Statement of Research Interests and Future Plans

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Motivation. Online markets run on rules about reversal: a shopper can return what she bought, a bookstore can send back what it cannot sell, a platform can refund a fee when a deal falls through. Who sets these rules, and how they should be designed, decides what gets bought, what gets wasted, and who bears the cost. I study these questions empirically.

Research interests. My research lies in empirical industrial organization and digital economics. I study decisions that must be made before uncertainty is resolved, when adjusting afterward is costly. Consumers face uncertainty about the value of a product and can learn about it before paying, by searching, or after paying, by returning. Sellers face uncertainty about demand and must set prices and inventory in advance. A policy that seems to fix one margin often distorts the other, and the two margins are determined together. This joint determination is the common thread through my work on product returns, consumer search, and inventory under demand uncertainty, and it is the angle I bring to policy analysis.

Working papers.

- **Designing Return Policy in E-Commerce: A Trade-off between Purchase and Return Efficiency** (job market paper). A return policy sets two margins: whether shoppers buy, and whether they return the item after delivery. A stricter policy curbs inefficient returns after purchase, but with fewer returns the seller keeps more of each sale, so a higher price becomes more profitable and can price out purchases that would have been valuable. Using transaction data from a women's clothing retailer on Taobao, I estimate a structural model of purchase, insurance, and return decisions under monopoly pricing across six apparel categories. A lenient policy that reimburses return shipping performs better when margins and salvage value are high, by expanding efficient purchases, whereas a stricter policy performs better when margins are thinner, by curbing excessive returns. A menu that pairs a discounted price with a moderate restocking fee balances purchase and return efficiency and outperforms both for most categories. Taiwan makes this question concrete: Article 19 of the Consumer Protection Act gives online shoppers a seven-day cooling-off period to return goods for any reason at no cost.[1] With free returns the legal default, how sellers should price and design returns under that mandate is a regulated-market question rather than a hypothetical one.
- **Product Design with Heterogeneous Search Costs** (with Pak Hung Au). We introduce search-cost heterogeneity into a sequential search model. Low-search-cost consumers seek niche products, while high-search-cost consumers buy standardized products. When search costs fall, more consumers switch to searching niche products, and this shift in who searches can raise prices for both product types.

Work in progress.

- **Pass-Through and Incidence with Product Returns** (with Ce Bian and Liang Zhao). This project asks how a tax passes through when purchases are not final. A seller receives the price only when the buyer keeps the good, so each sale carries the production cost, the return handling cost, and any tax or fee not recovered on a return. The price also moves the return rate, which feeds back into the margin and the quantity supplied, so pass-through can be stronger, weaker, or even negative. A calculation that ignores the return margin can reverse the predicted price and welfare effects. The project also asks how a kept sale and a return should be taxed, since

[1] Consumer Protection Act (Taiwan), Art. 19. English text: Laws and Regulations Database of the Republic of China (Taiwan), `https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=J0170001`.

in practice a sales tax is refunded in full on a return while a platform referral fee is refunded only in part. Taiwan's e-commerce marketplaces make the question immediate: the marketplace Shopee has raised seller fees in steps to a combined take reported at over 14 percent, with higher payment and free-shipping fees added in 2026, while buyers return purchases at no cost under the cooling-off rule and the platform refunds its commission on returned orders.[2] How such fees pass through to prices, and how the refund treatment of each fee shapes that pass-through, is a live dispute between Taiwan's platforms and their sellers.

- **Too Much Unsold Stock?: Environmental Consequences of Price Commitment** (with Kohei Kawaguchi and Kei Kawai). In the Japanese book market, publishers set retail prices under resale price maintenance and bookstores return unsold copies to be pulped. A fixed retail price encourages bookstores to hold inventory even when demand turns out low, which is procompetitive, but it also prevents discounting in that case, so unsold stock piles up at an environmental cost. We build a dynamic oligopoly model with demand uncertainty, estimate it on monthly bookstore data, and ask how much unsold stock is due to price commitment and how a deposit-refund tax can reduce the waste. Taiwan's Fair Trade Commission treats resale price maintenance as illegal in principle under the Fair Trade Law, and it has fined book publishers for fixing resale prices, including a NT$200,000 fine on Commonwealth Publishing for fixing the price of the "Steve Jobs" biography at NT$599 and a NT$500,000 fine on Lung T'eng for restricting booksellers' discounts on reference books.[3]

Future plans. Over the next five years I plan to develop this agenda into a broader analysis of market rules that create waste, and to connect it to environmental and circular-economy policy. Product returns and unsold inventory are the same market failure at two stages of the sale, and both are shaped by prices, fees, and the right to reverse a transaction. I see three directions.

