2005 to 10.1 percent in 2017. As we recently argued, many Online Platform Economy participants could easily be excluded from that figure since they do not rely on platforms for their main job (Farrell et al, 2018). Other administrative data sources, such as tax filings, indicate patterns of growth in contingent work which are more consistent with the growth trajectory of the Online Platform Economy documented in this report (Abraham et al, 2017; Jackson et al 2017).

When mapping trends in our administrative data to other measures, it is important to carefully consider the unit of analysis. Most survey respondents are asked to report on their own labor market experience, and only occasionally are they asked to report on family members' experiences. Our sample is composed of bank accounts, which are generally shared among co-resident family members, though the number of distinct accounts and extent to which they are linked can vary by family. Bank accounts, aggregated up to the primary account user, are nonetheless more comparable to a tax unit in tax filing data. Accordingly, we interpret our findings as a measure of participation among families rather than individuals. In addition, whereas measurement and analysis of these work arrangements is often restricted to the labor force (for example, Katz and Krueger, 2016), we include families regardless of their labor force status for two reasons. First, we do not observe whether family members consider themselves part of the labor force; and second, those traditionally considered to be out of the labor force (for example, students or retirees) might still participate as suppliers in the Online Platform Economy.

Findings

Finding One

The Online Platform Economy has continued to grow. Between 2013 and 2018, transportation platforms have grown to dominate in terms of both the number of participants and total transaction volume.

Previous research at the JPMorgan Chase Institute focused on 42 companies which together dominated the Online Platform Economy by June 2016 (Farrell and Greig, 2016). For this study, informed by reviews of payment trends as well as a systematic review of trends in the technology industry, we expanded the list of platforms to 128. As these markets have broadened, they have also evolved in important ways, which we describe in Box 2. Our sample comprises over 39 million de-identified families for whom we see evidence that a Chase checking account functions as a primary financial tool, including 2.3 million distinct families who participated in the Online Platform Economy. See the Appendix for a detailed description of our sample and how it compares demographically with the nation.





Box 2: How the Online Platform Economy has Evolved

For this report, we expanded the JPMorgan Chase Institute Online Platform Economy dataset to include 128 platforms, more than triple the 42 platforms included in previous research. The original 42 platforms still account for the vast majority of transaction volume, but as Exhibit 1 indicates, the 86 expansion platforms have grown from accounting for less than 3 percent of total transaction volume in 2015 to over 5 percent in 2017. Fifty-one (63 percent) of the 86 new platforms represent marketplaces for non-transport work—including home and office cleaning, repair services, landscaping, technology consultations, pet sitting, tutoring, and many others. Out of 128 platforms, 70 (55 percent) of them are in the non-transport work sector. Emerging transport platforms, including new models for delivery and ridesharing, account for most of the rest of the expansion platforms. Thirty-six (28 percent) of the 128 platforms are in the transport sector. Leasing platforms, once used primarily for real estate, now allow suppliers to rent out their personal vehicles, equipment, and many other assets. Even selling platforms, where the Online Platform Economy had its beginning, are continuing to proliferate though at a slower pace.

Aside from the growth in the number of platforms and array of goods and services on offer, there are also important ways in which this marketplace is evolving. First, whereas we had originally characterized these marketplaces as matching independent suppliers to individual consumers, we observe that businesses are increasingly on the demand side of the Online Platform Economy. For example, restaurants and even major online retailers use transport platforms to source independent drivers for delivery of goods or merchandise to customers.

Second, while a supposed value proposition of the Online Platform Economy remains the fact that participants are free to enter and leave the market when they want, some platforms facilitate relationships which may involve expectations of continued service over time. This is especially true in the non-transport work sector (for example, tele-therapy platforms). Another characteristic that once distinguished the Online Platform Economy was that suppliers were paid for discrete tasks or products (piece work), whereas traditional employment usually involved paying for time (shift work). However, some of the non-transport work platforms now allow suppliers to provide shift work. As we show below, the non-transport work sector of the Online Platform Economy is still small in terms of both number of participants and total transaction volume. However, these trends illustrate ways in which contracts between independent workers and their customers are continuing to evolve as platforms emerge and innovate.

Exhibit 1: The 42 platforms included in previous work accounted for the vast majority of total transaction volume

Sector (examples)	Number of Platforms			Fraction of transaction volume accounted for by expansion platforms		
	Original	Expansion	Total	2015	2016	2017
 Transport (ride sharing, delivery, moving)	13	23	36	0.1%	1.3%	2.0%
 Non-transport work (telemedicine, dog walking, repairs)	19	51	70	47%	52%	62%
 Selling (hand crafted products, used books)	3	4	7	3.1%	5.9%	6.8%
 Leasing (home sharing, parking space rental)	7	8	15	2.1%	3.0%	3.2%
TOTAL	42	86	128	2.9%	3.9%	5.3%

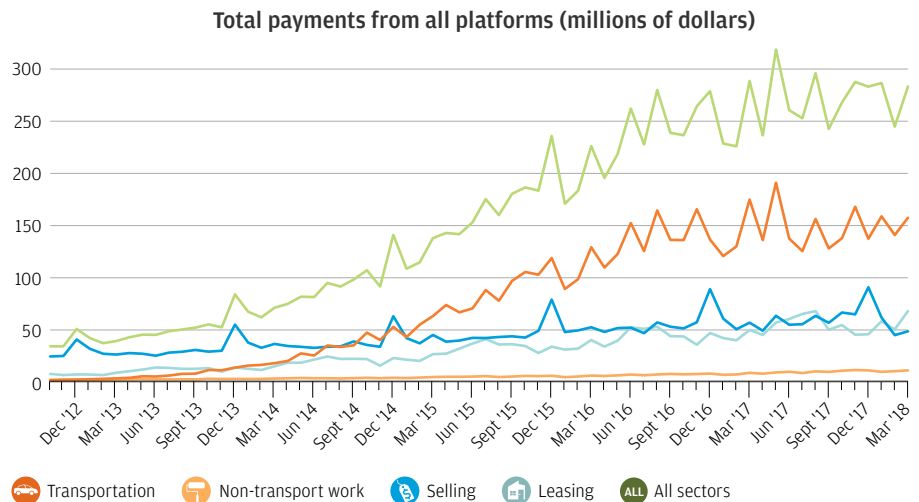
Source: JPMorgan Chase Institute

Third, as payment technologies have evolved to facilitate faster and more frequent payments at lower cost, platforms have been offering more ways for participants to be paid (PYMNTS.com, 2017; PYMNTS.com, 2018). These technologies may not be penetrating deeply into the Online Platform Economy yet. We observe payments directly deposited into a Chase checking account, regardless of whether payment is made using the traditional Automated Clearing House (ACH) or any of the newer and faster alternatives. Over 98 percent of payments that we observe are cleared through ACH. Most of the rest arrive via wire transfer, and only a tiny fraction use newer technologies. However, a subset of new payment options could involve bypassing a bank account entirely—for example, having money instantly credited to a prepaid debit card. To the extent that participants begin taking these latter payment alternatives, we will undercount participation in the Online Platform Economy.

Finally, the landscape of platforms is very dynamic. Among the original list of 42 platforms on our June 2016 list, 22 (52 percent) acquired other platforms; 10 (24 percent) were acquired by other companies; and 12 (29 percent) have had more or less no change. Thus, just to follow the original 42 platforms in a consistent way over time required attention to new entrants that combined with platforms on our original list as a result of acquisition.

Exhibits 2 and 3 illustrate the evolution of total transaction volume from our 128 platforms into these checking accounts. In early 2013, the Online Platform Economy consisted almost entirely of a handful of platforms which consumers could use to sell goods to each other. In just five years, the transport sector has grown to dwarf the others, generating as much revenue as the other three sectors combined. Total earnings on leasing platforms also grew over this period, though at a much slower pace. Although the non-transport work sector includes 55 percent of the platforms we tracked, it never generated more than 4.5 percent of total transaction volume. In fact, its share of total transaction volume we observed declined since 2013.

Exhibit 2: Total transaction volume in the transportation sector of the Online Platform Economy has grown to the level of all the other sectors combined



Source: JPMorgan Chase Institute

Exhibit 3: The share of the selling sector in Online Platform Economy transaction volume has fallen, and the share of the transport sector has grown

