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In This Issue

Program Report: Corporate Finance

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The NBER Corporate Finance Program has been a leading research forum in the field since it was established in 1991. Corporate finance questions intersect with many areas of finance and economics, including macrofinance, asset pricing, financial intermediation, and organizational economics. This breadth of the topics is reflected in the work presented at the Corporate Finance program meetings. The importance of the field has been widely recognized in academia and is evidenced by the 2022 Nobel Memorial Prize in Economic Sciences for Ben Bernanke, Douglas Diamond, and Philip Dybvig's work on banking and intermediation. In this report, we cannot do justice to the entire field, but we must select a few topics that have been addressed in a number of recent NBER Working Papers or in presentations at NBER conferences.

Scholars affiliated with the Corporate Finance Program continue to expand our understanding of classic questions, such as the drivers of firm valuation or the importance of CEO compensation and capital structure. Better data is at the heart of many recent advances. For example, Paul Décaire and John Graham extract information from analysts' research reports to elucidate the various assumptions made when valuing companies. A core lesson from their work is that fluctuations in both expected growth rates and discount rates play an important role in variations in valuations over time.[1] Niels Joachim Gormsen and Kilian Huber uncover estimates of discount rates and the cost of capital used by managers by studying earnings calls.[2] They show that measures of the cost of capital reported by managers fall over time, but the discount rates the managers use to actually make investment decisions do not. Itzhak Ben-David and Alexander Chinco focus on information collected from a variety of sources including 10-K filings, analyst reports, and surveys of managers to present the idea that many managers maximize earnings per share instead of net present value, in contrast with the most basic lesson taught in corporate finance.[3]

At the same time, the scope of questions being asked is broadening in response to the changing nature of the firm itself and new risk factors confronting firms and the economy, such as intangible capital, environmental, social, and governance (ESG) policies, and financial stability.

Intangible Capital

A central question in corporate finance is how firms create value, both for the firm's claimants and for society. The traditional setting focuses on firm investment in physical capital as the primary source of value creation. However, the nature of how firms add value to the economy has changed significantly over time. Firms innovate through research and development, they bring together and enhance human capital, and their activities may have important spillovers for the broader economy.

Collectively, firm value creation strategies other than physical capital investment are often summarized as investments in intangible capital. The importance of intangible capital can be gleaned from aggregate valuation ratios and investment patterns, as illustrated by Germán Gutiérrez and Thomas Philippon.[4] The value of Tobin's q, the ratio of enterprise value to physical capital, has trended upward significantly since 1980, as shown in Figure 1. In the classic framework of Fumio Hayashi, a high value of Tobin's q should induce more physical capital investment.[5] However, despite the high level of Tobin's q, measures of physical capital investment have actually fallen, as shown in Figure 2.

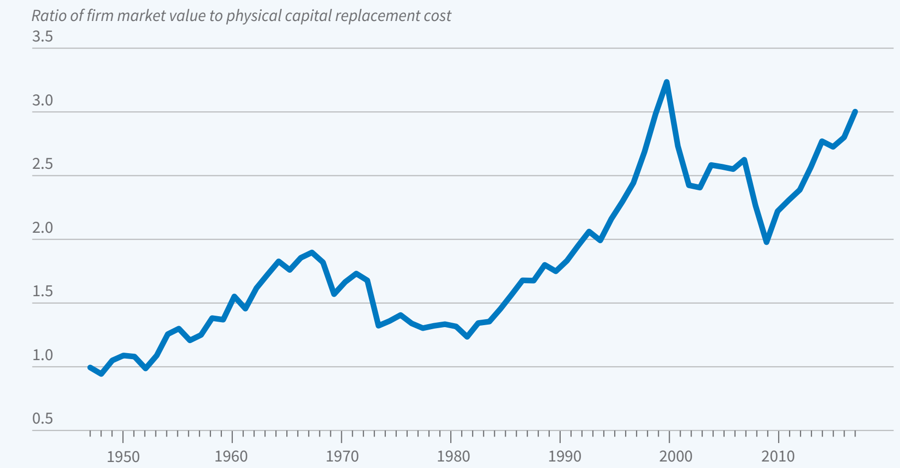
How do we reconcile the data with the theory? Nicolas Crouzet and Janice Eberly put forth an elegant framework that adds two key elements to the classic Hayashi model: Firms may earn pure economic profits and firms may use intangible capital in production.[6] Distinguishing which of these two elements is at work is crucial given that they have different implications for the efficiency of firm production, a point made in Gutiérrez and Philippon's research. Crouzet and Eberly calibrate their model to aggregate measures of investment from the Bureau of Economic Analysis and conclude that economic profits from physical capital are important, but that the change over time is driven more by the rise in intangible capital.

Given the importance of intangible capital, measurement becomes an important endeavor. The classic approach in the finance literature follows Andrea Eisfeldt and Dimitris Papanikolaou, who measure intangible capital by adding externally acquired intangible capital to the capitalized value of R&D expenses and a fraction of selling, general, and administrative (SG&A) expenses.[7] Ryan Peters and Lucian Taylor use this measure of intangible capital to explore the determinants of investment.[8] A large body of research measures intangible capital using patents issued to firms, following the research by Leonid Kogan, Papanikolaou, Amit Seru, and Noah Stoffman.[9] Michael Ewens, Peters, and Sean Wang utilize data from acquisitions in which firms must disclose the value of the assets they are purchasing (called a "purchase price allocation").[10]

Corporate finance scholarship increasingly focuses on testing these alternative channels of value creation. For example, regarding the role of R&D, Tania Babina and Sabrina Howell show how R&D at one firm leads employees to join the founding teams at related startups.[11] Research by Xavier Giroud, Simone Lenzu, Quinn Maingi, and Holger Mueller focuses on how local productivity gains are passed on to other regions through the production networks of firms.[12] Song Ma, Joy Tianjiao Tong, and Wei Wang show how bankruptcy lowers the value of important patents at innovative firms, suggesting that costs of financial distress can ultimately lower the social value of business innovation.[13] Similarly, several studies analyze the importance of labor practices for value creation, in particular rent sharing with workers as in the research by Elio Nimier-David, David Sraer, and David Thesmar, or labor representation on the board as in the research by Simon Jäger, Benjamin Schoefer, and Jörg Heining.[14]

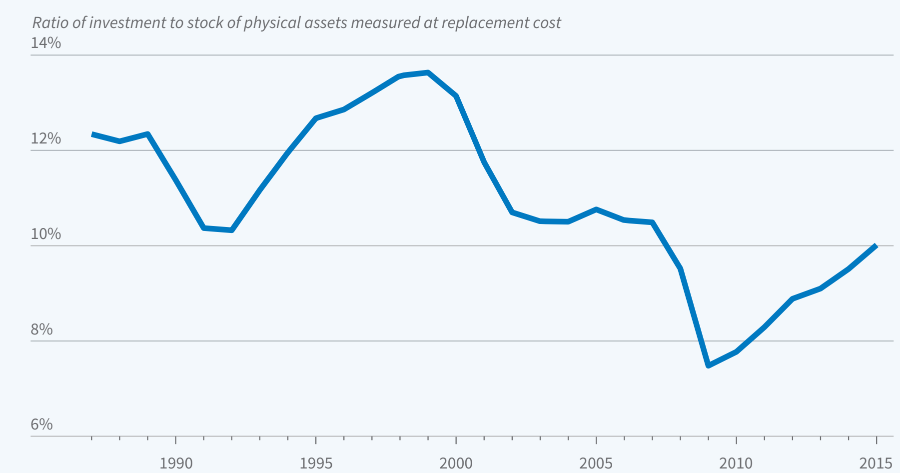
Figure 1

Tobin's q of Physical Capital, 1947–2017



Source: "Rents and Intangible Capital: A Q+ Framework," Crouzet N, Eberly JC. NBER Working Paper 28988, July 2021, and The Journal of Finance 78(4), August 2023, pp. 1873–1916.

