Platform Companies and Platform Workers: Price and Quantity Responses to Changing Cost

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Abstract

What is a platform company and how are platform workers different from ordinary employees? This paper provides definitions to make explicit the legislative and regulatory contexts for platform worker social protection. But if such protection results in higher costs for companies engaging platform workers, how will that impact consumer prices and platform workers? This paper analyzes price pass-through under a range of assumptions. It concludes that in typical circumstances predicted price responses will be relatively minor. If, however, price responses turn out to be large, that also reveals the extent to which platform companies are exercising market power, failing to innovate, and, by implication, marking up prices unnecessarily.

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1 Introduction

Rising visibility of the gig economy has made ever more prominent the precariousness of workers' economic positions at platform companies (International Labour Organization, 2021). Policy makers worldwide have

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sought to put in place policies to better protect such platform workers. All these policies need to navigate the tradeoff between sustainability, financial viability, and platform work flexibility—a defining feature of the gig economy—with the imperative to provide a basic level of decency and well-being for all working people.

But what is a platform company? How are platform workers different from ordinary employees? Why don't already existing statutory labour-market protections for employees straightforwardly extend to platform workers? If hiring platform workers begin to engender higher costs—from governments' putting in place policy to improve housing and retirement adequacy, strengthen financial protection againt workplace injury, and enhance worker representation—how will that impact consumer prices and the numbers of platform workers working at platform companies?

It is this set of questions that this paper addresses. Section 2 sets down the paper's conceptualisation of platform companies and platform workers. Section 3 describes the challenges that companies and workers face from the perspective of policies that seek to improve platform worker pensions and housing provision and to provide platform workers workplace insurance. Subsequent sections consider a range of assumptions under which the price and quantity impact of such policies can be analysed. Section 6 concludes.

To anticipate the substantive conclusions, I give here a flavor of the numerical results to follow.

A suggestion implicit in many engagements with platform companies is that a change in operator costs due to, say, pension contributions will induce a 1-1, equiproportional rise in consumer prices.[1] The same argument is invoked for increases due to insurance premiums. Such reasoning sometimes gets phrased as follows: "Any change in costs will see direct pass-through to customers."

The reasoning for this pass-through effect draws on observations such as "For every ten dollars in additional revenue we receive, nine goes to our drivers." The listener is invited to infer from this that labour cost is a high fraction of total operating costs, and so a 17 percent rise, say, in labour

[1] In Singapore, Central Provident Fund or CPF legislation, subject to slight variation, calls for the employee having 20% of each paycheck deposited directly into a government-administered savings account, with the employer adding another 17%. Payment into an investment account through direct deposit together with employer contribution is a feature also in US 401(k) plans as well as other similar pension arrangements around the world.

costs would mean total operating costs rising by nearly 17 percent and needing to be passed on in approximately the same proportional hike in prices.

A further implication often suggested is that such a price rise would result in significant reduction in use of platform services, thus lowering consumer well-being and risking industry sustainability. This additional suggestion relies on observations about a high price elasticity of demand: so, for instance, an elasticity of magnitude 1.4 would imply that a price increase of 1 percent would reduce consumer demand by 1.4 percent. If this were literally true then platform companies are indeed caught in an unpleasant predicament: they face rising costs but when they attempt to pass through increased costs to higher prices, that only results in falling revenue.

In sum, given this reasoning, any attempt to raise platform-operator CPF contribution or significant workplace insurance payment would risk industry sustainability, through raised labour costs, increased prices, and so much reduced demand that platform operator income can only decline.

There might well exist a set of logical reasoning that warrants this concern. But, in my view, the explanation given above remains inadequate. Platform companies still need to explain the circumstances under which these fears are realized. In contrast, the remainder of this note describes why the scenario just described is in fact unlikely.

In the sequel I use only two assumptions: first, there is a production function for generating platform services, drawing on labour input and the capital stock, where the latter can include machines, computers, networks, and algorithms. Second, there is a well-defined demand curve for platform services. On the other hand, it is not critical in the current discussion that these platforms operate in a two-sided market (Rysman, 2009).