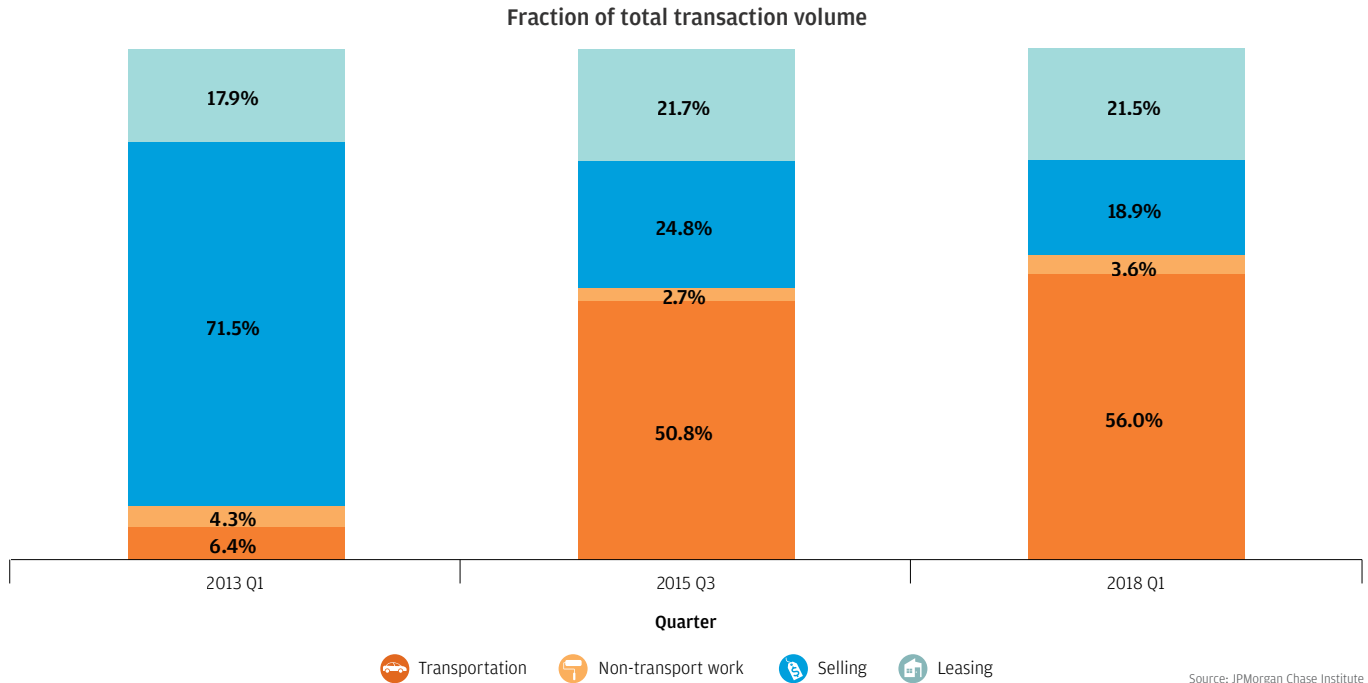
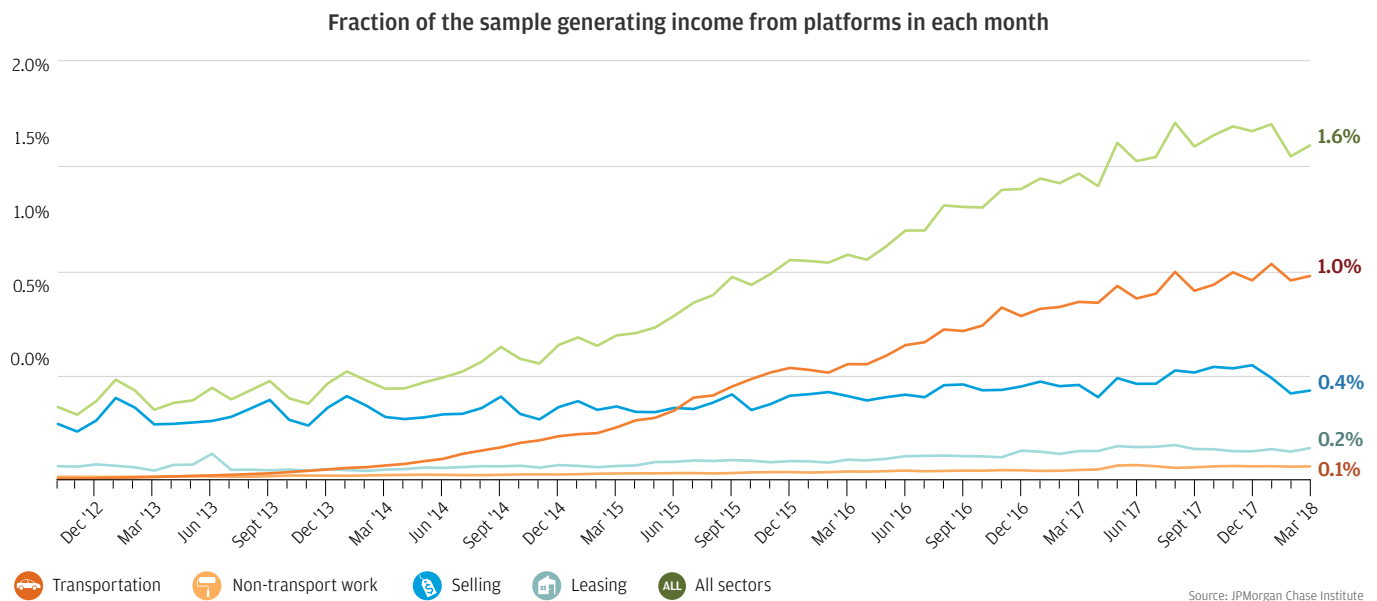


Exhibit 4 tracks the evolution of the fraction of our sample generating income on platforms; this evolution echoes the patterns in total earnings. Participation has grown steadily by about 0.3 percentage points per year over the past five years, from 0.3 percent in the first quarter of 2013 to 1.6 percent in the first quarter of 2018. This growth is driven entirely by the expansion of the transport sector. The dominance of the transport sector in total transaction volume (Exhibit 2) mirrors that in participation (Exhibit 3). In terms of year-on-year growth, comparing March 2018 with March 2017, we observe 15 percent more drivers, 37 percent more non-transport workers, 10 percent more lessors, and 6 percent fewer sellers.

Exhibit 4: As of March 2018, 1.6 percent of sample families participated in the Online Platform Economy



One notable difference between the pictures presented by Exhibits 2 and 4 is that even though leasing platforms have grown to account for about 22 percent of total transaction volume (Exhibit 2), they account for less than 10 percent of participants (Exhibit 4). This foreshadows a pattern we report below—the top earners on leasing platforms generate significantly higher earnings than participants in any other sector.

Our own previous research as well as the work of others has documented that participants tend to enter and leave the Online Platform Economy at high frequency (Farrell and Greig, 2016; Mishel, 2018). In light of this dynamism, an alternative metric of participation is the share of accounts with any platform earnings during a year, rather than during a month. Exhibit 5 tracks this metric. As of the first quarter of 2018, 4.5 percent of our sample had earned platform income in the prior year.

Participation and earnings growth in the Online Platform Economy over the past five years is attributable almost entirely to the expansion of the transportation sector.

Exhibit 5: By the first quarter of 2018, over 4.5 percent of sample families had participated in the Online Platform Economy at least once in the past year.

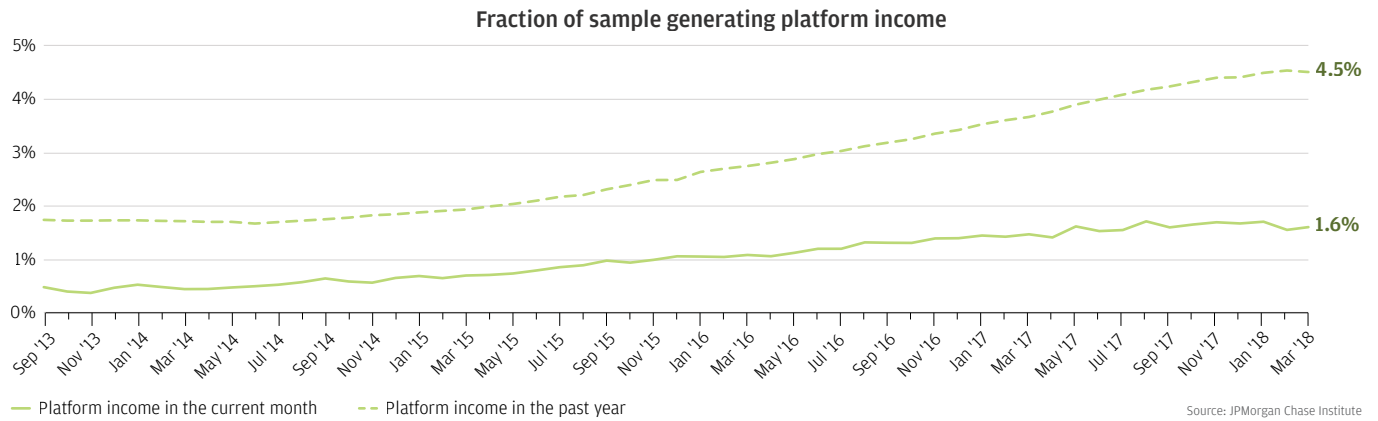
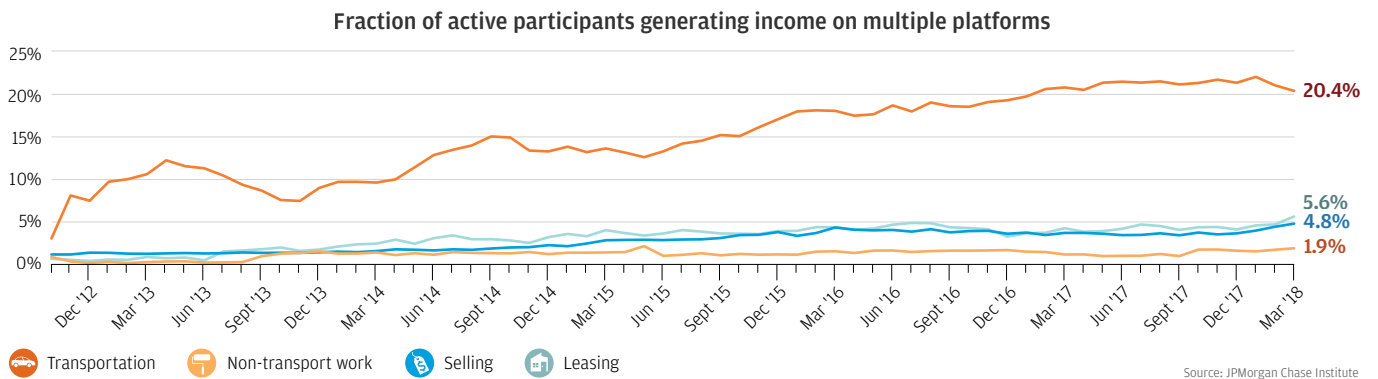


Exhibit 6: Twenty percent of active drivers generate income on multiple transport platforms in the same month. In the other sectors, this practice is rare.



As the number and variety of platforms has expanded, so has the scope for workers to diversify their presence. Potential participants have the option of making their assets or services available on more than one platform at a time, and thereby potentially generating income through more than one platform in a given month. As Exhibit 6 shows, however, this practice is only widespread in the transport sector. One in five drivers generates income from more than one transport platform in a month, whereas the analogous fraction for the other sectors is negligible.

Taken together, these results illustrate that even as the number of non-transport platforms continues to grow, participation and earnings growth in the Online Platform Economy over the past five years is attributable almost entirely to the expansion of the transport sector.

Finding Two

Most participants in the Online Platform Economy are active in just a few months out of the year, though drivers are slightly more engaged than participants in the other sectors.

The patterns in Exhibit 4 indicate that the share of families in our sample generating earnings on transportation platforms in each month has been rising steadily. However, as the solid lines in the left panel of Exhibit 7 show, the fraction generating earnings over the period of a year is rising twice as fast. If growth in participation were driven entirely by new permanent entrants to the market, these two fractions would be nearly equivalent. The fact that they diverge so sharply reflects the fact that, as we show below, many drivers cycle in and out of platform work over relatively short periods of time. Exhibit 7 shows similar dynamics for all sectors of the online platform economy. For example, while only about 0.4 percent of families sell goods through online platforms in any given month, four times as many (1.6 percent) generate earnings within a span of 12 months. The fraction of families whose cash flow is affected by the Online Platform Economy is considerably larger than the fraction observed to be participating at any single point in time.

