

Economics in the News: Micro Behavior – Competition in the News of 2024

Note: You have 180 minutes (9:10am-12:10pm) to answer Part A—D to earn 138 points. Allocate time wisely.

Part A (60%): Excerpts of “外送員喊漲薪=漲運費? 平台收費沒告訴你的事” (News Lab, PTS, 2024/11/20)ⁱ

(omitted)...從消費者的角度來看，外送服務的運費和服務費往往是由平台設定，像在雨天時，消費者常看到平台顯示運費會有所增加，但這些額外費用是否會實際進入外送員口袋呢？根據外送員的實際經驗，晴天時他騎行 10.5 公里能賺 106 元，但在颱風天即使騎行 8.6 公里，收入卻減少到 90 元；也曾出現過晴天騎 4.3 公里 46 元，颱風天前跑 4 公里 101 元。平台業者則告知，這不是雨天加給，而是因為這區的外送員供不應求，所以提高外送費用。消基會執行董事吳榮達表示這並不公平，「我怎麼知道外送員人數在這個區域到底多還是少，而且你是不是真的有把那些多的錢，回饋一些給外送員，也不知道。」這一切都指向了外送平台行業的核心問題：運價計算不透明和不公平。消費者支付的外送費與服務費是先給平台，平台再依照某種公式計算出外送員的薪水。然而，這個公式卻從未對外公開，外送員無法確定自己到底應該得到多少報酬，等於是平台說了算。這一情況使得外送員的薪水不僅缺乏保障，也使他們在工作中充滿不確定性。

然而，其實在 2021 年 4 月前，平台業者有明確的運價計算公式，其中一家在台北外送的車資，是基本費 42.5 元+10.2 元*距離(公里)+17 元送達費，但之後卻隱藏公式，只知道基本費為 40 起。外送員更發現，改制後，一周內多花 12 小時跑了 49 單，薪水卻比之前少了將近 600 元。吳榮達坦言，「外送員的薪水計算方式越來越苛刻，這是真的。再加上，計算又不透明，等於平台自己操縱，這是絕對沒辦法讓人家接受的。」因此交通部日前預告，對《汽車運輸業管理規則》、《汽車運輸業客貨運運價準則》中的 3 個法條進行修正，讓運價公式透明化、研擬加收等待費、樓層費、夜間加成費、春節費等項目。陳昱安說，「運價公式透明化能清楚知道平台收取的費用包含了哪一些，是否合理，以及這些費用最終是給外送員，或是流入平台口袋。」...(omitted)

Translation: From a consumer's perspective, the delivery fees and service charges for meal delivery service are often set by the platform. For instance, during rainy days, consumers frequently notice that the platform indicates an increase in delivery fees. However, do these additional fees actually go to delivery workers? Based on the experience of delivery workers, cycling 10.5 kilometers earns them NT\$106 on a sunny day, but cycling 8.6 kilometers reduces their earnings to NT\$90 a day before the typhoon hit. There have also been cases where riding 4.3 kilometers on a sunny day brought in NT\$46, while a 4-kilometer ride before a typhoon earned them NT\$101. Platform operators claim that these are not surcharges for rain, but for a shortage of delivery workers in that area. Wu Rong-Da, Executive Director of the Consumer Protection Association, stated that this is unfair. “How would I know the number of delivery workers in this area? How can we be sure that the extra money is actually being passed on to the delivery workers?” This points to a core issue in the food delivery platform industry: the lack of transparency and fairness in delivery pricing. Consumers pay delivery and service fees to the platform, which then calculates delivery workers' wages based on an undisclosed formula. This formula has never been made public, leaving delivery workers unsure of how much they should earn. Essentially, the platform has full control. This situation not only leaves delivery workers' earnings unprotected, but also fills their work with uncertainty.