Section 4 shows that if the output market is competitive and profits are small or close to zero then how much a firm will wish to raise prices is never more than how much wages increase. Indeed, in proportional terms the individual firm's desired price increase is far smaller than the increase in wages. For the market, if the demand curve is elastic, then in equilibrium the price increase will be smaller than the change in output. In other words consumers will see only small price inflation relative to other changes in the marketplace. If, conversely, the demand curve is inelastic, then however much the price rises, the change in market takeup will be even smaller in

relative terms. Disruption to the market will be small.

Section 5 considers a situation different from Section 4. Here, suppose the market is monopolistic or oligopolistic, so that each firm can exercise market power. Then price is set as a markup over cost, and so in principle the increase in price could be considerable, depending on the price elasticity of demand. The greater the market power of the firm, the higher is the markup. Section 5 shows that the more prices increase in response to a rise in wage, the more the firm is revealed to exercise monopoly power. Moreover, the section shows that the price increase is moderated, the more that technological innovation occurs that raises the marginal product of labour. Technologically-intensive firms can, therefore, keep price rises in check through technological creativity that makes workers more productive.

It will become clear in the discussion that these calculations are intended to produce comparisons in order of magnitude, not predictions to, say, two-decimal point precision. The inputs in the calculations are only calibrations, not econometric or statistically-founded estimates.

2 Platforms

A **platform** is a matching mechanism that brings together two distinct sets of economic agents: first, a group of consumers; and second, a group of producers. These producers could be food merchants, retail shopping outlets, private hire car drivers, and so on.[2] Customers want what producers provide but for different reasons, in the very short run, the matching between demand and supply is hypothesized to be imperfect. The gig economy is the collection of organizational and market structures that use digital networks and data analytics—big data, computer algorithms—to reduce the imperfectness in this matching of demand and supply. That is, this economy is comprised of platforms, and therefore platform companies and platform workers.

Online information networks and digital devices provide the base technologies to improve matching. A platform can be as rudimentary as an ordinary webpage that serves up nothing more than producer rapid-contact

[2]Two groups brought together in this way gives rise to the terminology of a "two-sided market", as in, e.g., Rysman (2009). However, as will be seen in the discussion to follow, what matters for the analysis in this paper is not this two-sidedness, but how platform workers—yet to be introduced in the formal discussion—come into the model.

information through email or smartphone apps. Or, a platform can be intricately elaborate with multiple add-on functions. Any platform, however, faces further frictions in its matching process in that left to themselves, a consumer might only slowly over time find the producer that best provides what that consumer wants. Conversely, a producer need not instantaneously attract all the consumers that producer can optimally serve. While these frictions can be overcome in the longer-term, there is a real-time market need to improve the matching process.

A **platform company** (or **platform operator**) is the agent that runs the platform and seeks to provide that improved matching. A platform company controls which producers list on the platform's supply side but leaves the demand side unrestricted and open. Every potential consumer, with the appropriate app on their smartphone or knowledge of the platform's URL, can freely sign on to the platform's demand side. To improve the platform's real-time matching efficiency, the platform company puts together a computer network and a suite of matching and scheduling algorithms, and employs managers, data scientists, and software engineers. Finally, for the final step in the matching process, the platform company coordinates workers to deliver product—whether those products are goods or transportation services—from producers to consumers.

A **platform worker** is a worker whose work activities fall outside an employment relationship but are subject to directed coordination, typically involving a mobile app or other digital means initiated by a platform company. Explicit examples of such coordination include incentives—in the form of rewards and penalties—that condition on the worker's record of timely successful task completion, customer evaluations, and rates of task-posting acceptances or rejections.

Food delivery provides a good example of these workings. On the producer side are businesses such as McDonald's, Jinjja Chicken, and the neighborhood nasi-lemak stall. Platform companies such as Grab, Go-Jek, Food Panda, or Deliveroo stand ready to connect consumers with those producers. Within each platform company, managers, software engineers, algorithms, and computer networks work in the background to improve the efficiency of the matching process. Platform workers provide the last link in the chain by physically delivering the prepared food from producer to end-consumer.