Exhibit 7: The fraction of families participating in the Online Platform Economy in any single month is significantly smaller than the fraction participating during a year

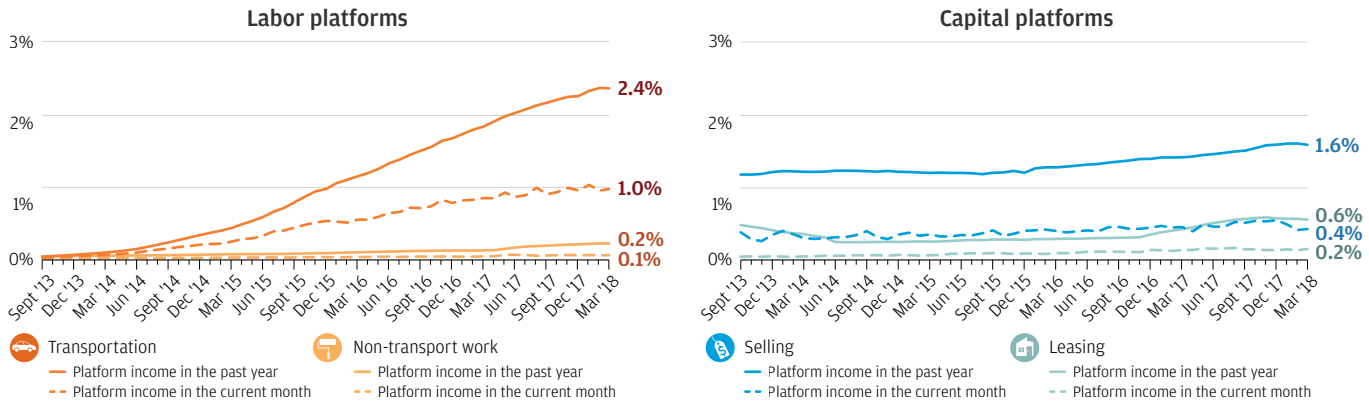
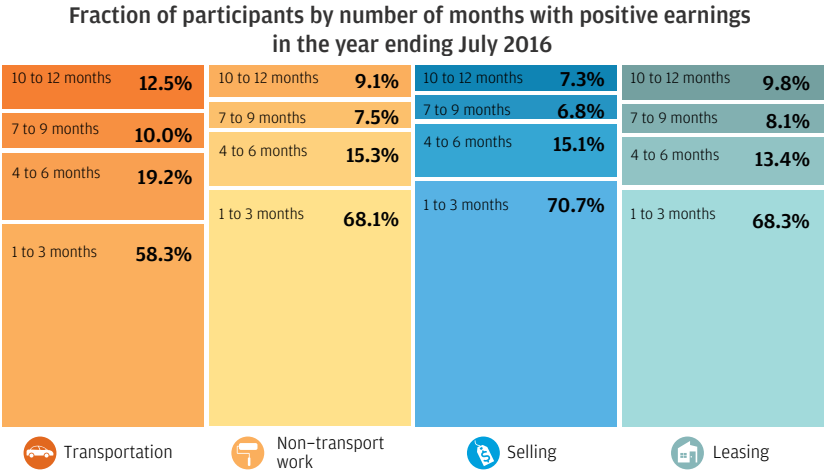


Exhibit 8 illustrates rates of engagement among those families in our sample who generated earnings at least once in the period between August 2015 and July 2016. This period falls in the middle of our study, but the story is similar regardless of what 12 month period we choose. Engagement in the transportation sector was more sustained than in the others, but even among drivers over half had earnings in three or fewer months, and a small minority generated earnings in more than 10 months.

Exhibit 8: Most families generating platform income during a year have earnings in 3 or fewer months of that year



Finding Three

The growth in the supply of drivers has come alongside a 53 percent decline in transportation earnings. Between 2013 and 2017, earnings grew by 69 percent in the leasing sector but showed no strong trends in the non-transport work and selling sectors.

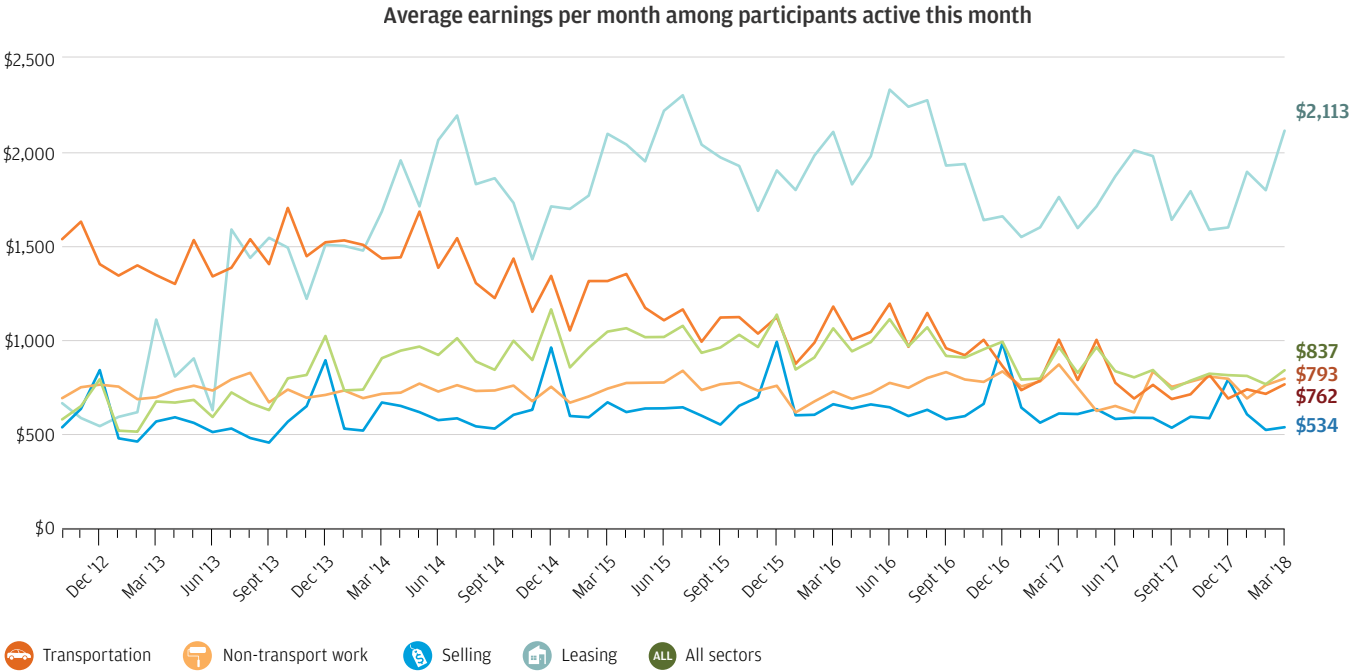
The patterns in Exhibits 2 and 4 indicate that both total transaction volume and the number of participants have grown rapidly in the transportation sector and more modestly in the others. Exhibits 9 and 10 illustrate how these two dynamics interact, resulting in changes in average monthly platform earnings. Overall average platform earnings grew at a rate of about 2 percent per month from the first quarter of 2013 to the first quarter of 2015, then leveled off before declining again starting in mid-2016. It is important to note that these earnings represent revenues to participating families, and not profits. Participation on most platforms would also involve both pecuniary and opportunity costs.

This evolution in the overall average is driven by the interaction of strikingly different sector-specific patterns. Most notably, average monthly platform earnings among drivers fell steadily at a rate of about 1.4 percent per month from the fourth quarter of 2013 to the first quarter of 2018, such that by March 2018, had fallen by 53 percent from their peak value.

Even as the non-transport work sector has broadened to cover new types of services, average earnings have been essentially constant at \$725-\$750 per month over the entire period. In the leasing sector average earnings in 2017 were roughly \$1,700, 69 percent higher than they were in 2013 with most of the growth realized by 2014. In the selling sector, revenue peaks regularly in the holiday season, but has otherwise remained consistently between \$600 and \$650 per month since 2014.





As of March 2018, median earnings in all but the leasing sector remained below \$1,000 per month.

Exhibit 9: Since 2014 average monthly earnings among drivers fell steadily. Earnings in other sectors were volatile but showed no secular trends



Source: JPMorgan Chase Institute

Exhibit 10: Transportation was the only sector to show a steady secular decline in average earnings since 2013.

Sector	Average monthly platform earnings (percent change relative to 2013)		
	2013	2015	2017
 Transportation	\$1,469	\$1,135 (-23%)	\$783 (-53%)
 Non-transport work	\$727	\$750 (+3.2%)	\$741 (+1.9%)
 Selling	\$556	\$657 (+18%)	\$608 (+9.4%)
 Leasing	\$1,030	\$1,976 (+92%)	\$1,736 (+69%)
Total	\$688	\$1,006 (+46%)	\$828 (+20%)

Source: JPMorgan Chase Institute

Beneath the sectoral patterns in average earnings shown in Exhibits 9 and 10, there are significant changes in the distribution of earnings. These changes are depicted for each sector in Exhibit 11. As of March 2018, median earnings in all but the leasing sector remain below \$1,000 per month. In the leasing sector, by contrast, monthly earnings are almost double the other three sectors, and the top 10 percent of earners generate over \$4,500 per month. Costs for these participants may also be high.