Interestingly, before April 2021, platforms had clear pricing formulas. For example, one platform calculated delivery charges in Taipei as a base fee of NT\$42.5 + NT\$10.2 per kilometer + a delivery completion fee of NT\$17. However, the formula was later concealed, with only the base fee starting at NT\$40 disclosed. Delivery workers also found that after the changes, their weekly earnings dropped by nearly NT\$600 compared to before even when working 12 extra hours in a week to complete 49 orders. Wu Rong-Da admitted, "The way delivery workers' wages are calculated has become increasingly harsh. This is true. Coupled with the lack of transparency, platforms can manipulate the process, which is absolutely unacceptable." In response, the Ministry of Transportation recently announced revisions to three articles in the Regulations Governing Automobile Transportation Services and the Guidelines on

Passenger and Cargo Transport Tariffs for Automobile Transportation Services. These revisions aim to make pricing formulas transparent and explore the addition of charges for waiting time, floor levels, night-time deliveries, and holiday fees. Chen Yu-An stated, "Transparent pricing formulas allow us to clearly understand what costs are included in the platform's charges, whether they are reasonable, and whether these fees ultimately go to the delivery workers or end up in the platform's pockets."

Answer the following questions:

1. (4%) Meal delivery services are usually considered homogeneous, since a meal delivered is a meal delivered, regardless of company branding. Which of the following market structures best resembles the meal delivery industry? Monopoly, oligopoly, perfect competition or monopolistic competition. How do firms under this market structure determine prices and quantity? Explain.
2. (4%) Assume companies care only about delivering meals in time. Which of the following market structures best resembles the labor market for meal delivery workers? Monopsony, oligopsony, perfect competition or monopolistic competition. How do companies under this market structure determine prices and quantity? Explain.
3. (2%) The two major platforms used to charge consumers according to a fixed formula, consisting of a base pick-up fee plus mileage charges and delivery fees. However, after April 2021, pricing is no longer transparent. It is as if they jointly decided to hide pricing. Draw the payoff matrix of the following game played between Uber and foodpanda where each determine whether to hide pricing or remain transparent: Compare to the status quo of both remaining transparent, when only one firm hides their pricing, that firm earns lower payoff and the other firm earns higher payoff. But when both deviate to hide pricing, both firms earn even higher payoffs.
4. (7%) Does Uber or foodpanda have a dominant strategy? Why or why not? What is the Nash equilibrium of this game? (If there are more than one, report only those with pure strategies.)
5. (5%) Who benefits from jointly moving to hiding pricing? Who is worse off? Does the real world outcome before and after April 2021 match your answer to the previous question? Explain.

Part A-2: Excerpts of “外送費將調漲至 60 元起跳? 8 成消費者不買單, 交通部急澄清” (Yahoo, 2024/10/15)ⁱⁱ

外送費恐怕又要調漲! 交通部近日預告修正外送平台基本運價, 依照全國外送產業工會建議每單調漲為 60 ~ 85 元不等, 消息一出, 消基會反對, 消費者跳腳! ...(omitted)...面對即將調漲的外送費, Yahoo 奇摩立即發起民調, 問及針對「修訂外送運價準則」的看法, 僅 4 成民衆支持, 2 成 6 的民衆偏向不支持, 3 成民衆表示沒意見, 顯示民衆意見不一; 而針對「如果未來因運價準則, 每筆外送費用將調漲至 60-85 元不等, 你是否還會點外送?」有 55% 民衆表示將不再繼續點外送, 33.1% 民衆將會減少使用頻率, 僅 11.9% 民衆會維持一樣頻率。顯示如果外送價格調漲, 首當其衝的就是外送訂單會大幅縮減。面對「漲」聲即將響起, Yahoo 網友留言怒轟「政府到底在幫誰?」、「交通部一直出手干預市場, 真的很莫名其妙」。外送員也出面表達看法, 認為修法通過後, 平台不可能全盤接受調漲費用, 消費者將面臨更高的外送餐點費用, 將導致訂單減少, 最後更語重心長地認為「出發點要照顧外送員, 結果大家一起倒霉。」...(omitted)