First, I will study search, purchase, and return jointly. Search and return are two ways of resolving the same match uncertainty, one before paying and one after, so they are substitutes. Better search lowers the residual uncertainty a buyer carries into the purchase, which should lower the return rate, but it also lets the seller charge more because the buyer's outside option is better informed. Which force dominates decides whether a platform's recommendation system reduces returns or just raises prices instead. I want to estimate the joint decision and recover the substitution between search intensity and the return rate. The potential result is a welfare accounting that separates the match-quality gain from the higher price, and a test of whether recommendation, which is meant to raise match quality, instead shifts the cost of mismatch into return shipping and disposal. In Taiwan, where free returns are the legal default,[4] this substitution between search and return, and the role of platform recommendation in it, are features of the market consumers already face.

Second, I will study returns and unsold stock as an environmental problem and evaluate instruments that reduce waste. In apparel, a shopper who orders several sizes or colors keeps one and returns the rest, generating a large loss of value on the returned items. In publishing, fixed retail prices produce unsold copies that are pulped. Each is a case where the rule that protects one margin creates physical waste at the other, because the party setting the rule does not bear the disposal cost. I plan to quantify that waste and to compare instruments that internalize it, including restocking fees, return-shipping charges, deposit-refund taxes, and rules on price flexibility. The intuition is that each instrument raises the private cost of a return toward its social cost, but they differ in

[2] Shopee Taiwan seller help center: fees (`https://seller.shopee.tw/edu/article/26470`); 2026 update and free-shipping program (`https://seller.shopee.tw/edu/article/26430`); commission refunded on returned orders (`https://seller.shopee.tw/edu/article/12157`). Combined take above 14 percent: Commonwealth Magazine interview with Shopee Taiwan's general manager, 2026, `https://www.cw.com.tw/article/5141245`.
[3] Fair Trade Commission (Taiwan): Disposition Kung Ch'u Tzu No. 101137 (September 19, 2012), Commonwealth Publishing; Disposition (89) Kung Chu Tzu No. 207 (November 30, 2000), Lung T'eng. Case summaries: `https://www.apeccp.org.tw/htdocs/doc/Taipei/Case/dec2012/1136-1089case07.html`; `https://www.apeccp.org.tw/htdocs/doc/Taipei/Case/D0505200.htm`.
[4] Consumer Protection Act (Taiwan), Art. 19, `https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=J0170001`.

how much they also discourage valuable purchases, so the comparison yields a ranking of which instrument lowers waste the most per unit of lost trade. Taiwan's Ministry of Environment already regulates e-commerce packaging, banning PVC, requiring 90 percent recycled content in cardboard and 25 percent in plastic, and pressing large retailers toward packaging-weight reduction and reuse targets, while returns add reverse logistics and packaging waste on top of these flows.[5] Because Taiwan is tightening extended producer responsibility and circular-economy rules, this work can inform how e-commerce returns and unsold inventory should be counted, charged, or discouraged.

Third, I will study how return and refund rules shape the two sides of a platform. A return policy is a lever on participation, not only on behavior after joining. A lenient policy draws in more buyers, including those more likely to return, which raises the return rate a seller faces and lowers what a seller can earn, so some sellers leave and the survivors reprice. The cross-side effect can therefore undo part of the demand gain the lenient policy was meant to create. I plan to estimate how composition on one side feeds into the other and to compare the return policy the platform would choose with the one a regulator would choose. That yields a map from the cross-side network effect to the optimal division of return-shipping and restocking costs between buyer, seller, and platform. The Fair Trade Commission's digital-platform competition work already puts the rules a platform sets for its two sides under scrutiny in Taiwan.[6]

Contribution to CIER. My field is empirical industrial organization, and my toolkit is the one CIER already relies on. CIER carries out commissioned competition studies for Taiwan's Fair Trade Commission, including the empirical assessment of the online-sales market and the study of digital platforms and competition rules.[7] Those reports define relevant markets, assess multi-sided network effects and market power, and evaluate conduct such as exclusive dealing, resale-price maintenance, most-favored-nation clauses, and platform parity. This is precisely the ground I work on. My training is to take rich micro data, estimate structural models of demand, supply, and firm conduct, and use those models to evaluate how a change in rules or prices moves market power, consumer surplus, and welfare. I would bring exactly this capacity to CIER's competition and digital-economy work.