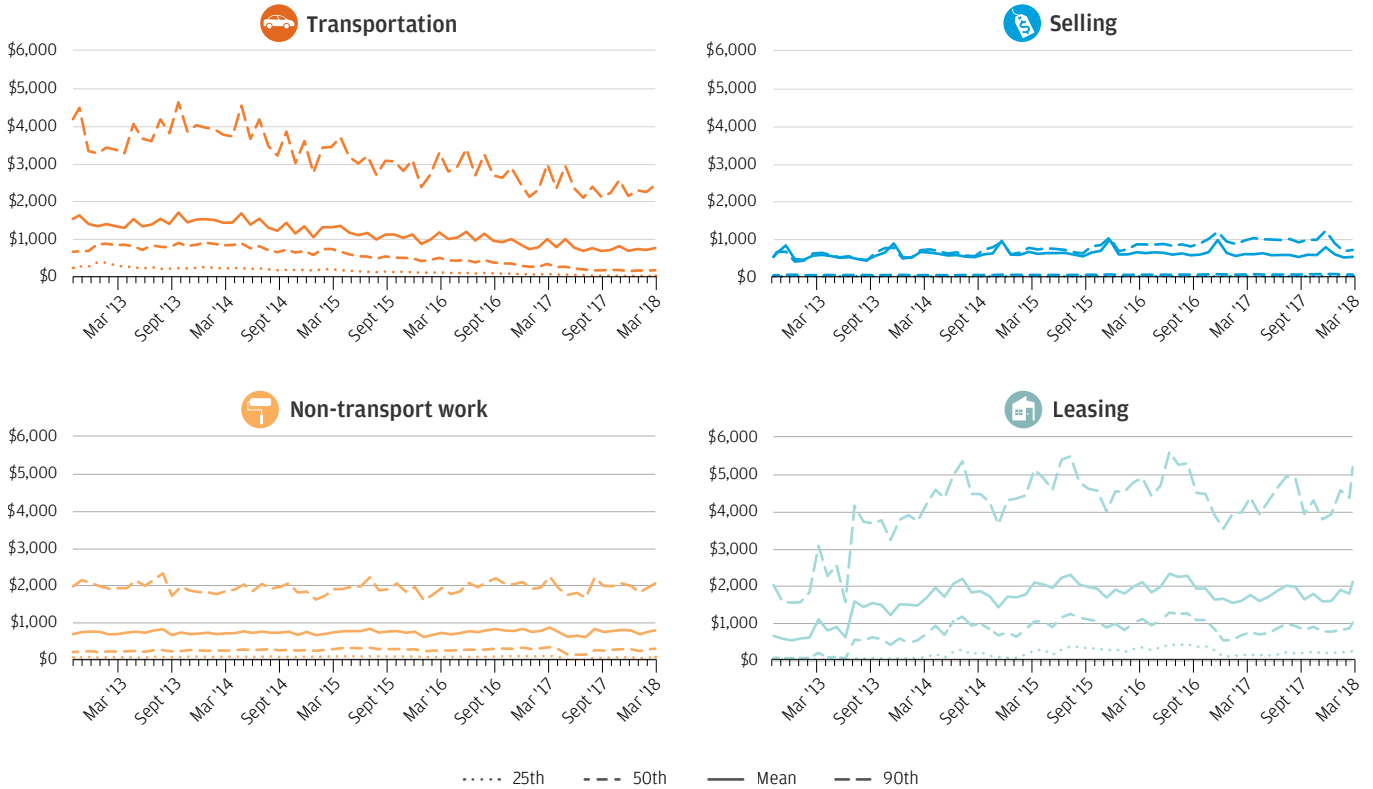
The top left panel of Exhibit 11 illustrates that the steady decline in average platform earnings in the transportation sector reflects a shift in the entire distribution. Whereas half of drivers in the first quarter of 2014 were earning \$900 or more per month on transportation platforms, the fraction earning that much in the first quarter of 2018 was less than 25 percent.

These declines in monthly earnings among drivers may reflect the fact that the growth in the number of drivers could have put downward pressure on hourly wages; they may also reflect a potential decline in the number of hours drivers are driving. In our data, we do not observe wages and hours separately; we see only their product, earnings. However, other research provides some clues. Some calculations of hourly wages on a very large transportation platform—Uber—indicate that trip prices fell between 2014 and 2016, but the number of trips per hour increased, resulting in stable hourly wages (Hall et al, 2017; Hall, 2018).³ To our knowledge, there is no published time series information on average hours worked among drivers on any single platform or across all platforms. However, research into tax reporting indicates that self-reported costs by new drivers fell 41 percent between 2013 and 2015, whereas self-reported earnings fell 46 percent (Abraham et al, 2018). Since a significant fraction of these costs is likely to comprise variable costs (vehicle maintenance and fuel), the decline could reflect a reduction in hours, as well as the decline in fuel prices that occurred during this period. The fact that earnings declined more than costs, however, suggests that effective wages also fell.⁴ Regardless of whether the drop in earnings was caused by a fall in wages or hours or both, it indicates that driving has become less and less likely to replace a full-time job over the past five years, as more drivers have joined the market.

Drivers' earnings have fallen sharply since 2014, even among the highest earning and the most regularly engaged drivers.

Exhibit 11: Monthly earnings in the transportation sector have fallen even for the top earners

Percentile distribution of earnings by sector

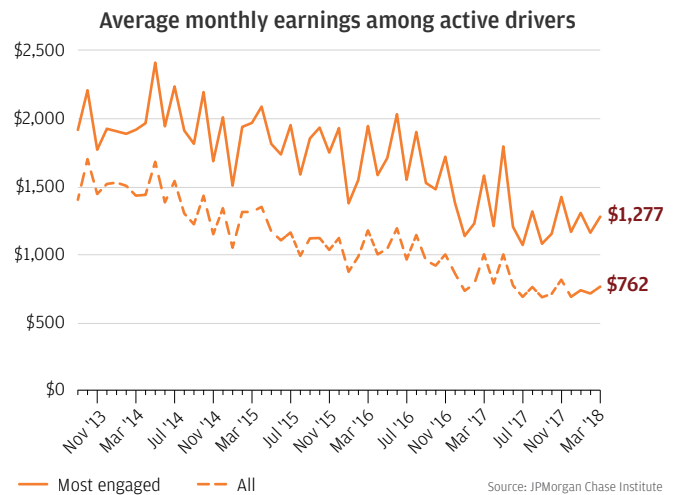


Source: JPMorgan Chase Institute

The overall patterns of earnings in Exhibits 9 and 11 are important, but the small minority of participants who are most deeply engaged in the Online Platform Economy are of particular interest. In the transportation sector, as platform earnings have been declining, what has been happening for those who are most deeply engaged in the market? We focus on this population in Exhibit 12. The solid line indicates average monthly earnings among drivers who participated during 10 or more of the prior 12 months.

The dotted line represents the overall average, for reference. (It is reproduced directly from Exhibit 9.) Transportation platform earnings have fallen even among the highly engaged population, though by a smaller proportion (33 percent) than the overall average (53 percent). Even among those who drive most regularly, driving is becoming increasingly less likely to replace a full-time job.

Exhibit 12: Earnings dropped even among the most highly engaged drivers (driving in 10 or more months per year)



Source: JPMorgan Chase Institute

Turning to the other three sectors, the bottom left panel in Exhibit 11 shows that monthly earnings have been relatively flat across the earnings distribution in the non-transport work sector. This sector is highly diverse in terms of the type of skills required, and also highly dynamic in terms of the rate at which new platforms emerge and incumbents decline. The fact that earnings have been so consistent despite this diversity and dynamism is surprising.

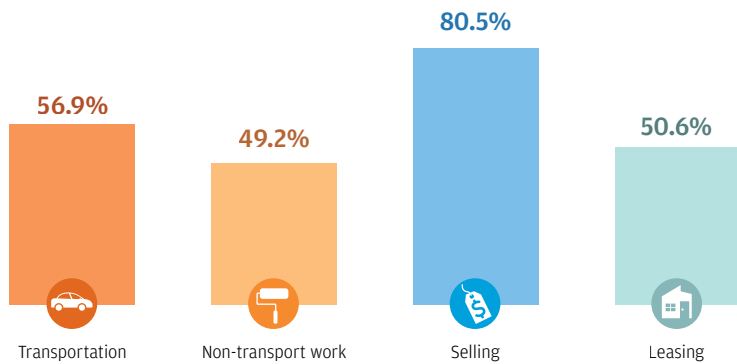
The top right panel in Exhibit 11 illustrates that although average earnings in the selling sector have been flat, there has been growth at the top of the distribution. From the fourth quarter of 2012 until the first quarter of 2016, the top 10 percent of sellers earned around \$600-\$700 per month; in 2017, revenues to the top 10 percent had reached around \$1,000 per month. This rise barely registers in the average because earnings in the rest of the distribution have remained essentially flat.

The bottom right panel in Exhibit 11 illustrates that the sharp growth in average earnings among lessors was most dramatic at the very top of the earnings distribution. Whereas a negligible fraction of lessors earned more than \$4,500 per month in 2013, that fraction has exceeded 10 percent since then. There has also been growth at the bottom of the distribution, but a quarter of lessors were still earning \$200 per month or less.

All four panels of Exhibit 11 indicate right skewed earnings distributions, with earnings at the top far exceeding those in the bottom half, especially for sellers. Exhibit 13 summarizes this pattern for all four sectors. By the first quarter of 2018, the top 10 percent of sellers accounted for 80 percent of total earnings in that sector. The other sectors were less concentrated, but in each of them the top decile of earners accounted for at least half of total earnings.

Exhibit 13: Across all sectors, more than half of total platform earnings go to the top 10 percent of earners

Percent of platform earnings going to top 10 percent of earners, Q1 of 2018



Source: JPMorgan Chase Institute

In summary, the rapid growth in the number of drivers has come alongside a steady decline in average monthly earnings, even among the highest earning and most engaged drivers. Earnings in the non-transport work sector have been relatively flat. Earnings among sellers are highly concentrated and have become even more so over time with the growth in earnings particularly among the top earners. Lessors have the highest average earnings of all sectors and have grown since 2013.

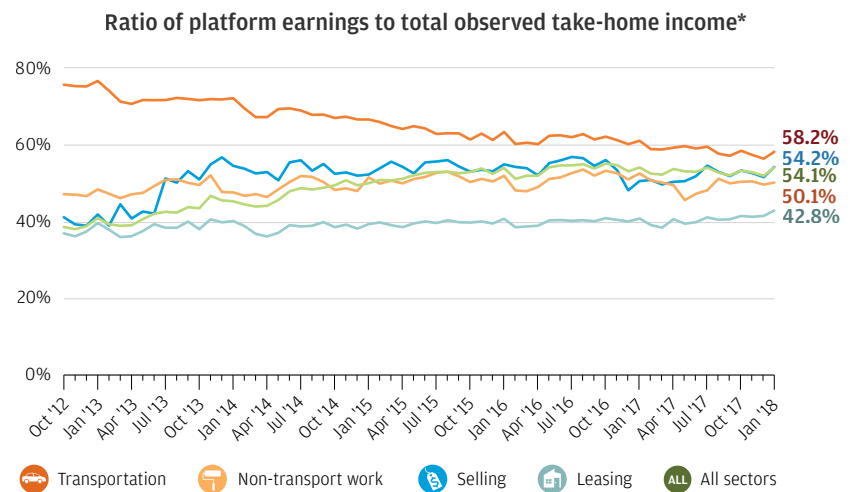
The majority of families generating platform earnings only do so occasionally, and even while they are participating in the Online Platform Economy, median earnings in all but the leasing sector remain below \$1,000 per month.