Translations: Delivery fees may be on the rise again! The Ministry of Transportation recently announced a proposal to adjust the base delivery rates for food delivery platforms, following recommendations from the National Delivery Workers Union to increase fees to between NT\$60 and NT\$85 per order. This news has sparked opposition from the Consumer Protection Association and outrage among consumers... (omitted)...In response to the potential fee hike, Yahoo Taiwan conducted a survey. When asked about their opinion on the "amendment to the food delivery pricing guidelines," only 40% of respondents supported it, while 26% were against it, and 30% were neutral, indicating divided public opinion. Asking how consumers would react if delivery fees increased to NT\$60–85 per order due to the new guidelines, results showed that 55% of respondents would stop using food delivery services, 33.1% would reduce their usage, and only 11.9% would maintain their current frequency. These findings suggest that higher delivery

fees could significantly decrease the number of delivery orders. As public discontent grows, Yahoo users took to the comment section to express their frustration. Comments included criticisms like, "Who is the government really helping?" and "The Ministry of Transportation's constant market intervention is utterly baffling." Delivery workers also weighed in, expressing concerns that platforms are unlikely to fully absorb the increased costs, meaning consumers will face higher prices for food and delivery. They fear this will lead to fewer orders. One delivery worker poignantly remarked, "Although the intention was to support delivery workers, but in the end, everyone suffers."...(omitted)

6. (11%) To protect meal delivery workers, the Ministry of Transportation proposes to set transparent meal delivery fees of NT\$60-85. How would such intervention affect delivery demand and delivery supply? What about equilibrium price received by firms and price paid by consumers, as well as equilibrium quantity of delivery? How would CS, PS, and TS change?
7. (4%) Assuming the government does not enforce such price control, would meal delivery workers really receive the full amount? Alternatively, if the government indeed enforces this, would consumers see their meal delivery prices increase by exactly the same amount? Explain.
8. (3%) If the current delivery fee is NT\$40 per order, use the midpoint method to calculate the range of percentage price change for a price increase to NT\$60-85.
9. (3%) Use the midpoint method to calculate the percentage change in quantity demanded assuming the 33.1% consumers who "reduce usage" would exactly half their usage.
10. (4%) What is the price elasticity of demand for meal delivery? Is demand elastic or inelastic?

Part A-3: Excerpts "High Market Share Delays Uber Eats, foodpanda Merger: Expert" (TVBS, 2024/12/10)ⁱⁱⁱ

(omitted)...The FTC extended the review of Uber Eats' NT\$30.8 billion acquisition of foodpanda by 60 days on Monday, citing the need for a comprehensive evaluation. A decision is expected no later than March 21, 2025. Luo Bing-Kuan (駱秉寬), vice chairman of the Taiwan Mergers & Acquisitions and Private Equity Council (MAPECT, 台灣併購與私募股權協會), analyzed that the merger is not highly difficult, but the platforms' market share is too high, making the scope of consideration for the commission too broad...(omitted)...Luo noted that the commission primarily focuses on whether the overall economic benefits outweigh the restrictions on competition for approval. Despite concerns about potential monopoly issues, he acknowledged that approval could be an option if the commission identifies "conditions" that "limit competitive interests."

11. (3%) What is the role of the FTC? Why is FTC concerned about approving the merger?
12. (10%) If the approved merger generates deadweight loss, should the government set a price ceiling or a price floor on delivery fees to address this? Draw a price and quantity diagram to analyze the effect of such intervention on delivery fees and amount of meals delivered? How would CS, PS, and TS change?