US Property, Plant, and Equipment Investment Rate, Nonfinancial Corporate



Source: Bureau of Economic Analysis as reported in "Understanding Weak Capital Investment: The Role of Market Concentration and Intangibles," Crouzet N, Eberly JC. NBER Working Paper 25869, May 2019.

Figure 2

Corporate Governance and ESG Policies

A major area of inquiry for corporate finance scholarship is the effect of corporate governance on firm behavior and the efficient allocation of capital. Traditionally, scholars viewed the central role of governance as ensuring investors' return on their investment. However, it is now widely accepted that financiers may have additional objectives they seek to implement through the financing they provide firms, as pointed out by Laura Starks.[15] Oliver Hart and Luigi Zingales call this "The New Corporate Governance," and they point out that "there has been a dramatic increase in shareholder engagement on environmental and social issues."[16]

Whether ESG-related preferences of financiers, or environmental concerns in particular, have real effects on firm outcomes such as pollution remains an open question. Firms may engage in "greenwashing": marketing themselves as environmental warriors while making few if any changes in their policies. The ESG metrics used by financiers may be easy to manipulate or might be used to justify poor financial performance on more traditional metrics. There may be significant "leakage" if other financiers who care less about ESG-related goals simply replace those who care more.

The evidence from the literature thus far is mixed. Several recent studies argue that green policies or investor mandates can change the cost of capital for green firms — for example, see research by Sudheer Chava or Lubos Pastor, Robert Stambaugh, and Taylor.[17] But showing a real impact for firm operations or pollution levels has proved difficult. Jonathan Berk and Jules van Binsbergen, for example, do not find significant effects from ESG-motivated equity divestment on targeted firms' cost of capital and real investment decisions.[18] Parinitha Sastry, Emil Verner, and David Marques Ibanez focus on credit registry data from Europe to evaluate bank net zero commitments, or commitments to "align lending and investment portfolios with net-zero emissions by 2050."[19] They do not find any evidence that banks signing net-zero pledges are more likely to divest from polluting sectors or to exert pressure on the firms to which they lend to reduce carbon emissions. They conclude that their findings "highlight the limits of voluntary commitments for decarbonization."

Similarly, a recent paper by Daniel Green and Boris Vallee conducts a detailed industry study of bank policies to voluntarily cease financing coal-related firms.[20] The authors measure cross-sectional variation across banks in coal-exit policies, showing that banks that adopted such exit policies were previously providing 60 percent of the coal industry's debt financing. Coal companies that were borrowing from banks that adopted such voluntary exit policies saw a substantial decline in the available supply of capital and a contraction in their total assets. But the paper also highlights the difficulty of isolating the direction of causality for the observed outcomes. Banks' decisions to voluntarily target lending to coal producers might depend not only on the "green" objectives of their investors but also on expected changes in the regulatory environment that penalize "brown" firms — those that engage in activities that are more harmful to the environment. Banks might therefore be reacting to financial incentives rather than green preferences.

This discussion highlights the importance of understanding the context in which firms and investors are implementing ESG policies. An interesting study by Ran Duchin, Janet Gao, and Qiping Xu presents a cautionary tale and shows the limits of environmental pressures at the individual firm level.[21] Their analysis focuses on a broad sample of industrial plants that produce toxic chemicals as defined by the Environmental Protection Agency. It shows that firms targeted by investors, ESG rating agencies, policymakers, and the public at large are more likely to divest polluting plants. However, these plants are typically bought by firms that face less pressure from such groups. Ultimately, the evidence suggests that there is no net decline in pollution when these divestitures take place. The authors conclude that "firms respond to environmental pressures through a greenwashing divestment strategy." The results also provide evidence for the difficulty of implementing effective ESG policies at the individual firm level.

Several other studies build on the idea that the real effects of investor pressure depend on the broader regulatory and legislative context. Pat Akey and Ian Appel analyze how changes in the enforcement of limited liability in the case of environmental damages affect firms' incentives to invest in environmental protections and cleanup.[22] Using a difference-in-differences framework, they find that stronger liability protection for parent firms leads to a 5–9 percent increase in toxic emissions by subsidiaries.

Samuel Hartzmark and Kelly Shue show that policies that reduce financing availability to "brown firms" can have unintended consequences in making them "browner" if the increased cost of financing reduces their ability to invest in greener or more modern technologies.[23] The authors also argue that some widely used definitions of "environmental impact" may direct capital to firms with a very low carbon footprint and for which a lower cost of capital will not measurably improve environmental outcomes.

Martin Oehmke and Marcus Opp analyze bank capital requirements as a tool to address externalities caused by carbon emissions.[24] They show that there can be built-in tension if higher capital requirements for carbon-intensive loans crowd out clean lending. Reducing emissions via capital requirements may negatively affect financial stability or may be infeasible. They point out that achieving environmental objectives via carbon taxes would not have these effects.

Going forward, there is a question of how the "demand" for environmental objectives will evolve. A recent study by Malcolm Baker, Mark Egan, and Suproteem Sarkar suggests that demand for ESG-oriented index funds in the United States fell considerably from 2020 to 2023, even though demand remains strong in Europe.[25]

Banks and Interest Rate Risk: Lessons from the Recent Fed Tightening Cycle

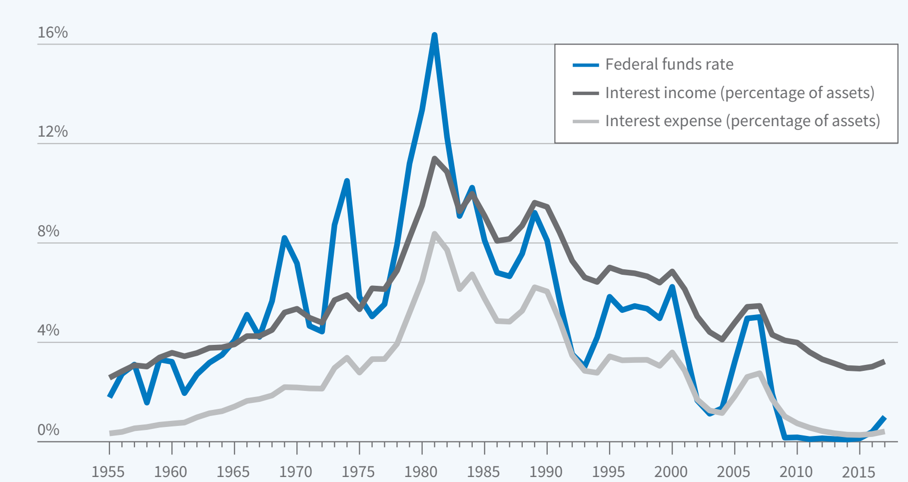
Banking and financial intermediation continue to be core areas of research in corporate finance. In recent years, changes in the monetary policy environment have prompted research on banks' exposure to interest rate risk. Does the value of the banking sector fall when interest rates rise? Does a rise in interest rates lead to bank failures? Do changes in monetary policy threaten financial stability?