**Finding
Four**

Platform earnings represent a major source of income for families during the months when they participate in the Online Platform Economy but just 20 percent of income among those who have participated at any point in the prior year.

We have reported that the majority of families generating platform earnings only do so occasionally, and that even while they are participating in the Online Platform Economy, median earnings in all but the leasing sector remain below \$1,000 per month. After accounting for costs, therefore, only a small minority of participant families earn that much in profit. Exhibit 14 shows the evolution in the extent to which participating families rely on these platform earnings. Our measure of reliance is the ratio of platform earnings to total observed take-home income. Overall, platform earnings among active participants have risen from about 40 percent of total take-home income in the first quarter of 2013 to just over half in the first quarter of 2018. This implies that when families generate platform earnings, those earnings are an important-but not the only-source of income.

Exhibit 14: In the months when they are active, drivers rely on platform earnings for more than half of their total take-home income. Reliance is lower in the other three sectors



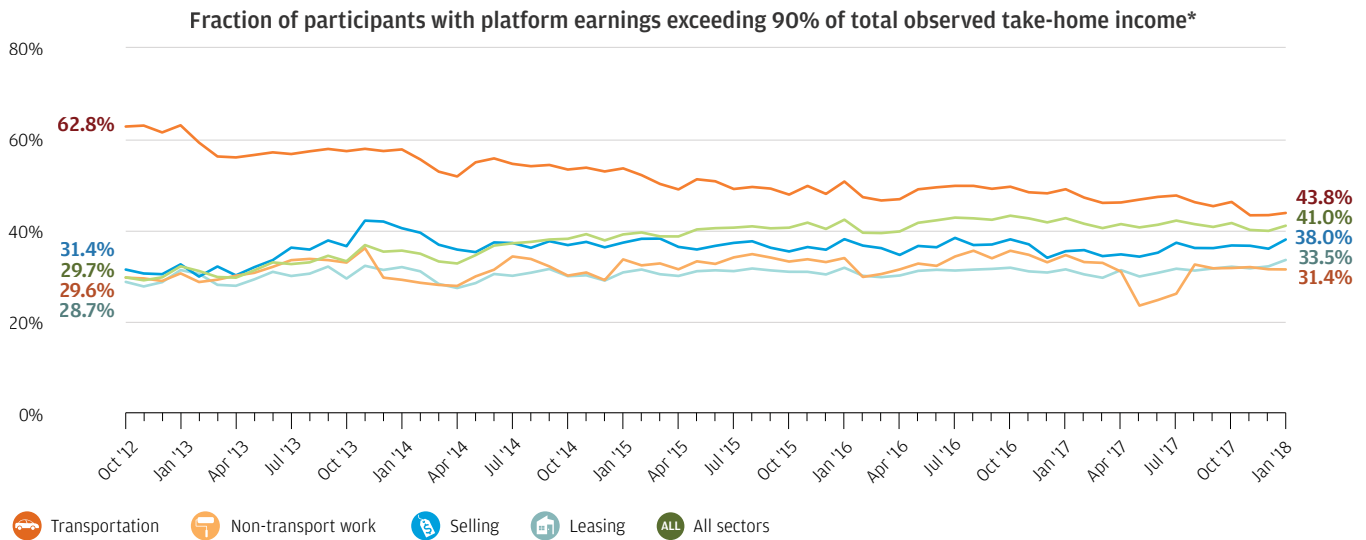
* Due to data limitations on take-home income, estimates are available through January, 2018.

Source: JPMorgan Chase Institute

Trends in reliance differ slightly by sector. In the transportation sector, platform earnings represented 80 percent of total take-home income at the beginning of the study period. As drivers’ average earnings have declined, so has their prominence in families’ total income, though even by the last quarter of 2017 they still represented almost 60 percent of total income. The non-transport work sector is dwarfed by the others in terms of both total transaction volume and participation, but it serves as an important source of income for the relatively small number of families who use it—consistently representing about half of total observed take-home income during the months when they are participating. Evolution of the overall average reliance ratio has tracked that of the leasing sector, where platform earnings represented about 53 percent of total take-home income in the last quarter of 2017. In the selling sector, the ratio was consistently around 40 percent through the entire study period. Notably, the peaks every holiday season that are observed in average earnings (Exhibit 8) do not show up in the reliance ratio, because non-platform income also peaks during this time.

Exhibit 15 provides another view on the centrality of platform earnings in families’ total take-home income. It tracks the evolution of the fraction of participants who are “highly dependent” on platform earnings, in that these earnings represent 90 percent or more of total observed take-home income during the months when they participate. In the transportation sector, 60 percent of families were highly dependent on platform earnings in the first quarter of 2013, but that fraction had fallen below 45 percent by the last quarter of 2017. This means that even among drivers, who tend to be more engaged than other participants, more than half generate significant income from some other source even in the months when they generate platform earnings. In the other three sectors, the analogous fraction is over 60 percent.

Exhibit 15: In all four sectors, a majority of participants generate income from other sources at the same time that they generate platform income



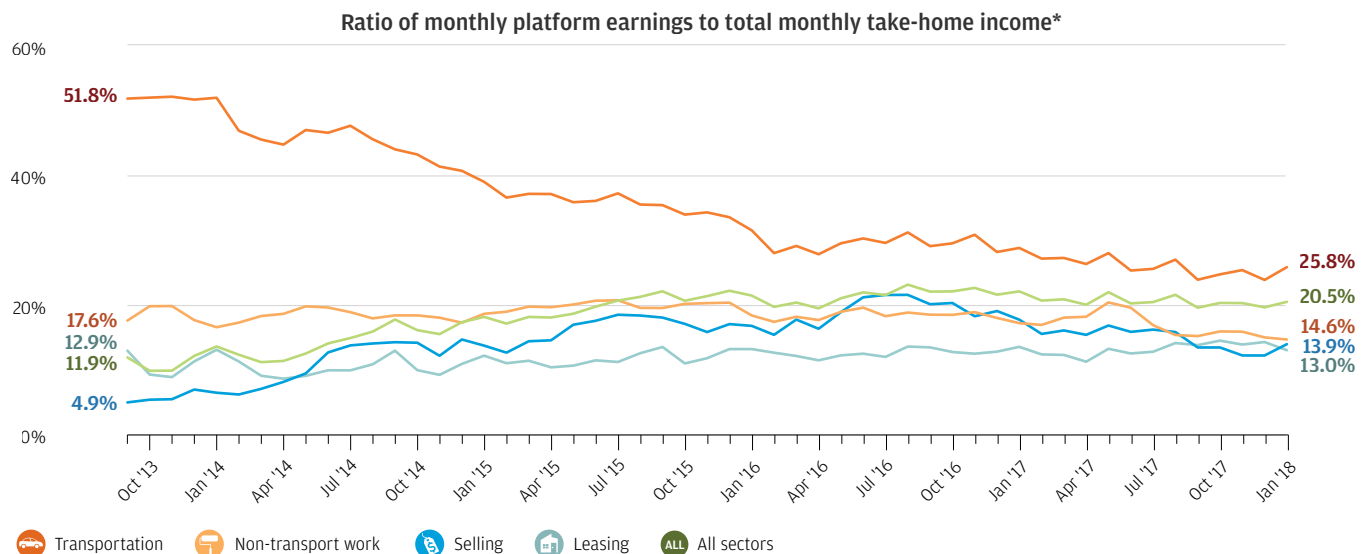
* Due to data limitations on take-home income, estimates are available through January, 2018.

Source: JPMorgan Chase Institute

Exhibits 14 and 15 describe the role of platform earnings in the months when families are actively engaged in platform work. As we reported in Finding 2, however, families cycle in and out of platform work frequently. In Exhibit 16, we account for this cycling by measuring the fraction of total take-home income represented by platform earnings among a broader set of families—those who have participated at any point in the past 12 months. When we account for families cycling in and out of the market, platform earnings as a fraction of total take-home income fall by half—from 58 percent to 26 percent—for transportation participants. By March 2013, platform earnings represented less than 15 percent in the other sectors.

Given the variety of the types of platform activities, in terms of what skills and capital they require and whether they are remote or in person, we next explore geographic and demographic differences in participation in the Online Platform Economy.

Exhibit 16: Among families who generated platform earnings at any point in the past year, these earnings represent less than a quarter of total take-home income on average



* Due to data limitations on take-home income, estimates are available through January, 2018.

Source: JPMorgan Chase Institute

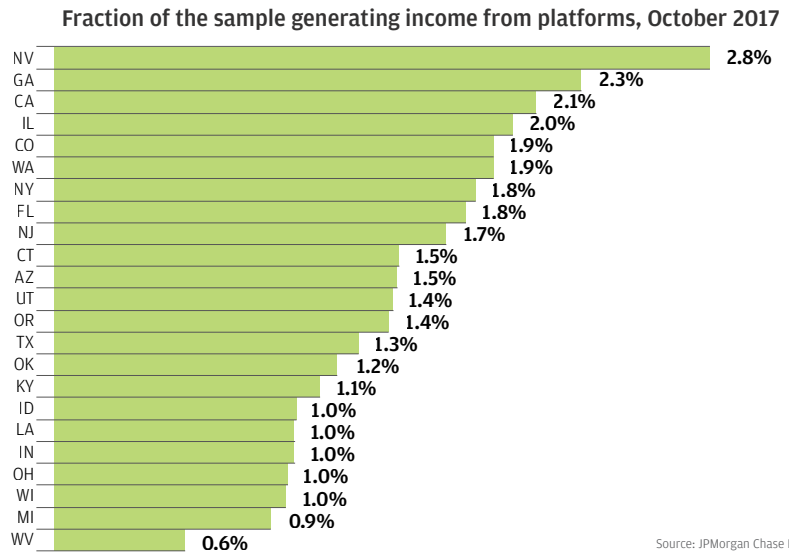
Finding Five

Participation in the Online Platform Economy varied significantly across the nation. Among 23 states and 26 cities, Nevada and San Francisco had the highest participation rates in the Online Platform Economy. The non-employed and men were more likely to participate as drivers than the employed and women. The young were more likely to participate in all sectors.