Several of my projects speak to that agenda directly: the pass-through project on how fees and taxes transmit to prices when purchases can be returned, the unsold-stock project on the competitive effect of resale price maintenance, one of the vertical restraints the Fair Trade Commission flags, and the job market paper and search project on the pricing, search, and platform design that the digital-platform studies treat. Across these, I handle the full path from raw transaction or scanner data to a policy simulation a ministry can act on.

The same toolkit serves CIER's wider centers. For the centers on Taiwan industry and on energy and the green economy, my work on unsold inventory and product returns measures the waste created by pricing rules and shipping subsidies and evaluates instruments, such as deposit-refund taxes and restocking fees, that could reduce it. For economic forecasting, my pass-through work shows that leaving out the return margin can reverse the predicted price response to a cost shock. I grew up in Taiwan and can work with domestic data and stakeholders in both Chinese and English. My aim at CIER is to turn structural estimates into clear, evidence-based recommendations across competition, digital-platform, tax, and environmental policy.

[5] Ministry of Environment (Taiwan), Targets and Measures for Restrictions on Internet Shopping Packaging, in force since July 1, 2023. English summary: `https://www.moenv.gov.tw/en/news/press-releases/15507.html`.
[6] Fair Trade Commission commissioned study, carried out by the Chung-Hua Institution for Economic Research: *The Digital Platform Industry: Current State, Trends, and Competition Rules in Taiwan* (2022), `https://www.ftc.gov.tw/upload/1f59ab5d-8cae-410a-a8b1-2080fdab977c.pdf`.
[7] Fair Trade Commission commissioned studies, both carried out by the Chung-Hua Institution for Economic Research: *Empirical Study of Competition in the Online Sales Market* (2020), `https://www.ftc.gov.tw/upload/885e4488-950e-4cf9-a774-6a224b8df58c.pdf`; *The Digital Platform Industry: Current State, Trends, and Competition Rules in Taiwan* (2022), `https://www.ftc.gov.tw/upload/1f59ab5d-8cae-410a-a8b1-2080fdab977c.pdf`.

研究興趣與未來研究計畫

許可證（Ke Cheng Hsu）
應徵中華經濟研究院助研究員

研究動機。線上市場的運作，依賴一套關於「反悔」的規則：消費者可以退回買下的商品，書店可以退回賣不掉的存貨，平台可以在交易未完成時退還費用。誰制定這些規則、規則該如何設計，決定哪些商品被買走、哪些資源被浪費，以及成本由誰承擔。我以實證方法研究這些問題。

研究興趣。我的研究領域為實證產業組織與數位經濟。我研究的，是在不確定性尚未消除前就必須做出、而事後調整成本高昂的決策。消費者不確定產品價值，可以在付款前透過搜尋了解，也可以在付款後透過退貨了解；賣方不確定需求，必須預先定價與備貨。一項看似修正某一邊際的政策，往往扭曲另一邊際，而這兩個邊際是同時決定的。這條「聯合決定」的主線，貫穿我對產品退貨、消費者搜尋，以及需求不確定性下庫存決策的研究，也是我帶入政策分析的視角。

工作論文。

- **Designing Return Policy in E-Commerce: A Trade-off between Purchase and Return Efficiency**（求職論文）。退貨政策決定兩個邊際：消費者是否購買，以及收到商品後是否退貨。較嚴格的政策能抑制購買後無效率的退貨；但退貨減少後，賣方在每筆成交中保留更多，較高的價格變得更有利可圖，可能把原本有價值的購買擠出市場。我使用淘寶一家女裝零售商的交易資料，估計一個涵蓋六個服裝類別、獨占定價下的購買、退貨保險與退貨決策結構模型。結果顯示：利潤率與殘值較高時，補貼退貨運費的寬鬆政策較能擴大有效率的購買；利潤率較薄時，較嚴格的政策較能抑制過度退貨；而折扣價搭配適度退貨手續費的選單，能平衡購買與退貨效率，在多數類別中優於前兩者。台灣的法規讓這個問題格外具體：《消費者保護法》第 19 條賦予網購消費者七日猶豫期，可無理由免費退貨。[1]免費退貨既是法定預設，賣方在這項制度下應如何定價、如何設計退貨機制，便是受管制市場中的現實問題，而非紙上假設。
- **Product Design with Heterogeneous Search Costs**（與 Pak Hung Au 合著）。我們在序貫搜尋模型中引入搜尋成本異質性。低搜尋成本的消費者尋找利基產品，高搜尋成本的消費者購買標準化產品。當搜尋成本下降，更多消費者轉向搜尋利基產品，這種「誰在搜尋」的組成改變，可能同時推高兩類產品的價格。