There have been major advancements in the understanding of the interest rate risk of banking. A starting point of the recent research is the influential contribution of Itamar Drechsler, Alexi Savov, and Philipp Schnabl, who argue that banks have a "deposit franchise" because they can pay interest rates on deposits that are lower than market-wide interest rates.[26] Moreover, the gap between market interest rates and the deposit rates paid by banks, what the authors call the "deposit spread," increases as interest rates rise.

In a follow-on study, the same authors examine how the existence of the deposit franchise affects banks' exposure to a rise in interest rates. Banks' total cash flows appear to be much less exposed to a rise in interest rates than previously believed because the deposit spread rises with interest rates.[27] This leads to a significant rise in interest income when rates rise. Furthermore, because banks have fixed operating costs associated with the maintenance of the deposit franchise, a rise in interest rates can be positive for the value of the deposit franchise, as the present value of the future fixed operating costs declines. Consistent with these arguments, the study shows that the gap between interest income and interest expense is insensitive to changes in short-term interest rates [Figure 3], and that banks' one-day stock market response to an FOMC-announced increase in interest rates is similar in magnitude to the average response among all firms in the economy [Figure 4].

Figure 3

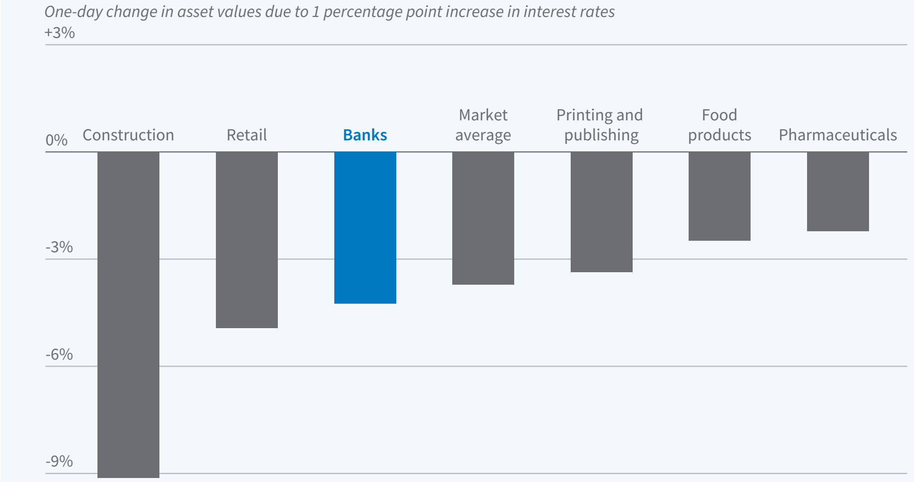
Interest Rates and the Gap Between Interest Income and Expense



Source: "Banking on Deposits: Maturity Transformation Without Interest Rate Risk," Drechsler I, Savov A, Schnabl P. NBER Working Paper 24582, January 2020, and The Journal of Finance 76(3), February 2021, pp. 1091–1143.

Figure 4

Interest Rate Changes and Stock Returns, by Industry



Source: "Banking on Deposits: Maturity Transformation Without Interest Rate Risk," Drechsler I, Savov A, Schnabl P. NBER Working Paper 24582, January 2020, and The Journal of Finance 76(3), February 2021, pp. 1091–1143.

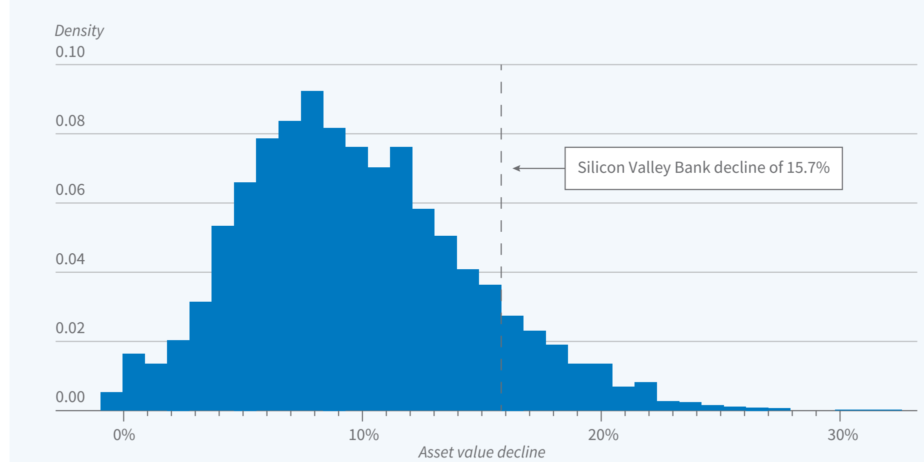
However, a rise in interest rates may threaten bank value if it induces a bank run. The recent turmoil in the banking sector, as illustrated by the failure of Silicon Valley Bank (SVB), has inspired research on this question. Erica Jiang, Gregor Matvos, Tomasz Piskorski, and Seru develop a model in which a rise in interest rates may induce a self-fulfilling run by depositors even if the underlying assets are liquid.[28] They observe that any given depositor will not panic as long as the value of the bank overall is high enough to cover her deposit even if other depositors suddenly withdraw. However, if the value of the bank falls enough that a given depositor loses money if other depositors withdraw, then the depositor may also withdraw. A sudden drop in the value of the bank can therefore induce a self-fulfilling solvency run even if the assets of the bank are liquid. A sudden rise in interest rates could lower the value of the bank enough to push it into this self-fulfilling solvency run region.

The authors empirically examine the 2023 SVB episode and estimate the decline in value of the US banking system's securities portfolio between the first quarter of 2022 and the first quarter of 2023. They focus on securities that are not marked to market, which account for unrealized losses on bank balance sheets. The total decline in asset value from unrealized losses is estimated to be $2.2 trillion. For the median bank, the loss was 9 percent of asset value. The total losses are on the same order of magnitude as aggregate bank equity. However, the authors argue that the losses alone cannot explain bank failures during the turmoil. For example, SVB was not an outlier in terms of the losses on its securities portfolio, nor was it an outlier in having a low equity-to-assets ratio [Figure 5]. It was an outlier because its assets were financed to a large degree by uninsured deposits. It is the combination of a decline in value and more "runnable" deposits that raises the probability of a bank run, consistent with the self-fulfilling solvency run concept.