Part B (41%): Excerpts of "基本工資一漲，失業率、通膨都變高？數據打臉「慣老闆」" (遠見雜誌, 2023/9/13)^{iv}

勞動部拍板，明年每月基本薪資將調漲 4.05% 至 27470 元，由於企業用人成本增加，馬上有不少企業老闆私下抱怨不已。另外，也引起大眾對物價調漲的擔憂。主要是這回基本薪資調幅遠大於主計總處預估的經濟成長率 1.61%，資方大喊吃不消，恐會降低聘僱意願，拉抬失業率上升。不過數據顯示，基本薪資調漲，與通膨、失業率並沒有一定連動關係，有時候反而出現基本工資調幅高，失業率相對降低的現象。上述說法也許純屬「慣老闆」們的迷思。

總統蔡英文 8 年任內，年年調漲基本薪資，基本月薪工資從上任前的 20008 元，調漲至 27470 元，調幅 37.3%。就算是受疫情影響較嚴重的年份，調漲腳步也沒停歇，學界對蔡英文 8 年任內的基本薪資調漲政策，普遍好評。中華經濟研究院助研究員賴偉文指出，不帶任何政治立場來看的話，蔡英文 8 年的基本薪資政策，可以說「好比壞多」，一來 8 年下來年年調漲，二來調幅也都符合原則，雖然沒有達到一開始說的每月基本工

資 3 萬的目標，「但光這兩點，就覺得可以了。」不過相對年年調漲的步伐，大多數民衆從最初的期待，轉變到後來的無感，認為政府此舉對解決低薪現象收效甚微。賴偉文指出，台灣的低薪現象形成，背後有多種原因，「絕非一個基本薪資調漲就能解決，」且基本薪資調漲受惠的族群，大多是弱勢勞工，占比不到全體勞工數的 1/5，因此調漲對一般民衆來說，當然相對無感。

對於基本薪資的調漲，資方爲了反對基本工資調漲太多，多以物價上升、失業率上升作爲說帖，但根據賴偉文過去所做研究顯示，這兩件事並不一定會伴隨基本工資調漲而發生。因爲物價能否調漲，「看的是商品的特性，並非所有商品都能將成本轉嫁給消費者」，例如一般小吃攤的麵店，由於可取代性高，隨意調漲，消費者可能就棄麵店而去其他店家消費。至於失業率方面，對製造業來說，只要薪資的漲幅還在可以接受的狀況下，一般不輕易解雇勞工，畢竟技能的養成需要時間，如果隨意解雇，好不容易訓練好的技能就失去了，未來景氣好轉，也不見得能聘到具同樣技能的勞工。「我們過去的研究是，除非（基本工資）上漲幅度超過 5%，（通膨跟失業率的）效果才會顯現出來，只要在 5% 以內，基本上效果很弱。」...(omitted)

歷年基本薪資調幅與通膨、失業率關係表

Year(年度)	Monthly Minimum Wage Growth Rate (每月基本工資調幅)	失業率 (Unemployment Rate)	Growth Rate of CPI (CPI 年增率)
2016 (105)	3.81%	3.92%	1.4%
2017 (106)	5.00%	3.76%	0.62%
2018 (107)	4.72%	3.71%	1.36%
2019 (108)	5.00%	3.73%	0.55%
2020 (109)	3.03%	3.85%	-0.23%
2021 (110)	0.84%	3.95%	1.97%
2022 (111)	5.21%	3.67%	2.95%

Translation: The Ministry of Labor has decided that the monthly minimum wage will be increased by 4.05% to NT\$27,470 next year. Due to the increase in corporate employment costs, many business owners have complained privately. In addition, it also caused public concern about rising prices. The main reason is that this time the minimum wage increase is much larger than the economic growth rate of 1.61% estimated by the General Accounting Office. The employer is complaining that it is too much to bear, which may reduce the willingness to hire and push up the unemployment rate. However, data shows that minimum wage increases are not necessarily linked to inflation and the unemployment rate. Sometimes, the minimum wage increases at a high rate and the unemployment rate is relatively low. The above statement may be purely a myth of "habitual bosses".

During President Tsai Ing-wen's eight-year term, she has raised the minimum wage every year. The monthly minimum wage has increased from NT\$20,008 before taking office to NT\$27,470, an increase of 37.3%. Even in years severely affected by the epidemic, the pace of increases has not stopped. Academic circles have generally praised Tsai Ing-wen's minimum wage increase policy during her eight years in office. However, compared with the pace of annual increases, most people have changed from initial expectations to later indifference, believing that the government's move will have little effect on solving the low wage phenomenon.