進行中的研究。

- **Pass-Through and Incidence with Product Returns**（與 Ce Bian、Liang Zhao 合著）。本計畫探討：當購買並非最終交易時，租稅如何轉嫁。只有當買方保留商品，賣方才真正收到價款，因此每筆銷售都承擔生產成本、退貨處理成本，以及退貨時無法回收的租稅或費用。價格也會影響退貨率，退貨率再回饋到利潤率與供給量，因此轉嫁可能更強、更弱，甚至為負。忽略退貨邊際的計算，可能逆轉預測的價格與福利效果。本計畫也探討保留的銷售與退貨應如何課稅：實務上營業稅在退貨時全額退還，平台轉介費卻只部分退還。台灣的電商平台讓這個問題格外現實：蝦皮分階段調漲賣家費用，合計抽成據報導已超過 14%，並於 2026 年調高金流與系統處理費、要求所有賣家加入免運專案；同時，消費者在猶豫期內可免費退貨，平台對退貨訂單按比例退還成交手續費。[2]這些費用如何轉嫁到價格、各項費用在退貨時的退還方式如何形塑轉嫁，是台灣平台與賣家之間持續中的爭議。
- **Too Much Unsold Stock?: Environmental Consequences of Price Commitment**（與 Kohei Kawaguchi、Kei Kawai 合著）。在日本圖書市場，出版社在維持轉售價格制度下訂定零售價，書店將未售出

[1] 消費者保護法第 19 條。英文條文：全國法規資料庫，https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=J0170001。

[2] 蝦皮購物賣家幫助中心：成交手續費與金流費，https://seller.shopee.tw/edu/article/26470；2026 年 1 月費率更新與免運專案，https://seller.shopee.tw/edu/article/26430；退貨退款訂單不收成交手續費、費用按比例退還，https://seller.shopee.tw/edu/article/12157。合計抽成超過 14% 與賣家反彈：《天下雜誌》專訪蝦皮台灣總經理，2026 年，https://www.cw.com.tw/article/5141245。

的書籍退回打成紙漿。固定零售價鼓勵書店在需求轉弱時仍持有庫存，這有助於競爭；但在需求低迷時也無法降價出清，滯銷存貨於是堆積，造成環境成本。我們建立含需求不確定性的動態寡占模型，以書店月度資料估計，探討有多少滯銷存貨源自價格承諾，以及押金退還稅能如何減少浪費。台灣《公平交易法》將維持轉售價格視為原則違法，公平交易委員會曾處分固定書籍轉售價格的出版商，包括對天下遠見出版將《賈伯斯傳》售價固定為新臺幣 599 元裁罰新臺幣 20 萬元，以及對龍騰限制書店參考書折扣裁罰新臺幣 50 萬元。[3]

未來研究計畫。未來五年，我將把這個研究議程發展為對「造成浪費的市場規則」更廣泛的分析，並連結環境與循環經濟政策。產品退貨與滯銷存貨，是同一個市場失靈在銷售前後兩個階段的表現，兩者都受價格、費用與交易反悔權的形塑。我看到三個方向。

第一，我將一併研究搜尋、購買與退貨。搜尋與退貨是解決同一個媒合不確定性的兩種方式，一個在付款前、一個在付款後，因此互為替代。更好的搜尋會降低買方帶入購買的殘餘不確定性，理應降低退貨率；但它也讓賣方可以收取更高價格，因為買方對外部選項有更充分的資訊。哪股力量占主導，決定平台的推薦系統是真的降低退貨，還是只是推高價格。我希望估計這個聯合決策，並從中還原搜尋強度與退貨率之間的替代關係。可能的成果是一套福利核算，將媒合品質的提升與價格上升分開，並檢驗旨在提升媒合品質的推薦系統，是否反而把錯配的成本轉嫁到退貨運輸與處置上。在台灣，免費退貨是法定預設，[4]搜尋與退貨之間的替代、以及平台推薦在其中的角色，正是消費者已經面對的市場特徵。

第二，我將把退貨與滯銷存貨作為環境問題來研究，並評估減少浪費的政策工具。在服裝業，消費者一次訂購數個尺寸或顏色，留下一件、退回其餘，退回的商品價值大幅折損；在出版業，固定零售價產生被打成紙漿的滯銷書籍。兩者都是保護某一邊際的規則，在另一邊際製造實體浪費，因為制定規則的一方不承擔處置成本。我計畫量化這些浪費，並比較能將其內部化的工具，包括退貨手續費、退貨運費、押金退還稅與價格彈性規則。直觀上，每種工具都把退貨的私人成本推向社會成本，但它們在多大程度上同時抑制有價值的購買並不相同，因此這項比較將排定：每犧牲一單位交易，哪種工具減少的浪費最多。台灣環境部已管制電商包裝：禁用 PVC、規定紙箱的再生紙含量達 90%、塑膠包材的再生料含量達 25%，並推動大型業者達成包裝減重與重複使用目標；退貨則在這些流量之上，再增加逆向物流與包裝廢棄物。[5]隨著台灣延伸生產者責任與循環經濟規範趨嚴，這項研究可為電商退貨與滯銷存貨應如何計量、收費或抑制提供依據。