How bank values change with a change in interest rates is fundamental to our understanding of financial intermediation; it therefore is an active area of ongoing research. Peter DeMarzo, Arvind Krishnamurthy, and Stefan Nagel confirm the finding that banks' cash flows are relatively insensitive to changes in interest rates given the deposit franchise.[29] However, their study argues that the value of banks is more negatively exposed to a rise in interest rates than suggested by the Drechsler, Savov, and Schnabl framework. The key difference is that the DeMarzo et al. study argues that banks also have a fixed spread that they earn on their lending activity. A rise in interest rates reduces the present value of expected lending spreads, offsetting the increase in value coming from the decline in the present value of fixed operating costs of the deposit franchise. This exciting area of research will certainly attract more interest going forward.

Figure 5

Banks' Mark-to-Market Asset Value Decline, 2022Q1 to 2023Q2



Source: "Monetary Tightening and US Bank Fragility in 2023: Mark-to-Market Losses and Uninsured Depositor Runs?" Jiang EX, Matvos G, Piskorski T, Seru A. NBER Working Paper 31048, July 2024, and Journal of Financial Economics 159, September 2024, Article 103899.

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1 "Valuation Fundamentals," Décaire PH, Graham JR. *HKU Jockey Club Enterprise Sustainability Global Research Institute*, September 2024.
Return to Text

2 "Corporate Discount Rates," Gormsen NJ, Huber K. NBER Working Paper 31329, June 2024.
Return to Text

3 "Modeling Managers As EPS Maximizers," Ben-David I, Chinco AM. NBER Working Paper 31125, June 2023.
Return to Text

4 "Investment-less Growth: An Empirical Investigation," Gutiérrez G, Philippon T. NBER Working Paper 22897, January 2017.
Return to Text

5 "Tobin's Marginal q and Average q: A Neoclassical Interpretation," Hayashi F. *Econometrica* 50(1), January 1982, pp. 213–224.
Return to Text

6 "Rents and Intangible Capital: A Q+ Framework," Crouzet N, Eberly JC. NBER Working Paper 28988, July 2021, and *The Journal of Finance* 78(4), April 2023, pp. 1873–1916.
Return to Text

7 "Organization Capital and the Cross-Section of Expected Returns," Eisfeldt AL, Papanikolaou D. *The Journal of Finance* 68(4), August 2013, pp. 1365–1406.
Return to Text

8 "Intangible Capital and the Investment-q Relation," Peters RH, Taylor LA. *Journal of Financial Economics* 123(2), February 2017, pp. 251–272.
Return to Text

9 "Technological Innovation, Resource Allocation, and Growth," Kogan L, Papanikolaou D, Seru A, Stoffman N. NBER Working Paper 17769, May 2016, and *The Quarterly Journal of Economics* 132(2), May 2017, pp. 665–712.
Return to Text

10 "Measuring Intangible Capital with Market Prices," Ewens M, Peters RH, Wang S. NBER Working Paper 25960, October 2023.
Return to Text

11 "Entrepreneurial Spillovers from Corporate R&D," Babina T, Howell ST. NBER Working Paper 25360, July 2019, and *Journal of Labor Economics* 42(2), April 2024, pp. 469–509.
Return to Text

12 "Propagation and Amplification of Local Productivity Spillovers," Giroud X, Lenzu S, Maingi Q, Mueller H. NBER Working Paper 29084, July 2021.
Return to Text

13 "Bankrupt Innovative Firms," Ma S, Tong JT, Wang W. NBER Working Paper 28856, May 2021, and *Management Science* 68(9), November 2021, pp. 6355–7064.
Return to Text

14 "The Effects of Mandatory Profit-Sharing on Workers and Firms: Evidence from France," Nimier-David E, Sraer D, Thesmar D. NBER Working Paper 31804, October 2023.

"Labor in the Boardroom," Jäger S, Schoefer B, Heining J. NBER Working Paper 26519, August 2020, and *The Quarterly Journal of Economics* 136(2), October 2020, pp. 669–725.
Return to Text

15 "Presidential Address: Sustainable Finance and ESG Issues—Value versus Values," Starks LT. *The Journal of Finance* 78(4), August 2023, pp. 1837–1872.
Return to Text

16 "The New Corporate Governance," Hart OD, Zingales L. NBER Working Paper 29975, April 2022.
Return to Text

17 "Environmental Externalities and Cost of Capital," Chava S. *Management Science* 60(9), September 2014, pp. 2223–2247.

"Dissecting Green Returns," Pastor L, Stambaugh RF, Taylor LA. NBER Working Paper 28940, June 2022, and *Journal of Financial Economics* 146(2), November 2022, pp. 403–424.
Return to Text

18 "The Impact of Impact Investing," Berk JB, van Binsbergen JH. *Journal of Financial Economics* 164, February 2025, Article 103972.
Return to Text

19 Net Zero Banking Alliance via "Business as Usual: Bank Net Zero Commitments, Lending, and Engagement," Sastry PR, Verner E, Marques Ibanez D. NBER Working Paper 32402, May 2024.
Return to Text

20 "Measurement and Effects of Bank Exit Policies," Green D, Vallee B. *Proceedings of the EUROFIDAI-ESSEC Paris December Finance Meeting*, November 2024.
Return to Text

21 "Sustainability or Greenwashing: Evidence from the Asset Market for Industrial Pollution," Duchin R, Gao J, Xu Q. *The Journal of Finance*, December 2024.
Return to Text

22 "The Limits of Limited Liability: Evidence from Industrial Pollution," Akey P, Appel I. *The Journal of Finance* 76(1), September 2020, pp. 5–55.
Return to Text

23 "Counterproductive Sustainable Investing: The Impact Elasticity of Brown and Green Firms," Hartzmark SM, Shue K. October 2024.
Return to Text

24 "Green Capital Requirements," Oehmke M, Opp M. *ECB Banking Supervision*, February 2023.
Return to Text

25 "Demand for ESG," Baker M, Egan ML, Sarkar SK. NBER Working Paper 30708, December 2024.
Return to Text

26 "The Deposits Channel of Monetary Policy," Drechsler I, Savov A, Schnabl P. NBER Working Paper 22152, January 2017, and *The Quarterly Journal of Economics* 132(4), November 2017, pp. 1819–1876.
Return to Text

27 "Banking on Deposits: Maturity Transformation Without Interest Rate Risk," Drechsler I, Savov A, Schnabl P. NBER Working Paper 24582, January 2020, and *The Journal of Finance* 76(3), June 2021, pp. 1091–1143.
Return to Text

28 "Deposit Franchise Runs," Drechsler I, Savov A, Schnabl P, Wang O. NBER Working Paper 31138, September 2024.