We measure participation rates on any platform in October 2017. We chose October because it is less likely to be influenced by seasonal variation in purchasing behaviors, but the patterns we report here were consistent at the end of our study period regardless of which month we chose. We report participation in the 23 states in which Chase has a physical branch presence and 26 cities within those states.

We find wide variation across our 23 states in overall participation, which ranges from a high of 2.8 percent of families in Nevada to just 0.6 percent in West Virginia (Exhibits 17 and 18). Participation rates are generally higher in states with major urban centers and tourist destinations.

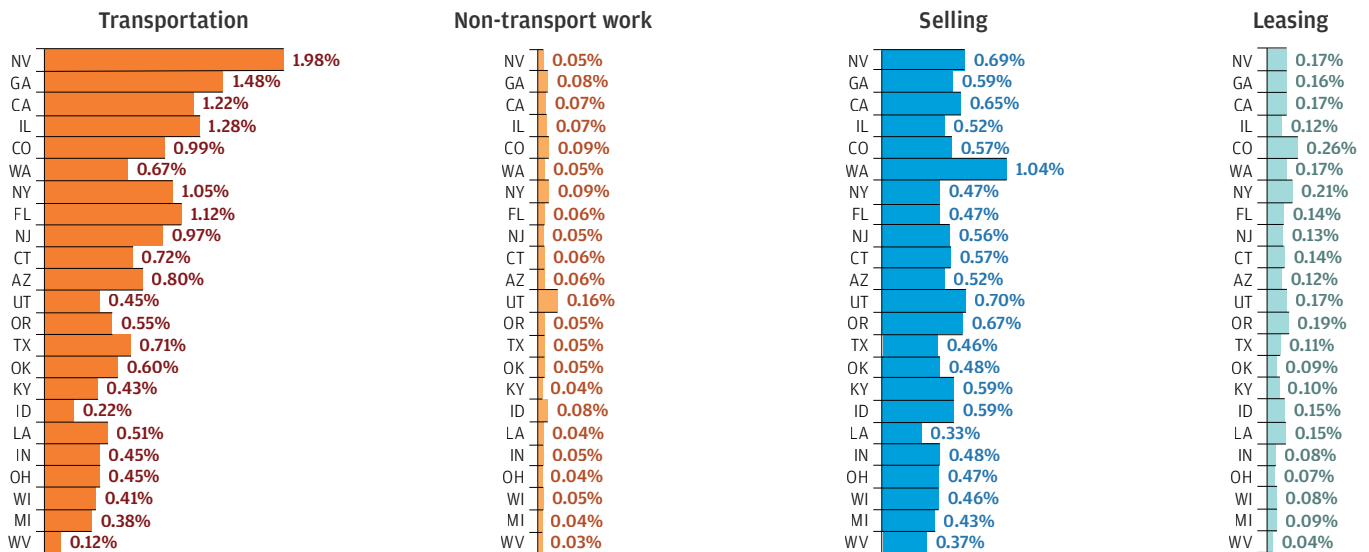
Exhibit 17: Participation in the Online Platform Economy varies by a factor of five across states



Source: JPMorgan Chase Institute

Exhibit 18: Participation in the transportation sector shows the most variation across states

Fraction of the sample generating income from platforms, October 2017



Source: JPMorgan Chase Institute

In Exhibit 19, we show participation rates at an even more granular level for 26 cities across our 23 states.

At the city level, we observe the highest participation in San Francisco (2.9 percent) and the lowest in Charleston, WV (0.6 percent).

Exhibit 20 shows that San Francisco has consistently high participation and Charleston, WV consistently low participation across the sectors. Other noteworthy cities include Seattle, where participation on selling platforms at 1.3 percent far exceeds that of all other cities, and New Orleans, where participation on leasing platforms is especially high.

Exhibit 19: Participation is highest in San Francisco and lowest in Charleston, WV

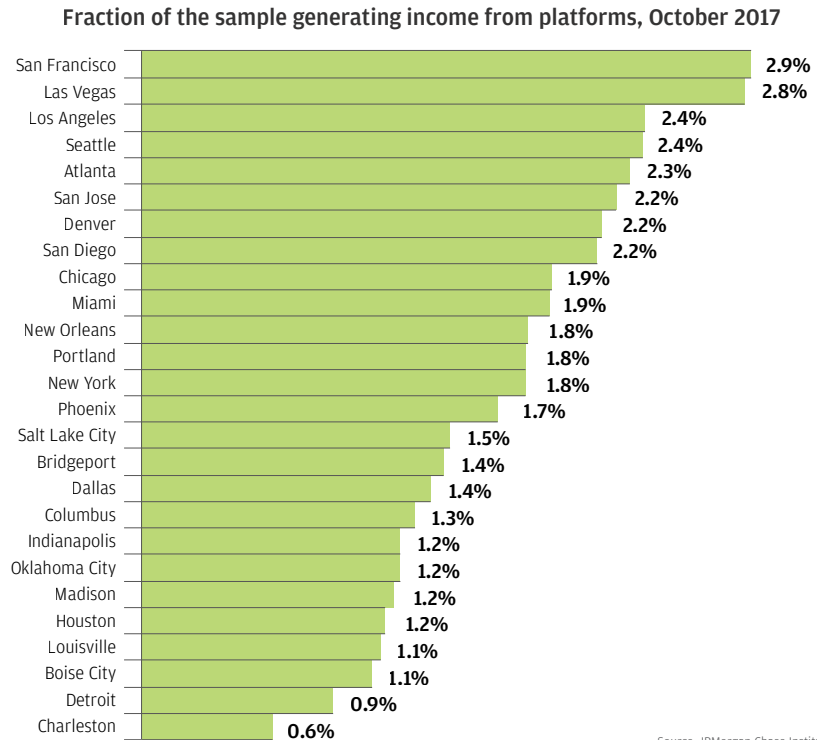
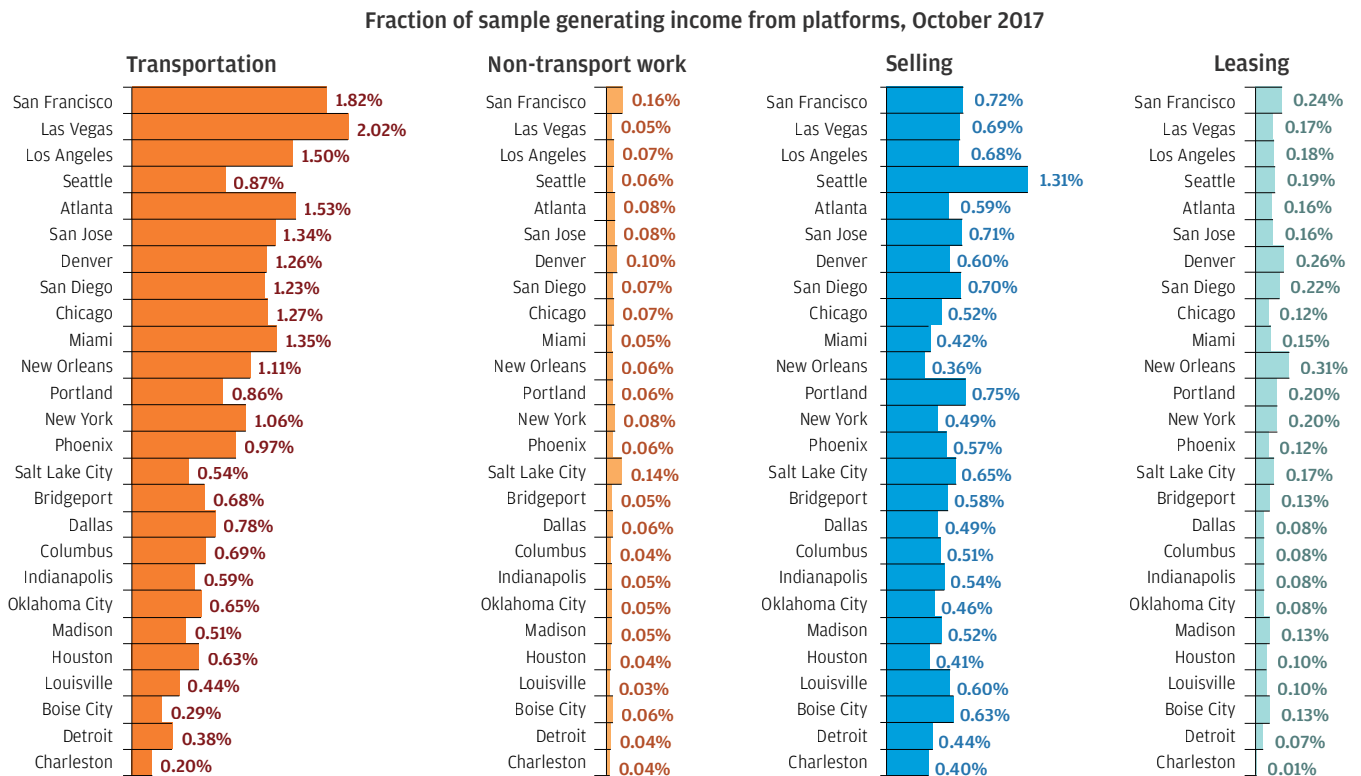


Exhibit 20: Seattle stands out in terms of participation on selling platforms, and San Francisco and Las Vegas in terms of participation on transportation platforms



In Exhibits 21 and 22 we examine participation by employment status—whether someone in the family received directly deposited labor income. The non-employed are more likely to participate in the Online Platform Economy, but the gap in participation between the non-employed and the employed is entirely driven by the transportation sector and hardly exists in other sectors. In fact, our evidence shows the non-employed are less likely than the employed to generate earnings on selling platforms.