A taxi rental company, as the descriptor suggests, only rents hardware

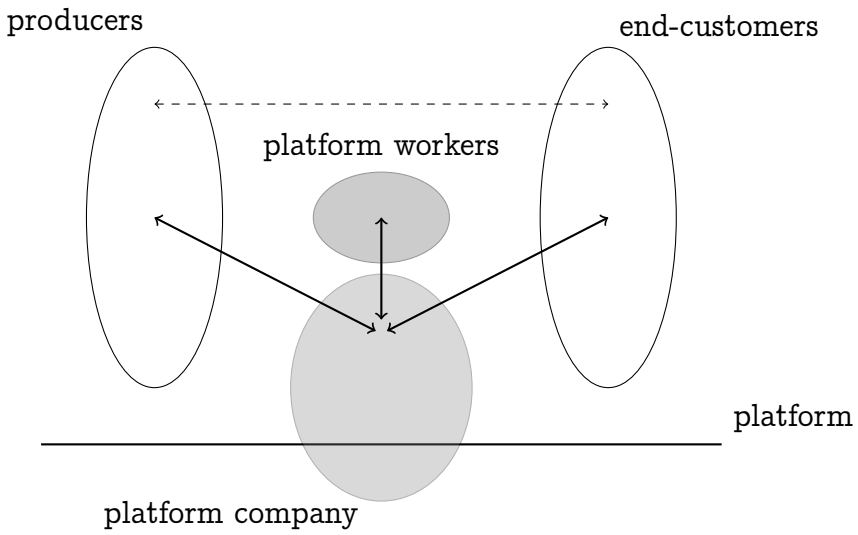

Figure 1: In a gig economy platform companies connect supply and demand, using computer networks, algorithms, and platform workers.

(taxis) to drivers and, therefore, is not a platform company. No matching is undertaken by the taxi rental company of the two sides of the market, drivers and customers. Critically, the taxi rental company imposes no restrictions on driver performance and earnings patterns for determining taxi rental policy, beyond those already implied by the market mechanism. Similarly, excluded from the group of platform workers are drivers of taxis that are street-hailed, i.e., flagged down by passengers on the street rather than directed to specific locations by a platform operator. The matching that happens here is entirely random; it is directed by no behind-the-scenes operation.

Fig. 1 provides a visual depiction of the platform company operations just described.

The Figure shows in the dashed line directly connecting the two sides of the marketplace an engagement that is, all else equal, friction-distorted. The superior technology put in place by the platform company moves the connection closer towards being friction-free, as indicated by the dark lines connecting the company to both producers and consumers respectively.

An important special case of the conceptualisation arises when the producer side of the market comprises not distinct producers but simply the

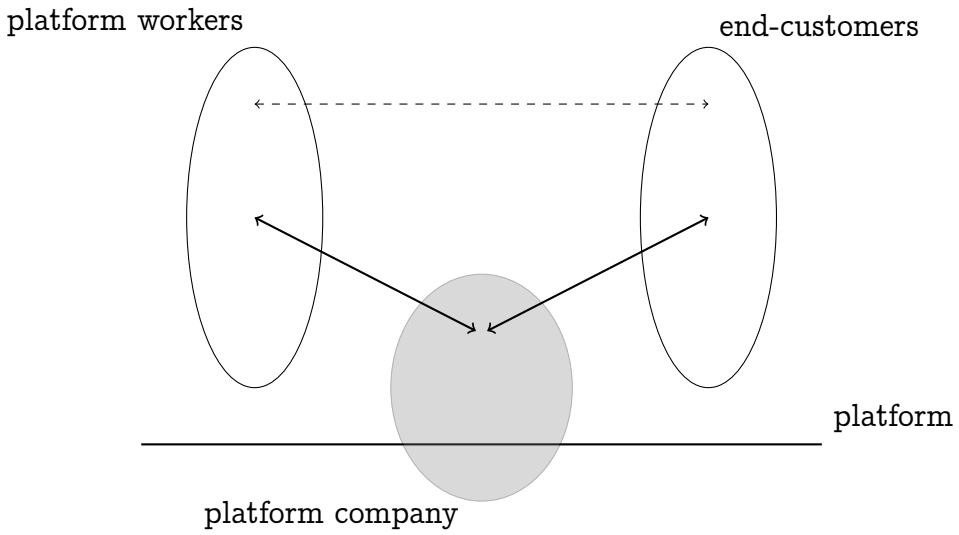

Figure 2: In a gig economy platform companies connect supply and demand, even when the suppliers are just platform workers themselves.

platform workers themselves (Fig. 2).