第三，我將研究退貨與退款規則如何形塑平台的雙邊市場。退貨政策是影響參與的槓桿，不只影響加入後的行為。寬鬆的政策吸引更多買方，包括較可能退貨的買方；這提高賣方面對的退貨率、降低賣方收益，於是部分賣方退出，存活者重新定價。跨邊效果因此可能抵銷寬鬆政策原本要創造的部分需求增益。我計畫估計一邊的組成變化如何回饋到另一邊，並比較平台會選擇的退貨政策與監理機關會選擇的退貨政策。這將建立從跨邊網路效應、到退貨運費與退貨手續費在買方、賣方與平台間最適分攤的對應關係。公平交易委員會的數位平台競爭研究，已使平台為其雙邊制定的規則在台灣受到檢視。[6]

對中華經濟研究院的貢獻。我的領域是實證產業組織，而我的工具正是貴院已經在使用的工具。中華經濟研究院接受公平交易委員會委託進行競爭研究，包括網路銷售市場的實證評估，以及數位平台與競爭規範的研究。[7]這些報告界定相關市場、評估多邊網路效應與市場力量，並檢視獨家交易、維持轉售價格、最惠客戶條款與平台平價等行為。這正是我研究的領域。我的訓練是處理

[3] 公平交易委員會處分：公處字第 101137 號（2012 年 9 月 19 日，天下遠見出版）；（89）公處字第 207 號（2000 年 11 月 30 日，龍騰）。案例摘要：https://www.apeccp.org.tw/htdocs/doc/Taipei/Case/dec2012/1136-1089case07.html；https://www.apeccp.org.tw/htdocs/doc/Taipei/Case/D0505200.htm。 [4] 消費者保護法第 19 條，https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=J0170001。 [5] 環境部《網際網路購物包裝限制使用對象及實施方式》，2023 年 7 月 1 日施行。英文摘要：https://www.moenv.gov.tw/en/news/press-releases/15507.html。 [6] 公平交易委員會委託研究，中華經濟研究院執行：《數位平臺產業現況、發展趨勢及競爭規範—以我國為中心》（民國 111 年），https://www.ftc.gov.tw/upload/1f59ab5d-8cae-410a-a8b1-2080fdab977c.pdf。 [7] 公平交易委員會委託研究，均由中華經濟研究院執行：《網路銷售市場競爭評估之實證研究》（民國 109 年），https://www.ftc.gov.tw/upload/885e4488-950e-4cf9-a774-6a224b8df58c.pdf；《數位平臺產業現況、發展趨勢及競爭規範—以我國為中心》（民國 111 年），https://www.ftc.gov.tw/upload/1f59ab5d-8cae-410a-a8b1-2080fdab977c.pdf。

豐富的微觀資料，估計需求、供給與廠商行為的結構模型，並用這些模型評估規則或價格的改變如何影響市場力量、消費者剩餘與福利。我將把這個能力帶進貴院的競爭與數位經濟研究。

我的數個計畫與上述工作直接相關：轉嫁計畫探討在購買可以退貨時，費用與租稅如何傳導到價格；滯銷存貨計畫估計維持轉售價格的競爭效果，這正是公平交易委員會點名的垂直交易限制之一；求職論文與搜尋計畫則處理數位平台研究關注的定價、搜尋與平台設計問題。在這些工作中，我能完成從原始交易或掃描資料、到可供部會採納的政策模擬的完整流程。

同一套工具也服務於貴院其他中心。對台灣產業、能源及綠色經濟相關中心而言，我在滯銷存貨與產品退貨上的研究，衡量定價規則與運費補貼造成的浪費，並評估可減少浪費的工具，如押金退款稅與補貨費。對經濟預測而言，我的轉嫁研究顯示，忽略退貨邊際可能逆轉對成本衝擊的預測價格反應。我在台灣長大，能以中、英文處理國內資料，並與利害關係人合作。我在中華經濟研究院的目標，是把結構估計轉化為競爭、數位平台、租稅與環境政策上清楚、有實證依據的建議。