"Monetary Tightening and US Bank Fragility in 2023: Mark-to-Market Losses and Uninsured Depositor Runs?" Jiang EX, Matvos G, Piskorski T, Seru A. NBER Working Paper 31048, July 2024, and *Journal of Financial Economics* 159, September 2024, Article 103899.
Return to Text

29 "Interest Rate Risk in Banking," DeMarzo PM, Krishnamurthy A, Nagel S. NBER Working Paper 33308, December 2024.
Return to Text

A Long-Run Reevaluation of War on Poverty Programs

Martha J. Bailey

Over sixty years ago in 1964, the launch of the War on Poverty represented one of the largest and most comprehensive attempts to improve wellbeing in US history. President Lyndon Johnson's administration invested billions of dollars in American education, health, employment, and community development.[1] Many of these programs targeted the roots of poverty, seeking to provide a "hand up, not a handout." Johnson aimed "not only to relieve the symptom of poverty, but to cure it and, above all, to prevent it."[2]

My research with collaborators digs deeper into the workings of specific War on Poverty programs, seeking evidence about their effects on generational poverty and economic mobility. Our long-run perspective takes advantage of newly available data. Large-scale data from the Census Bureau and the Social Security Administration allow for a more comprehensive look at how access to programs for children in the 1960s and 1970s shaped the health, education, employment outcomes, and living circumstances of tens of millions of adults today. Moreover, the hurried, local implementation of the same program in different communities offers opportunities for credible causal inference.[3] These evaluations are not case studies of policies in controlled conditions but analyses of hundreds of on-the-ground programs across the US.

Early Childhood Investments Through Head Start

This long-run perspective is particularly important when evaluating early childhood programs, which aimed at preventing adult poverty. Launched in 1965, Head Start is one of the most popular War on Poverty programs and serves over 1 million children today. Since the 1960s, the program has offered an early education curriculum to preschool- and kindergarten-aged children has also gone further, providing nutritious meals, screenings for childhood diseases as well as vision and hearing problems, and referrals to health and social services. For example, Head Start tests children's eyesight and hearing and refers them for glasses or hearing aids as needed. Head Start's goal is to help kids from less advantaged backgrounds start school on an equal footing, setting them up for success in first grade and beyond.

For much of the program's history, evaluating its success in helping children escape poverty vexed researchers. Early evaluations of the program did not have valid comparison groups: Children whose parents enrolled them in the program would likely have had different school outcomes than similarly disadvantaged peers whose parents did not, even without the program. The more recent Head Start Impact Study, which used a randomized controlled trial to evaluate the program, underestimated the extent to which parents in the control group would enroll their children in other preschool programs, making it difficult to determine the program's effects.

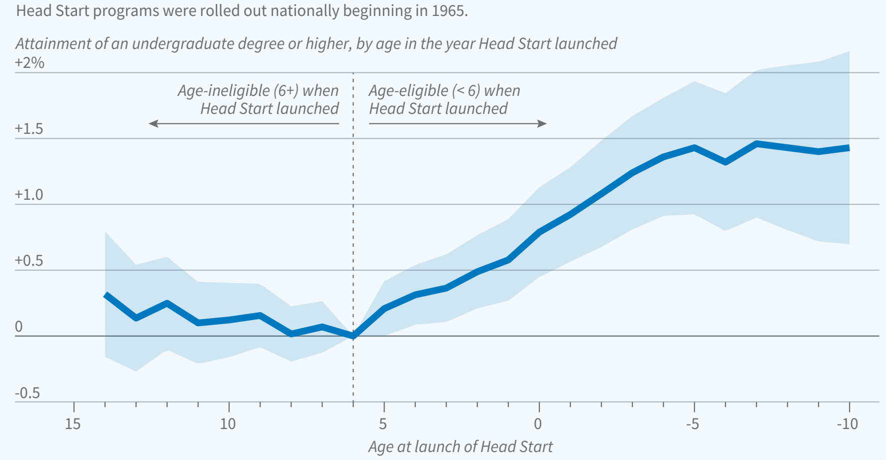
Our work tackles these issues by measuring Head Start's success according to children's later life educational attainment, work in professional occupations, participation in the labor force, and wage earnings.[4] Using Head Start's launch in the 1960s also allows for a compelling research design. Although children reaching first grade around the time of Head Start's launch entered the same schools, had parents working in the same labor markets, and faced similar state policies, they were born a few months too soon to enroll in the program. These slightly older children lacked good alternative preschools and kindergarten options when Head Start was not available.

Using these slightly older children as a comparison group allows us to characterize how Head Start affected the lives of its early enrollees. The results show that Head Start children were significantly more likely to finish high school and enroll in and finish college than their peers who were entering first grade (Figure 1). The results also show that cohorts with access to Head Start experienced lower rates of adult poverty, worked more in the labor market, and were less likely to have received public assistance. We also find suggestive evidence that Head Start's long-run effects are driven by many factors beyond a preschool curriculum, including health screenings and referrals and more nutritious meals.

Figure 1

Head Start and Higher Education Attainment

Head Start programs were rolled out nationally beginning in 1965.

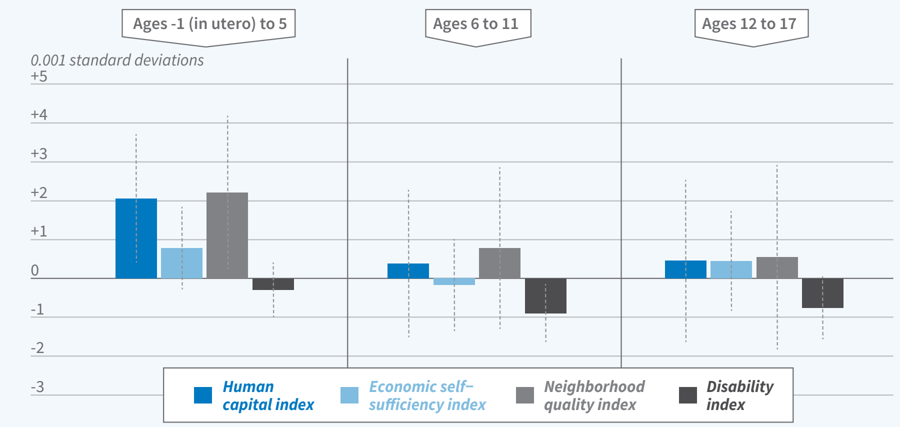


Light-blue shading represents 95% confidence intervals.
Source: "Prep School for Poor Kids: The Long-Run Impacts of Head Start on Human Capital and Economic Self-Sufficiency," Bailey MJ, Sun S, Timpe BD. NBER Working Paper 28268, August 2001, and American Economic Review *111(12), December 2021, pp. 3963–4001.*

Figure 2

US Food Stamps and Children's Outcomes

Each panel shows the effect of one more year of food stamps exposure.



Thin dashed lines represent 95% confidence intervals.
Source: "Is the Social Safety Net a Long-Term Investment? Large-Scale Evidence from the Food Stamps Program," Bailey MJ, Hoynes HW, Rossin-Slater M, Walker R. NBER Working Paper 26942, April 2020, and The Review of Economic Studies *91(3), May 2024, pp. 1291–1330.*

In short, Head Start's effects show up decades later in increased productivity and wellbeing. These gains for individuals have substantial fiscal externalities, translating into a larger base of taxpayers and lower public expenditures. Complementary work shows that Head Start continued to benefit the children of its early enrollees.[5]

Improving Food Security and Nutrition Through Food Stamps

The Food Stamps Program is another large national program that expanded during the War on Poverty. Known today as the Supplemental Nutrition Assistance Program (SNAP), the Food Stamps Program was designed to help low-income families meet their food and nutrition needs, providing paper coupons to help families purchase groceries. In 1964, legislation expanded the Food Stamps Program from a small pilot program in depressed agricultural areas into a core component of the US safety net. Today, SNAP is one of the largest anti-poverty programs for children in the United States, providing assistance to nearly 42 million Americans.