Exhibit 21: The non-employed are more likely to participate in the online platform economy

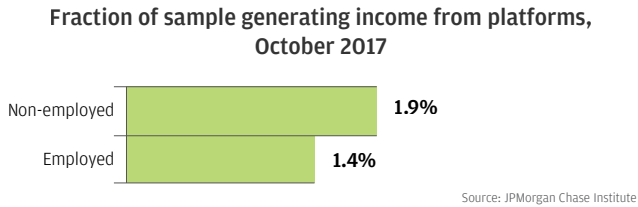
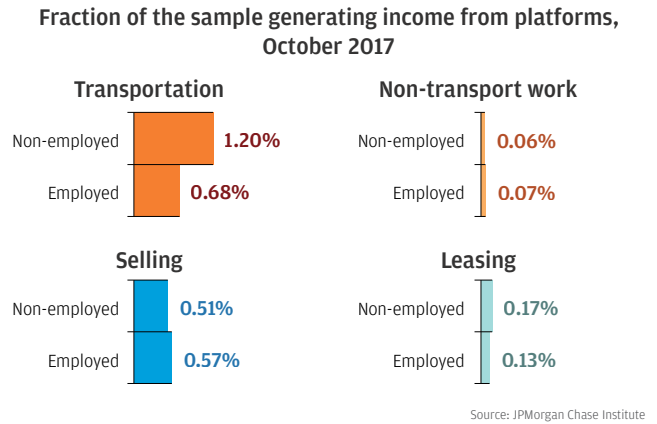


Exhibit 22: Families without employment income are more likely to participate in the transportation sector



Low barriers to entry make transportation platforms a prime opportunity for the non-employed to earn income between jobs. But the drop in driver earnings—if caused by wage drops—does not bode well for transportation platforms serving as a cushion between jobs.

As others have also argued, barriers to entry into the transportation sector are low in terms of skills, hours, and capital, making it a prime opportunity for the non-employed to earn income between jobs (Kousta, 2018; Abraham et al 2018). But as a source of income for the unemployed, the drop in driver earnings—if caused by wage drops—does not bode well for transportation platforms serving as a cushion between jobs.

In Exhibit 23, we show that across all sectors younger people are more likely to participate in the Online Platform Economy (or share a bank account with someone who does).⁵

Exhibit 24 shows that the age gradient in participation is consistent across sectors, though it is flattest on leasing platforms, where older people may face lower barriers to entry than younger people, likely because they are more likely to already own assets which they can lease out.

Exhibit 23: Younger account holders are more likely to participate in the Online Platform Economy

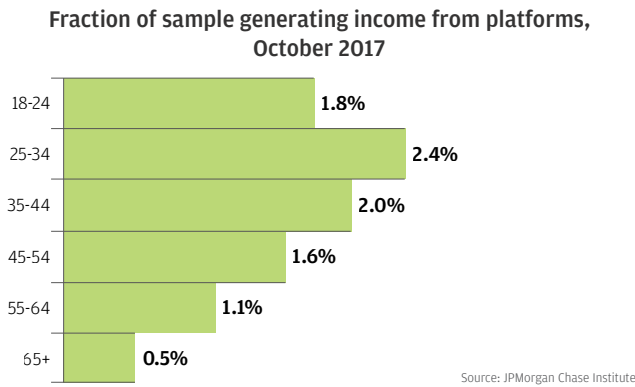


Exhibit 24: Age gradients are steepest in the transportation and selling sectors

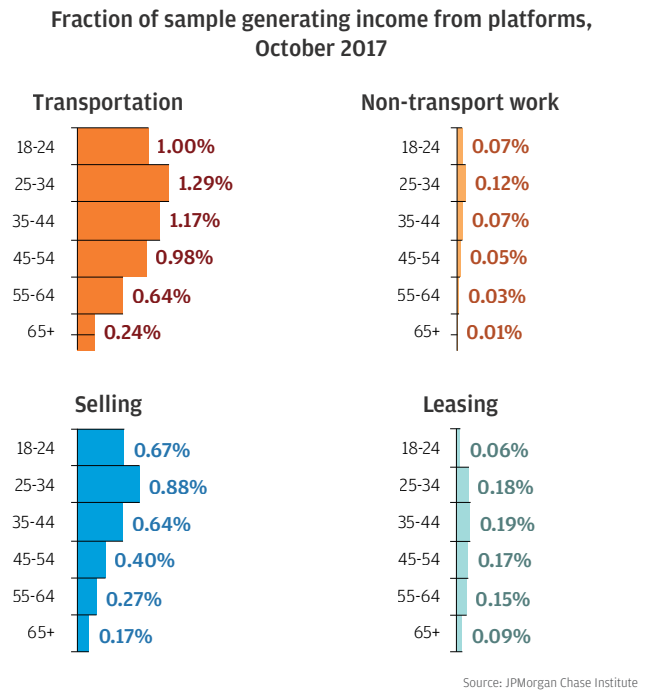


Exhibit 25 indicates a gender gradient—men are more likely to participate in the Online Platform Economy (or share a bank account with someone who does). However, as Exhibit 26 shows, this difference is restricted to the transportation sector. In the other three sectors, women are more likely to participate. These different gender patterns by platform sector may help explain why some studies have found people active in the Gig Economy to be disproportionately men, while others have found them to be more likely to be women.⁶ As shown in Exhibit 16, our data shows that the direction of the gender gradient in participation in the Online Platform Economy varies by sector. The dominance of men in the transportation sector has been documented by others, which may reflect differences in job preferences, but also a gender gap in hourly earnings on transportation platforms (Cook et al, 2017; Abraham et al 2018).

Exhibit 25: Men are more likely to participate in the Online Platform Economy

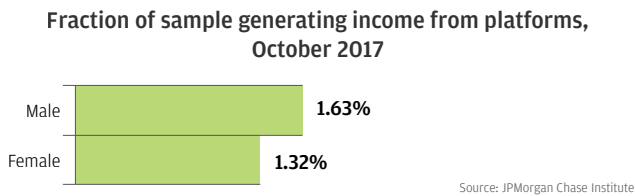
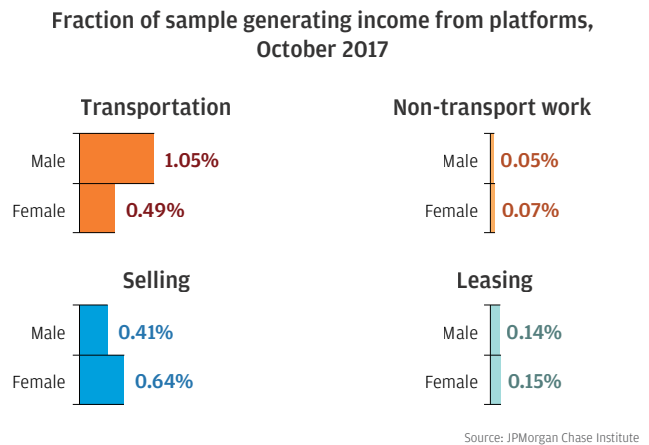


Exhibit 26: Gender differences in participation are largest in the transportation sector



Implications

The Online Platform Economy has created new and more flexible opportunities for consumers to generate income. In this study we track payments through online platforms to 39 million Chase checking accounts going back to the earliest days of the Online Platform Economy in order to document growth of platform earnings and participation. A significant and growing fraction of consumers have taken advantage of these new opportunities, especially in the transportation sector where barriers to entry are low. We draw five key lessons.

1. The Online Platform Economy is comparable in size to a major employment sector in the overall economy. About 1.6 percent of our sample generated at least some platform earnings in March 2018, roughly comparable to the size of the entire Information sector (1.8 percent of all employed in 2017), and 4.5 percent at some point over the prior year, comparable in size to the public administration sector (4.6 percent of all employed in 2017) (Bureau of Work Statistics, 2017). Generalizing these fractions to the 126 million households in the US would imply that the incomes of 2 million households that month and 5.5 million households that year were affected by the Online Platform Economy.⁷

Despite its size, the Online Platform Economy is distinct from traditional employment in that engagement on platforms is much more occasional than in most traditional jobs, and platform income is rarely a family's sole source of income. Even within the Online Platform Economy itself, there are important distinctions. The four sectors differ significantly, with the largest sector—transportation—accounting for 63 percent of platform participants and 58 percent of total transaction volume, and the smallest—non-transport work—accounting for less than 5 percent of participants and volume.

The growth of the Online Platform Economy reflects not only an increasing supply of freelance workers but also demand for their goods and services. Transportation platforms are adding value to the economy by producing consumer surplus in the form of cheaper and more convenient ways of transporting people and goods. Moreover, these innovations are affecting broader supply chains, now that businesses and not just individual consumers are procuring services through these markets.

2. Freelance driving, though the engine of growth for the Online Platform Economy, is not a full time job for the vast majority of participants. In discussion of the Online Platform Economy, much of the attention of scholars, policy makers, and the press has focused on the transportation sector. This focus is appropriate because this sector dwarfs the others and is the primary source of growth in overall participation and aggregate earnings in the Online Platform Economy. Notably, this market is the one where participants are most engaged, and where platform earnings represent the largest share of observed take-home income among participants. It is also the market with arguably the lowest barriers to entry and the highest vulnerability to automation, implying precarious earnings prospects.

In fact, alongside the rapid growth in the number of drivers has come a steady decline in average monthly earnings. Average monthly earnings among active drivers in the first quarter of 2018 were 53 percent lower than their peak in the first quarter of 2014, a downward trend observed even among the highest earning and most engaged drivers. These trends may imply that the rapid growth in the supply of drivers has put downward pressure on wages. It may also reflect a growing share of participants who use platforms solely as a means to occasional supplementary income. Either way, these trends suggest that freelance transportation work is not a promising prospect for those looking to generate enough income to free them from traditional employment.


3. In selling and leasing sectors, high platform earnings are concentrated among a few top participants. Earnings among the top 10 percent of sellers have been rising over the past two years. This group earned \$800 per month or more in the first quarter of 2018, while over half of active sellers consistently generate less than \$60 per month. In the leasing sector, by contrast, the number of participants is very low, but monthly earnings are almost double the other three sectors, and the top 10 percent of earners generate over \$4,500 in revenue per month, although their costs are also likely to be high. These patterns suggest that—whether by choice or due to structural barriers—most families would not generate sufficient earnings on selling or leasing platforms to

replace a traditional job. The high earnings potential manifested in the experience of the top earners in these sectors may only be accessible to those who have a large inventory of goods or assets to lease, and the capacity to manage significant swings in cash flow as expenses are paid and payments received.

- 4. Platform participants are not quitting their day job to earn income off of platforms.** The Online Platform Economy is a source of significant income for families in the months when they engage with it. However, it remains a secondary source of income overall. Very few families engage on a sustained, year round basis. Even when they are generating income off of platforms, the vast majority of participants earn income from other sources as well. Whether or not the Online Platform Economy is capable of transforming work markets, consumers do not appear to be using it in a way that will usher in that transformation.