This arises when the market is for, say, the kinds of ride-hailing services provided by Grab, Go-Jek, Uber, and others. Then the producer is of course also the platform worker, and no separate product is being provided.

Comparison between these two cases, Figs. 1 and 2, is sometimes used to argue that platform workers are not contracted to work for the platform company but should be viewed as independent partners, the way that, say, a food merchant does not work for the platform company. This, however, misses the critical point: In Fig. 1 a food merchant is uniquely identified in the perception of consumers. Food from McDonald's is not the same as nasi-lemak from a neighborhood stall. The two food orders—one for McDonald's, the other for neighborhood-stall nasi lemak—are not perfect substitutes. In contrast, when a consumer hails for ride services in Fig. 2 or looks forward to the delivery of their nasi-lemak in Fig. 1, the platform worker bears no unique identification in the eyes of the consumer. Platform workers are perfect substitutes in a way that McDonald's and nasi-lemak are not. Thus, the platform company exercises coordination over the allocation of jobs, incentives, and payment over platform workers in ways that it is unable to over its food merchant partners.

The analysis of this paper concerning platform workers is unchanged across Figs. 1 and 2: platform workers remain platform workers. Platform workers don't become independent partners to the platform company simply because in Fig. 2 platform workers can be drawn to occupy a position similar to food merchants and shopping retail outlets in Fig. 1. Put differently, Fig. 2 can be redrawn and subsumed into the more general Fig. 1 by introducing proxy suppliers on the left-side of the figure that are simply copies of the platform workers: Ride-hail car drivers are then both suppliers and platform workers. This does not, however, change the fact that it is still platform workers—the originals, not the supply-side copies—over which the platform companies exercise algorithmic coordination.[3]

3 Policy Issues

In the description given in Figs. 1 and 2 of Section 2, platform workers are distinct from the managers, data scientists, software engineers, and others employed by the platform company. The latter are employees and therefore, depending on laws in different national economies, attract protection, benefits, and rights to varying degree.

Worldwide, however, as a general rule platform workers are not considered employees. This distinction allows platform companies and platform workers considerable flexibility in their contractual obligations to one another. For a worker to sign up to work for a platform, all they have to do, in essence, is download the relevant platform app onto their smartphone, and start accepting assignments. Similarly, for a worker to stop working for a given platform, all they have to do is to accept no assignment. There is, moreover, no obligation for a platform worker to work for just a single platform. Indeed, in a common practice called *multi-homing*, platform workers can stand ready, with multiple platform apps open, to take whichever assignment they find most appealing.

This flexibility in platform work is acknowledged to be important in

[3]There is a third variant of platform company operation, and that is where platform workers vanish altogether from the mix. An example of this is when Grab arranges for the consumer to take delivery themselves of the food they have purchased. In this case, producers use the platform company only as a booking and a payment-collection mechanism, and no platform workers are at all required. Because this paper is concerned about platform workers, this third case is ignored hereafter.

the gig economy, and indeed is a defining feature of the agreement between platform companies and workers. By contrast, regular employees do not have the freedom simply to come on and off assignments as they wish: regular work hours are agreed upon ahead of time, and clear obligations are agreed to by both employer and employee regarding workflow over the working day.

Both in practice and in concept, therefore, platform workers are not, in the first instance, employees.

However, national regulations on platform workers differ in details but continue to evolve. European Union legislation in 2022 reclassified platform workers as employees, thereby allowing equal access to employee rights and benefits. In China, also from 2022, platform workers have been allowed to join unions, and platform companies are required to ensure adequate financial protection against workplace injury. In Singapore, as of this writing, employees are covered by a range of employment legislation: they, therefore, attract CPF coverage, workplace protection, and rights to organised representation. Platform workers, however, do not.

One common view on this configuration of flexibility and employment legislation-related protection is that one is provided in exchange for the other. Employees don't have the same kind of flexibility as do platform workers; in return, employees see protection under legislation. Platform workers enjoy flexibility; in exchange they willingly give up coverage by employment legislation.