Our research examines how the timing and duration of early food stamps access shaped health, human capital, economic self-sufficiency, and neighborhood quality.[6] Figure 2 shows that greater access to food stamps in early life (in utero to age 5) is associated with significant increases in human capital (i.e., educational attainment and professional occupation), economic self-sufficiency (i.e., work intensity and earning enough to exit poverty), neighborhood quality, and reductions in physical disability. In contrast, we find that exposure to food stamps during primary school (ages 6–11) and secondary school (ages 12–17) had larger effects on reducing disability but smaller effects on the other dimensions of wellbeing. The results show not just that public investments in the social safety net benefited children in the long run but also help pinpoint at what ages these investments mattered.

Family Planning Programs Facilitate Investment in Children

Another of the War on Poverty's novel policy approaches to empowering parents and increasing resources for children was through funding family planning programs. President Richard Nixon summed up the consensus view of the time, stating that "unwanted or untimely childbearing is one of several forces which are driving many families into poverty or keeping them in that condition."[7]

The architects of the War on Poverty viewed the price of reliable contraceptives as a barrier to reducing poverty and promoting children's opportunities. Of particular concern was that the "pill," the first oral contraceptive, was prohibitively expensive in the 1960s — roughly twice today's annual cost and equivalent to more than three weeks of full-time work at the 1960 minimum wage (without factoring in the cost of a physician visit). Numerous studies at the time documented that poor women were less likely to use effective contraceptives and had more children than women in families with higher incomes. The goal of federal family planning programs was to equalize access to contraception, allowing everyone to plan their families and escape poverty.

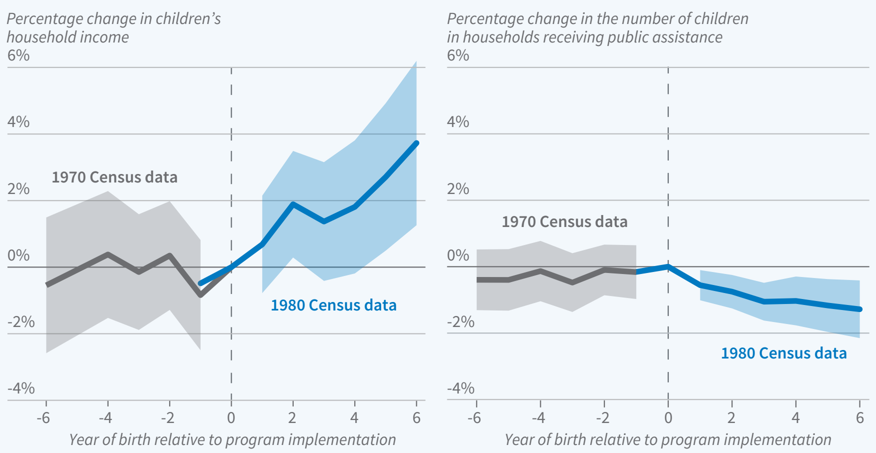
Our research assembles new evidence regarding how federal family planning programs affected children's resources and long-run outcomes. Using these programs' start dates in different communities in the 1960s, we find that these policies not only reduced fertility rates[8] but also increased children's resources during childhood (Figure 3)[9] and improved their outcomes as adults decades later, including college completion, labor force participation, wages, and family income.[10] Our research suggests that the main mechanism for these effects is not the prevention of childbearing but its delay. Delaying childbearing allowed parents to find more stable partners and better-paying jobs, reduce their dependence on public assistance, and decrease their likelihood of being in poverty. Consequently, children born in better conditions had more resources and more opportunities.

Delivering Primary Care Through Community Health Centers

Today's federally qualified health centers, previously known as community health centers (CHCs), were another part of the War on Poverty's network of preventive community programs. Unlike this era's large public insurance expansions (e.g., Medicare

Figure 3

Federal Family Planning Programs and Resources for Children



Shaded areas represent 95% confidence intervals.
Source: "Does Parents' Access to Family Planning Increase Children's Opportunities? Evidence from the War on Poverty and the Early Years of Title X," Bailey MJ, Malkova O, McLaren ZM. NBER Working Paper 23971, April 2018, and Journal of Human Resources *54(4), Fall 2019, pp. 825–856.*

and Medicaid), CHCs used federal funds to deliver primary and preventive care to underserved populations. Serving both insured and uninsured patients, CHCs charged on a "pay as you can" sliding scale for services and medications, were located in disadvantaged neighborhoods to increase convenience, and offered in-home visits and transportation to appointments.

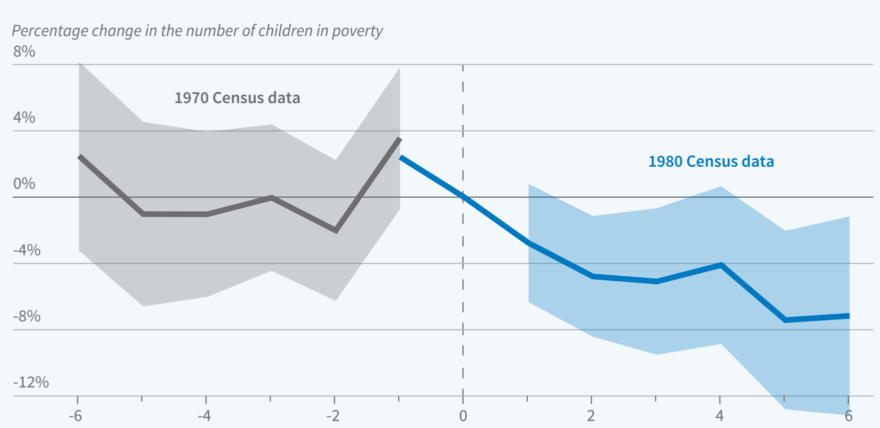
Today, over 12,000 CHC sites operate in every state and serve over 32 million Americans. Ninety percent of these patients have incomes under the federal poverty line, 50 percent are covered by Medicaid, and 20 percent are uninsured. In 2010, the Affordable Care Act appropriated $11 billion over five years to expand CHC infrastructure to serve the millions of Americans gaining health insurance under its provisions.

The expansion of CHCs was driven by the belief that they improve access to primary care and help control health-care costs.

Our work on CHCs in the 1960s provides a rare opportunity to evaluate this claim, both in the short and long run.[11] We find that the launch of a CHC is associated with significant declines in age-adjusted mortality, particularly from cardiovascular disease among adults over 50. These reductions in mortality were highly persistent, decreasing the gap in mortality between the poor and non-poor by 20 to 40 percent for 25 years. Some of the long-term benefits of CHCs went to adults who were ineligible for Medicare (aged 50 to 64), but the program achieved its largest mortality reductions among those with Medicare coverage — without an accompanying increase in Medicare spending. This is likely because CHCs reduced the cost of prevention, diagnosis, and management of chronic conditions while also providing free or substantially discounted prescription medications.