- 5. There are important differences among the sectors of the Online Platform Economy, raising the question as to whether they deserve tailored policy approaches.**

In addition to the notable differences described above, the non-transportation work sector remains negligibly small as a fraction of the Online Platform Economy overall, suggesting that online platforms have not yet penetrated services beyond transportation in a meaningful way. However, non-transport work is a significant source of income for the relatively small fraction of families who participate. This sector is unique in that some platforms pay by the hour (shift work) rather than by the task (piece work). Some of the work is highly differentiated in the sense that customers may care more about choosing carefully among providers, as opposed to the transportation sector where labor is likely more commoditized and providers are assigned by the platform. Some non-transport platform work like personal care services or home repair is highly complementary to non-platform work. Policy and regulation to ensure the smooth functioning of these smaller markets can have important implications for the welfare of the families who participate on them. However, these distinguishing features suggest that policy solutions molded after the transportation sector may not apply as well.



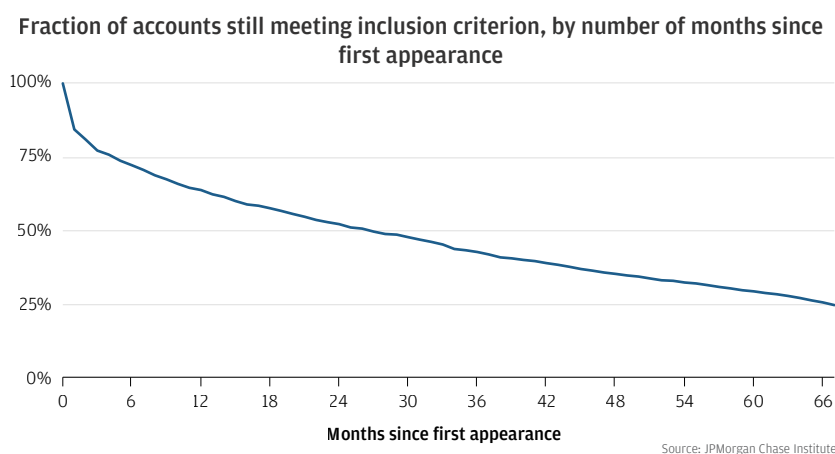
Freelance transportation work is not a promising prospect for those looking to generate enough income to free them from traditional employment.

With the pace of technological change accelerating and transforming the composition and functioning of labor markets, it is critical that we continue to develop and track new measures to describe this change. The JPMorgan Chase Institute Online Platform Economy dataset aims to do just that.

Appendix

Our study sample comprises 39 million unique de-identified Chase checking accounts on which the primary account holder is at least 18 years of age. The sample 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 31 out of the 66 months of the study period, yielding a total of 1.1 billion account-months. Exhibit 27 shows survival in the sample.

Exhibit 27: About a fifth of the accounts in our repeated cross-section meet the inclusion criterion through the entire 66 month study period. Half are observed for at least two years.



Since composition of the study sample changes from month to month as customers open, close, and modify their use of accounts, we compare our sample to US population data in order to ensure that the time series we report here are unlikely to be driven by changes in sample composition. We map the data concept of the primary account holder in our sample to that of the family householder in the American Community Survey, and compare the demographic composition of these two populations. Exhibit 28 shows this comparison for each year beginning in 2013 and ending in 2016.

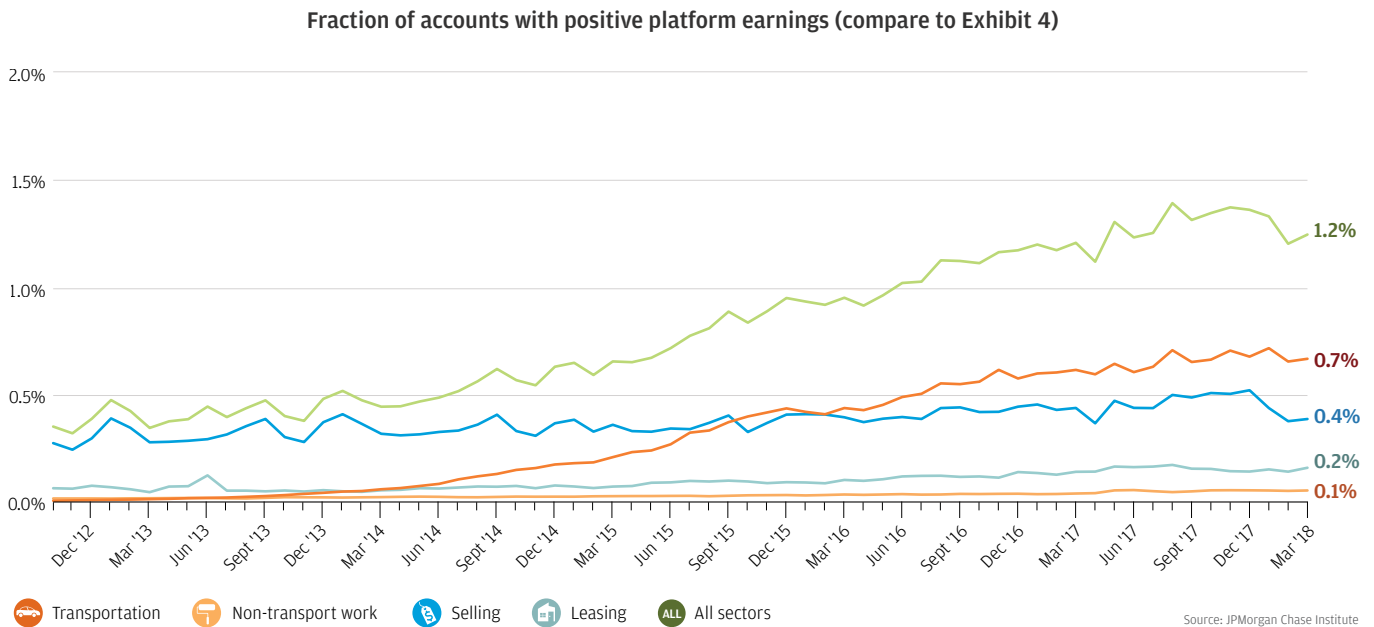
Our sample overrepresents younger-headed families, male-headed families, and families in the West. It underrepresents older-headed families, female-headed families, and families in the South. Since we have previously documented higher participation rates in the Online Platform Economy among younger people, men, and residents of Western states, participation in our sample is likely to be higher than in the US population overall (Farrell and Greig, 2016). On the other hand, there are also important ways in which our estimates of participation might be biased downwards. First, although we have expanded our list of platforms from 42 to 128, there may be platforms that meet our inclusion criteria, which were not included in our list.⁸ Second, even for the 128 platforms we observe, we very likely do not observe all participants or underestimate the share of our sample participating to the extent that they chose to receive their platform earnings through some channel other than their Chase account. As we show below, even among Chase customers, we observe higher participation rates among those with a shorter-lived relationship with the Bank.

Importantly, however, the demographic differences between our sample and the US population as a whole are consistent across the study period (Exhibit 28), which indicates that the time series we report here are unlikely to be driven by changing sample composition. Further evidence of this is shown in Exhibit 29, which is analogous to Exhibit 4 from the main report, but restricted only to the subset of 7.2 million accounts which met the inclusion criterion in every one of the 66 months in the study period. Since the composition of this sample does not change from one month to the next, the time series observed cannot be driven by changing sample composition. Overall participation rates in this stable cohort are lower in each month than in the repeated cross section, but the pattern of evolution in participation is the same.

Exhibit 28: Our sample does not drift away from the US population, so our time series are unlikely to be driven by changing sample composition

	2014			2015			2016			
	JPMCI	ACS	Difference	JPMCI	ACS	Difference	JPMCI	ACS	Difference	
Age	18-24	15%	5%	-9%	15%	5%	-9%	14%	5%	-9%
	25-34	22%	16%	-6%	23%	16%	-7%	24%	16%	-8%
	35-44	18%	17%	-1%	18%	17%	-1%	18%	17%	-1%
	45-54	17%	19%	3%	16%	19%	3%	16%	19%	3%
	55-65	15%	20%	6%	15%	21%	6%	15%	21%	6%
	65+	13%	21%	8%	13%	22%	8%	14%	22%	9%
Gender	Female	46%	50%	4%	46%	49%	3%	46%	50%	4%
	Male	54%	50%	-4%	54%	51%	-3%	54%	50%	-4%
Region	Midwest	21%	22%	1%	21%	22%	1%	21%	22%	1%
	Northeast	19%	18%	-1%	18%	18%	0%	18%	18%	0%
	South	26%	37%	11%	26%	37%	11%	27%	37%	11%
	West	34%	23%	-11%	34%	23%	-11%	34%	23%	-11%

Exhibit 29: Restricting to the 18 percent of accounts that are observed consistently across the entire study period reduces overall participation, but does not change the picture of trends.



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Endnotes

- 1 In identifying these payments, we took special care to exclude any payroll direct deposits to full time employees of the platform companies themselves.
- 2 These four sectors map directly to our previous segmentation. The transportation and non-transportation work sectors make up “labor” and the leasing and selling sectors make up “capital.”
- 3 Uber is a relevant example here because it would meet the inclusion criteria for the transportation sector in our taxonomy. We do not disclose the specific identities of the 128 platforms included in this report.
- 4 Parrott and Reich (2018) report estimated hourly earnings and hours worked among drivers based on administrative data reported by transportation platforms to New York City's Taxi and Limousine Commission. Their findings indicate a decline in both hourly wages and hours worked over a relatively short time frame—September 2016 until October 2017.
- 5 Age and gender are individual characteristics of the primary account holder, but as we have discussed, accounts tend to be shared within families. Throughout the discussion in this section, we refer to how participation in the Online Platform Economy correlates with these individual characteristics. It is important to note, however, that the primary account holder in a participating family may not themselves be participating in the Online Platform Economy.
- 6 The [Gig Economy Data Hub](#) provides a summary of gender differences in participation in the Gig Economy across a number of studies.
- 7 As we discuss in the Appendix, our sample skews toward subpopulations who are most likely to engage in platform work—younger primary account holders, families in the Western United States, and male headed families. Therefore, generalizing to the US population may overestimate the number of families who have generated income through the Online Platform Economy.
- 8 We looked to funding levels as reported on [crunchbase.com](#) to prioritize platforms that that were more likely to have more participants.

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