This reasoning is specious. Historically, governments provided worker protection under employment legislation, not to compensate for platform worker-like flexibility being taken away from newly-hired employees. Most obviously, when employment legislation first came into being, there was no platform worker flexibility to serve as comparison to the contractual obligations of employees. Simply as a matter of logic, that legislation could not have been offered in exchange for a tradeoff that existed neither in reality nor in imagination. Instead employment legislation-related protection arose because governments sought—over time and factoring in risks—a basic level of decency and well-being for all working people. By the same token, therefore, similar protection should be extended to platform workers to cover the legislative gap caused by the here-artificial distinction between workers and employees.

In Singapore, the critical ingredients of such protection are three-fold:

First, CPF provision: With exception for age or income extremes, employees put into what is in effect a savings account 20% of their earnings while employers contribute an additional 17%. Second, workplace insurance: Employers purchase insurance protection for their employees to cover medical expenses and to compensate for income loss due to work injury, and to provide a lump-sump payment for permanent disability or death. Third, employees have the right to join organizations that represent their collective interests on issues such as dispute resolution, training opportunities, and safety and occupational health.

The third of these provisions—improved representation—is not treated in the current paper. However, the first two, CPF and workplace insurance provision, are unified analytically in that they increase the costs of platform workers to platform companies. It is to these two that this paper now turns, taking the simplification that both policy provisions can be represented as an increase in labour costs. The question then is, What are the implications for consumer prices and platform worker hiring?

4 Small Profits when Close to Perfect Competition

Simultaneous with the assertions above, profit margins are often said to be either zero or extremely small, and that competition is rife. I, therefore, begin the analysis under these conditional assumptions.[4]

Suppose the profit margin is indeed zero. If so, then total revenue must equal the sum of labour costs and implicit interest payment on capital outlay, i.e.,

$$pq = wN + rK, \tag{1}$$

where p is price, q is quantity, w is per unit labour cost (or effective wage) of platform workers, N is quantity of labour input in platform workers, r is the capital rental (or interest rate), and K is quantity of capital input. Equation (1) is a statement of true economic cost, not just accounting cost.

In this analysis the computer networks, software algorithms, and teams of managers, data scientists, software engineers, and others employed by

[4]In line with this paper's concerns I focus on short-run market predictions. For increasing costs arising in particular from Singapore's CPF contributions, Hoon (1991) provides a steady-state general equilibrium analysis. Both Hoon (1991) and Kim et al. (2022) suggest the welfare consequences are small for the kinds of CPF arrangements I will consider.

the platform company are usefully put into K. All these factors of production have a degree of permanence and inflexibility in their contractual obligations with the platform company, and thus are akin to fixed capital. In contrast platform workers, with high flexibility in raising or lowering their labour input, are better included in N.

Changes in factor prices Δw and Δr induce change in output price Δp satisfying:

$$\frac{\Delta p}{p} = \frac{\Delta w}{w}\left(\frac{wN}{pq}\right) + \frac{\Delta r}{r}\left(\frac{rK}{pq}\right),$$

i.e., the proportional change in output price equals the weighted sum of proportional changes in factor prices, with weights given by the respective factor income shares.

In words, when profit margins are zero or small, the proportional change in output price is not a 100% passthrough. Instead, if one factor price changes, then the effect on output price is that factor price's proportional change multiplied by the factor share of total revenue.

In particular, in response to a change in labour cost, holding all else constant, the proportional change in output price is just:

$$\frac{\Delta p}{p} = \frac{\Delta w}{w}\left(\frac{wN}{pq}\right).$$

Labour's income share wN/pq, between 0 and 1, is the critical multiplier for how unit labour cost changes (such as CPF contributions or workplace insurance premiums) propagate to the final output price.

In aggregate national income accounting, labour's income share wn/pq is about one third, with capital's share the remaining approximate two thirds. In labour-intensive industries, the income share accruing to labour might be as high as 60%; correspondingly, in capital-intensive industries, labour's income share will be lower, perhaps only 20%. The platform industries PWAC considers are capital-intensive, even excluding costs of cars, trucks, and other motor vehicles. Instead, it is the machine algorithms, computers, and digital networks that matter importantly. Labour input is relatively low-skilled and correspondingly low-paid. Thus, for these industries labour's income share is likely less than one-third. Using as an upper bound 30% for labour's income share, a change of, say, 17% of labour payments from full CPF contribution would amount to just over 5% in consumer price increase. An annual step change of 2 percentage points in

additional CPF contribution would imply yearly increase of only 0.6% in consumer price. Similarly, work injury insurance premiums of under 3% would imply less than a 1% change in consumer price. Taking CPF payments or workplace injury compensation premiums net of expenses would reduce these predicted increases even further.