Figure 4

Federal Family Planning Programs and Poverty Rates of Children



Shaded areas represent 95% confidence intervals.
Source: "Does Parents' Access to Family Planning Increase Children's Opportunities? Evidence from the War on Poverty and the Early Years of Title X," Bailey MJ, Malkova O, McLaren ZM. NBER Working Paper 23971, April 2018, and Journal of Human Resources *54(4), Fall 2019, pp. 825–856.*

Conclusion

The War on Poverty's programs — and the political backlash — continue to shape policy debates in the US. Although poverty declined over the 1960s, its persistence is often regarded as evidence that anti-poverty policy cannot be effective, or worse, does harm. President Ronald Reagan famously quipped in his 1988 State of the Union Address that "the federal government declared war on poverty, and poverty won."

This broad framing has dominated political discussions for decades, but it misses deeper lessons about the positive role that specific programs and policies may play. Over the past 60 years, structural shifts in families and labor markets have contributed to increased poverty rates. Many of the War on Poverty's programs and policies worked against these headwinds which reduced the odds of upward economic mobility, increasing health, human capital, and improving labor market outcomes. The counterfactual is that US poverty rates, health, human capital, and employment outcomes would have been worse today without the substantial investments made under the War on Poverty.

A crucial aspect of evidence-based policy formulation is evaluating the returns on any dollars spent. For example, how does government spending on a program compare to the benefits received by individuals or by the government directly through taxes or decreased spending? The marginal value of public funds (MVPF) framework measures the efficiency of public spending by comparing program benefits to net government costs.[12] Our analyses of the War on Poverty period suggest that Head Start and family planning programs had an infinite MVPF — that is, the programs had a net zero fiscal cost and *generated revenue*, more than paying for themselves. The Food Stamps Program had an MVPF of 62, meaning its benefits far exceeded its costs.

Our research demonstrates that several War on Poverty programs successfully reduced poverty and improved wellbeing. In addition, these programs generated fiscal benefits for nonparticipants by boosting tax revenue and lowering spending on public assistance. While our analyses are not a full accounting of War on Poverty programs, nor do their lessons fully generalize to the present, our research underscores the power of well-designed policies to improve upward mobility and enhance wellbeing for future generations.

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[1] "*Legacies of the War on Poverty*," Bailey MJ, Danziger S, editors. The National Poverty Center Series on Poverty and Public Policy. New York: Russell Sage Foundation, 2013.
Return to Text

[2] "Annual Message to the Congress on the State of the Union," Johnson LB. The American Presidency Project, January 8, 1964.
Return to Text

[3] "How Johnson Fought the War on Poverty: The Economics and Politics of Funding at the Office of Economic Opportunity," Bailey MJ, Duquette NJ. NBER Working Paper 19860, September 2014, and *The Journal of Economic History* 74(2), June 2014, pp. 351–388.
Return to Text

[4] "Prep School for Poor Kids: The Long-Run Impacts of Head Start on Human Capital and Economic Self-Sufficiency," Bailey MJ, Sun S, Timpe BD. NBER Working Paper 28268, August 2021, and *American Economic Review* 111(12), December 2021, pp. 3963–4001.
Return to Text

[5] "Breaking the Cycle? Intergenerational Effects of an Antipoverty Program in Early Childhood," Barr A, Gibbs CR. *Journal of Political Economy* 130(12), December 2022, pp. 3253–3285.
Return to Text

[6] "Is the Social Safety Net a Long-Term Investment? Large-Scale Evidence from the Food Stamps Program," Bailey MJ, Hoynes HW, Rossin-Slater M, Walker R. NBER Working Paper 26942, April 2020, and *The Review of Economic Studies* 91(3), May 2024, pp. 1291–1330.
Return to Text

[7] "Special Message to the Congress on Problems of Population Growth," Nixon R. The American Presidency Project, July 18, 1969.
Return to Text

[8] "Reexamining the Impact of Family Planning Programs on US Fertility: Evidence from the War on Poverty and the Early Years of Title X," Bailey MJ. NBER Working Paper 17343, August 2021, and *American Economic Journal: Applied Economics* 4(2), April 2012, pp. 62–99.
Return to Text

[9] "Does Parents' Access to Family Planning Increase Children's Opportunities? Evidence from the War on Poverty and the Early Years of Title X," Bailey MJ, Malkova O, McLaren ZM. NBER Working Paper 23971, April 2018, and *Journal of Human Resources* 54(4), October 2019, pp. 825–856.
Return to Text

[10] "Fifty Years of Family Planning: New Evidence on the Long-Run Effects of Increasing Access to Contraception," Bailey MJ. NBER Working Paper 19493, October 2013, and *Brookings Papers on Economic Activity*, Spring 2013, pp. 341–395.
Return to Text

[11] "The War on Poverty's Experiment in Public Medicine: Community Health Centers and the Mortality of Older Americans," Bailey MJ, Goodman-Bacon A. NBER Working Paper 20653, March 2015, and *American Economic Review* 105(3), March 2015, pp. 1067–1104.
Return to Text

[12] "Unified Welfare Analysis of Government Policies," Hendren N, Sprung-Keyser B. *The Quarterly Journal of Economics* 135(3), August 2020, pp. 1209–1318.
Return to Text

Martha J. Bailey

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The Global Decline in the Mental Health of the Young

David G. Blanchflower

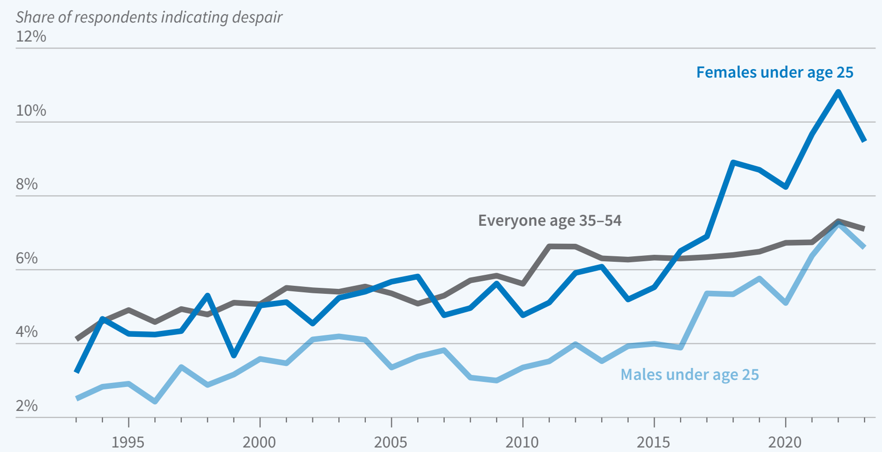
One of the major findings in well-being research until recently was that happiness was U-shaped by age and unhappiness hump-shaped by age. There was a midlife crisis — a finding reported in well over 600 published papers using data on 145 countries. It was present in both developing and developed countries. And it was persistent over time. The finding of a peak in ill-being in midlife was consistent with Anne Case and Angus Deaton's work on mortality and the so-called "deaths of despair."[1] In the US in particular and to a lesser extent in other countries, White prime-aged individuals without a college degree had high death rates from suicide, drug overdoses, and cirrhosis of the liver. Drug overdose deaths in the US, for example, peaked at midlife ages. In 2023, the Centers for Disease Control and Prevention (CDC) reported that overdose death rates per 100,000 by age rose from 13.5 for 15-to-24-year-olds to 45.6 for 25-to-34-year-olds and 60.8 for 35-to-44-year-olds, and then declined to 53.3 for 45-to-54-year-olds, 49.2 for 55-to-64-year-olds, and 14.7 for those over the age of 65.[2] The morbidity data matched the mortality data.