Regarding the increase in minimum wage, employers often use rising prices and rising unemployment as arguments to oppose too much increase in minimum wage. However, according to past research, these two things will not necessarily be accompanied by an increase in minimum wage. Because whether prices can be increased "depends on the characteristics of the goods, not all goods can pass on the cost to consumers." As for the unemployment rate, for the manufacturing industry, as long as the wage increase

is still acceptable, workers are generally not easily laid off. "Our past research is that unless the minimum wage increases by more than 5%, the effect of inflation and unemployment will not be apparent. As long as it is within 5%, the effect is basically very weak."...(omitted)

Assume firms are price-takers in the labor market and answer the following questions:

1. (6%) How would equilibrium wage and equilibrium employment change when minimum wage is raised? Draw a supply and demand diagram of the labor market to illustrate.
2. (5%) Who are the winners and losers of this policy? Does deadweight loss (if any) increase? Explain.

Now consider the output market and answer the following question:

3. (8%) How would minimum wage increase affect the cost of production? How would a profit-maximizing firm adjust its price and quantity for its output? Draw a supply and demand diagram of the output market to illustrate.
4. (9%) How is the worker's value of marginal product affected by this shift in the output market? How would that affect labor demand? Draw a supply and demand diagram of the labor market to illustrate the change in equilibrium wages and employment.
5. (4%) What are other possible reasons workers are receiving low wages? Are there other policies besides minimum wage increase that can better address them? Explain.
6. (3%) Is there any (positive or negative) correlation between the minimum wage growth rate and the unemployment rate in 2016-2022 when the monthly minimum wage growth rate is under 5%? Explain.
7. (3%) Under which market structure can firms pass their costs to consumers? Explain.
8. (3%) What are the reasons for firms not to pay low wages even when they cannot easily pass all the costs to consumers? Explain.

Part C (24%): Excerpts “慶祝中華隊 12 強奪金！50 家冠軍優惠總整理 星巴克、虎航買一送一” (2024/11/25)⁴

中華隊奪下冠軍了！世界 12 強棒球賽台日冠軍戰結果出爐，中華隊 4:0 完封日本大獲全勝，不只終結了日本隊國際賽 27 連勝紀錄，更創隊史最佳紀錄拿冠軍！全民熱血沸騰，超商咖啡、霜淇淋買一送一，星巴克、肯德基、台灣虎航、貳樓、海底撈也卯起來半價促銷，糖村最瘋狂，祭出「全店搬光」活動同慶，連大盒禮盒都隨便搬。《NOWnews》本篇不斷更新，中華隊冠軍優惠一文掌握。...(details of the 50+ promotions omitted)

Here is the list of stores offering 50% off and “buy one get one free (B1G1F)” according to NOWnews:

3 Stores offering 50% off	乾杯燒肉居酒屋、五之神製作所、貓纜
29 Stores offering B1G1F	Coffee from 7-11, Family Mart, Hi-Life, Ok Mart, Starbucks, Barista, 珍煮丹、天仁茗茶 APP、小仁泉、御私藏、美廉社、小北百貨。 海底撈火鍋、圓山大飯店、TGI FRIDAYS, 劍湖山世界、麗寶樂園、龜記茗品、日出茶太、鮮茶道、CoCo 都可、正當冰、金色三麥麥漢堡、漢來海港、台灣虎航、頂呱呱、Second Floor 貳樓、Carrefour, Domino Pizza
24 stores offering other promotions	Luisa Coffee、三商巧福、神旺潮品集/神旺普諾麵包坊、福勝亭、繼光香香雞、Pizza Hut、就饗鐵板燒、Taroko Sports, Uber Eats, foodpanda, COLD STONE, 糖村 SUGAR & SPICE、夏慕尼、壽司郎、MOS Burger, Burger King, KFC, 台灣客家茶文化館、富邦美術館、美麗華摩天輪、兒童新樂園、六福村、清心福全、屋馬燒肉、金色三麥