The predicted price changes are, therefore, small, and far from a one-for-one proportional pass-through. To be clear, this calculation draws on economic costs as given in equation (1), not accounting costs. It is economic costs, not accounting figures, that need to characterize optimal managerial decision.

The central assumption that drives this conclusion is that profit margins are thin or zero. No hypothesis on the price elasticity of demand is invoked. How then would specific values for demand elasticity affect our analysis? In a competitive market with equilibrium price and output determined by demand and supply, fluctuation in the supply curve results in movement of prices and output along a given demand curve. If demand is elastic then, all else equal, a contraction in the supply schedule—a leftward shift in the supply curve, say, because of imposing increased CPF contribution on platform operators—will generate a relatively small increase in price and relatively large reduction in output. In other words, the flow of services provided by the market and thus the quantity of platform work will fall; but consumers will see only relatively small price inflation. If, conversely, demand is inelastic, then the relative changes will be reversed in magnitude although not in sign. Price inflation will be relatively high but there will only be small impact on the market takeup of these platform services, and thus relatively small effect on platform work.

What happens, however, if profit margins are higher, i.e., if the market is characterized by monopoly or oligopoly? The paper now turns to that scenario.

5 Price as markup over costs, and the elasticity of demand

The most critical observation is that what happens to price in the market never follows mechanically from what happens to costs. Instead, determination of price is deliberate, and done in such a way as to benefit whoever gets to set that price. This is why understanding price elasticity of the demand curve, markup behaviour, and technical change matter for policy.

Except for very special cases, even for a given, fixed demand curve, the price elasticity of demand is not constant but will vary over the demand curve. In monopolistic and oligopolistic markets, suppliers operate in a region where demand is elastic, i.e., the price elasticity of demand exceeds one in absolute value.

When suppliers have market power, they set price as a markup over marginal cost, where the markup varies inversely with the magnitude of the price elasticity of demand. If markets become more and more competitive, that price elasticity for a given supplier grows in absolute value without bound—a small change in price induces ever larger response—so that the markup then converges eventually to zero. The higher is the price elasticity in magnitude, the lower is the markup.

No supplier with market power chooses to operate where the price elasticity is low in absolute value, i.e., where the demand curve is inelastic. In such a situation, the supplier can raise price and lower the quantity supplied—thus reducing operating costs—and in the process raise total revenue, thus increasing profits.

Suppliers with market power therefore set price as follows:

$$p = \frac{1}{1 + \epsilon^{-1}} MC,$$

where ϵ is the price elasticity of demand and MC is the marginal cost of production. To make progress we need some idea of what MC marginal cost is.

Write output according to the production function

$$q = F(N, K).$$

Total cost equals the sum of labour and capital costs, and so

$$C = wN + rK,$$

paralleling the price equation from earlier. In the short run, if capital is fixed, marginal cost is:

$$\frac{\partial C}{\partial q} = w \left(\frac{\partial q}{\partial N} \right)^{-1} = w F_N^{-1},$$

where $F_N = \partial F / \partial N$ is the marginal product of labour.

However, if, as is likely in these new platform industries, capital can also be adjusted in the short run, then marginal cost is further reduced, so in practice marginal cost is bounded from above by wF_N^{-1}. Using this as the upper bound in the price markup equation then gives:

$$p \leqslant \left(\frac{1}{1+\epsilon^{-1}}\right) F_N^{-1} \times w.$$

The price impact of any change in labour input costs is therefore bounded from above by the product of the markup multiplier together with the change in unit labour cost. The total price-impact multiplier upper bound is

$$M \stackrel{\text{def}}{=} \frac{1}{1+\epsilon^{-1}} \times F_N^{-1}. \tag{2}$$

This key multiplier M in (2) combines considerations from both market demand side (through the elasticity ϵ) and operator supply side (through labour productivity F_N). In other words, the price impact depends on both sides of the market: The larger is ϵ algebraically, the greater is the operator's market power, the higher is M; the more efficient and technologically innovative is the operator, the higher is labour productivity, and so the lower is F_N^{-1}, and thus the smaller is M.