Translation: Team Taiwan of baseball has claimed the championship! In the WBSC Premier 12 final between Taiwan and Japan, Team Taiwan shut out Japan 4-0, achieving a flawless victory. Not only did they end Japan's 27-game winning streak in international tournaments, but they also set a new team record by winning the championship! The entire nation is fired up, and celebrations abound with promotions everywhere: convenience store coffee and soft-serve ice cream are all offering buy-one-get-one-free deals, while Second Floor Café, Starbucks, KFC, Tigerair Taiwan, and Haidilao are joining the festivities with half-price promotions. The craziest of all is SUGAR & SPICE, launching a “Take Everything

Home” event to celebrate—yes, even large gift boxes are up for grabs! This NOW news article is updated constantly to help you keep up all the latest promotions...(details of the 50+ promotions omitted)

Answer the following questions:

1. (3%) If demand remains the same, will the seller’s profit decrease due to the discounted sales price? Why or why not?
2. (6%) Which industry would have stores listed above which sees demand increase as people go there to celebrate Team Taiwan’s world championship. List at least 2 categories and provide 2 examples each.
3. (4%) Are there other reasons (other than profit maximization) for stores to run promotion discounts when Team Taiwan wins the world championship in baseball? Explain.
4. (4%) Why do few stores offer 50% off, while many others employ B1G1F? Explain.
5. (3%) Why does the Maokong Gondola choose to offer 50% off instead of B1G1F? Explain.
6. (4%) If promoting discounts is such a good way to increase revenue, why don’t the stores promote discounts all year to attract customers?

Part D (13%): Excerpt “US Justice Department accuses RealPage of driving up rents” (Reuters, 8/24/2024)^{vi}

The U.S. Department of Justice and eight states sued RealPage on Friday, accusing the property management software company of using algorithms to help landlords illegally collude and drive up rents for apartments. The lawsuit filed in North Carolina accuses Dallas, Texas-headquartered RealPage of letting landlords collude by sharing their pricing information with the company's software, which then recommends rent prices. The software keeps landlords from lowering rent and offering deals to attract renters, the Justice Department said. High housing costs are a key concern for U.S. consumers ahead of the November presidential election, with home prices rising nationally by about 50 per cent and rent going up around 35 per cent in the last five years, according to real estate service firm Zillow. The case is the first time the Justice Department has gone after algorithmic collusion, a growing concern for antitrust enforcers as technology companies offer pricing services based on big data. "Americans should not have to pay more in rent because a company has found a new way to scheme with landlords to break the law," Attorney General Merrick Garland said in a statement. The Justice Department points to statements by RealPage executives that it says show they realized they were helping to dampen competition in the rental housing market. "There is greater good in everybody succeeding versus essentially trying to compete against one another in a way that actually keeps the entire industry down," one executive said, according to the Justice Department...(omitted)

1. (2%) Draw the payoff matrix of the game played between two landlords, each choosing to set a high or low rental price. Compared to both setting a low price, when only one landlord sets a high rental price, that landlord would receive low payoffs (finding it difficult to rent the house out), while the other landlord would receive high payoffs (finding it easy to rent the house out). But when both set a high rental price, both landlords earn even higher payoffs benefitting from each other’s high prices.
2. (6%) Does any landlord have a dominant strategy? Why or why not? What is the Nash equilibrium of this game? (If there are more than one, report only those with pure strategies.)
3. (5%) Who benefits from both landlords setting a high rental price? Who is worse off? Does the real world outcome resemble what is predicted here? How does RealPage play a role in this game? Explain.

ⁱ By 陳玟穎，公視新聞實驗室：<https://newslab.pts.org.tw/video/335>

ⁱⁱ <https://ynews.page.link/hG8y1>

ⁱⁱⁱ <https://news.tvbs.com.tw/english/2713764>

^{iv} By 林仕祥, Global Views Monthly: <https://www.gvm.com.tw/article/106116>

^v By 黃韻文, Now News: <https://www.nownews.com/news/6592233>

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