An increase in worker cost can, in this analysis, motivate platform companies to innovate and raise productivity. To take a concrete example, all else equal, platform algorithms can be finetuned to prioritise fastest delivery or, if worker costs rise, can instead bunch deliveries with only marginal reduction in delivery speed. In a gig economy that emphasises bragging rights in ever-faster deliveries, algorithms will de-prioritise clustered delivery and thus end up lowering worker productivity. Such inefficiency arises because of the "winner-take-all" or "economics of superstars" nature to competition when coming in first or rank ordering count inordinately highly (Dasgupta, 1988; Rosen, 1981). The competitor who comes in first wins all, and thereby inflicts a negative externality on everyone else in the race. That externality befalls even those who just narrowly missed winning but ended up producing nearly as much and as successfully as the first-place winner. This distorts incentives: too much effort is put into coming first, while those who have done good work are not rewarded. Winner-take-all competition in the gig economy produces outcomes that are socially inefficent.

A slight increase in worker cost can shift the tradeoff to instead emphasise allowing a single trip by a platform worker to effect multiple deliveries. By leveraging on historical delivery patterns and scheduling payload in more efficient clusters, labour productivity can be increased, thus lowering its reciprocal F_N^{-1} and the price multiplier M, the price markup multiplier.[5]

Without such technological improvement, however, in equation 2 multiplier M, admittedly, could be large. If, say, $\epsilon = -1.4$ then $1/(1+\epsilon^{-1})$ is 3.5. If further F_N equalled 1, the proportional price change would then be three and a half times the change in unit labour cost.

However, (a) if platform operators are able to adjust their capital input, then the multiplier component F_N^{-1} would be reduced from any initial given value; (b) technological and digital innovation work to raise labour productivity, so that F_N^{-1} and therefore multiplier M would be reduced; and (c) the higher is the price elasticity of demand, i.e., the more competitive are markets, the lower will be multiplier M. In other words, that the price impact is large reflects the degree of market power the platform operators exercise and how unwilling operators are to innovate. If the platform operators truly were able to exercise only minimal market power and innovated to raise labour productivity, then so too would the price impact be relatively minor.

6 Conclusion

This paper has provided definitions of platform companies and platform workers, and described a number of policy challenges surrounding platform worker compensation and insurance protection.

The argument is often made that platform workers' not having access to pension provision and workpace insurance is just the price they pay for the flexibility in their line of work. The paper has argued that that reasoning is specious. Instead, such worker protections should be viewed as just part

[5]To be clear, the causality here is from cost to productivity to price reduction. There are other proposals that seek an increased market price to then shift surplus from consumers to platform workers (e.g., Agarwal and Chua, 2022). From a macro aggregate perspective, such proposals do nothing to raise productivity and well-being. They simply redistribute surplus from consumers to platform companies and workers, making some better off and others worse off. What the text describes instead is a way to raise productivity, thus improving the well-being of everyone in society.

of the environment of doing business. What is more helpful is to analyse the impact of legislative rules on worker protection, taking them as given.

This paper models policies on worker protection in terms of potential increases in labour costs. This allows a unified analysis for the effects of policy changes through varying the parameters on labour costs.

The paper has describe circumstances under which platform operator prices change in response to changes in labour costs. (It should be apparent from the calculations applied that these estimates provide simply order-of-magnitude comparison, not decimal-point precision. The parameters used are only calibrations, not econometric estimates.) If, as platform companies insist, they are operating on thin or zero margins, the predicted output price response is minimal, as little as just one third of the proportional increase in labour cost. This is independent of the elasticity of the demand curve, although that last does matter for whether the equilibrium change is larger in price or quantity.

If, conversely, platform operators behave monopolistically or oligopolistically and margins are sufficiently high, then a different reasoning applies. However, the conclusion remains similar in spirit. If platform operators don't have overwhelming market power and if they innovate to raise productivity, so too will the resulting price impact be small.

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