This U-shaped happiness relationship, which several psychologists disputed, was the focus of much of my research for a number of years: It was even found in a study of great apes. I regarded it as one of the most striking and persistent patterns in social science. Until it wasn't.

I first realized that the relationship between happiness and age had changed after listening to an interview with Jean Twenge on the Ezra Klein show in May 2023.[3] The show started with some data; between 2011 and 2021 the number of teens and young adults with clinical depression had more than doubled. The claim was that there was a full-blown mental health crisis among young people. This was shocking to me, so I went back to the data to check it out. There it was. I had missed it.

Figure 1

Despair in the United States, 1993–2023



Despair is defined as having poor mental health for each of the last 30 days.
Source: "The Mental Health of the Young in Asia and the Middle East: The Importance of Self-Reports," Blanchflower DG, Bryson A. NBER Working Paper 33475, February 2025.

Andrew Oswald and I had been working with data from the Behavioral Risk Factor Surveillance System (BRFSS) from the CDC. We had focused on despair, which was measured as those who answered 30 to the question "*Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?*" We had noted that what an editor insisted we call extreme distress had risen for the prime ages of 35–44 over the period 1993–2019, especially for less educated Whites and Native Americans of all ages.[4] But we had not focused on the young. Their mental health has worsened sharply both absolutely and relatively in the last decade around the world.

Since 2013 or so, despair has risen sharply for the young in general and young women in particular. Figure 1 illustrates and plots the time series of despair for the young by gender for ages 18–24 and then for ages 35–54. Despair among young females surpasses that among the prime age group in 2016 and the young males rate catches up in 2023. Rates for young men track those for young women but at lower rates. Despair rates are presented in Table 1.

The despair rates for young men and women in 1993 were below those of 25-to-54-year-olds, but by 2023 they were above them. The despair rates of individuals 55 and older changed little over this period.

In the 2023/2024 BRFSS, the proportions in despair were 6.7 percent overall, 7.5 percent for females, and 5.8 percent for males (n = 425,215). The highest rates were for White female high school dropouts under the age of 25, where nearly one in five reported that every day of their lives was a bad mental health day.

Table 1

Despair in the United States, 1993–2023

	Age <25 females	Age <25 males	Age 25–34	Age 35–54	Age 55+
2013	6.1%	3.5%	5.9%	6.3%	5.0%
2019	8.7%	5.8%	7.1%	6.5%	5.3%
2023	9.4%	6.6%	7.4%	7.1%	5.3%

Source: "The Mental Health of the Young in Asia and the Middle East: The Importance of Self-Reports," Blanchflower DG, Bryson A. NBER Working Paper 33475, February 2025.

Table 2

US Rates of Despair, 2023–24

	All	Age <25 females	Age <25 males
All	6.7%	9.4%	6.6%
White non-Hispanic	6.7%	11.2%	7.0%
Black	7.0%	7.9%	9.0%
Asian	3.3%	3.4%	1.9%
Hispanic	6.5%	8.3%	5.8%
Native American	10.5%	11.2%	7.4%
High school dropout	9.8%	12.2%	8.9%
White high school dropout	14.6%	17.7%	12.4%
High school graduate	8.3%	11.0%	7.6%
Attended college	7.0%	8.5%	4.9%
College graduate	3.9%	5.1%	3.9%

Source: "The Mental Health of the Young in Asia and the Middle East: The Importance of Self-Reports," Blanchflower DG, Bryson A. NBER Working Paper 33475, February 2025.

In Figure 2, I plot the weighted despair data by age, with a sample size of 8.4 million, for the US from 1993 to 2019.[5] It gives the expected hump shape in despair, which peaks at age 53. I had failed to spot something else: The upward trend in despair of the prime age group had stopped around 2017, and from around 2013 or so the rates of despair for the young rose. Figure 2 also shows despair by age for the period 2020–24. The U-shape has gone and now despair declines with age. The despair levels of the group under the age of 50 have risen and especially so for those less than 25 years of age. As an example, at age 22, 4.8 percent were in despair in the earlier period versus 7.9 percent in 2020–23.

A recent dramatic worsening of youth mental health has been found in every major US data file, including the National Health Interview Survey, the National Health and Nutrition Examination Survey, the National Survey on Drug Use and Health, the American National Election Studies, the US Household Pulse Surveys, the Healthy Minds Study, and the Youth Risk Behavior Surveillance System (YRBSS). In the YRBSS, for example, the proportion of high school students aged 14–18 saying that they had been "sad or hopeless every day for the last two weeks" rose from 21 percent (males) and 36 percent (females) in 1999 to 28 percent and 53 percent, respectively, in 2023, with most of the increase taking place since 2017.[6]

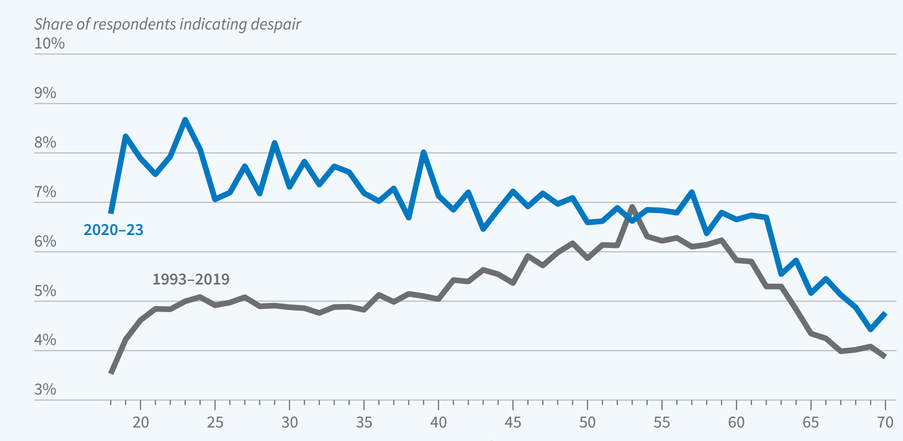
There is also evidence of rising youth suicide rates in the US since around 2015 as adult rates declined, as well as rises in antidepressant prescriptions for the young plus increases in emergency department visits related to mental health. In the US, from 2016 to 2019, emergency department visits with a principal diagnosis related to mental health only increased for ages 0–17, from 784 per 100,000 population to 869 per 100,000 population.[7]

Data from other countries suggest similar patterns. Alex Bryson, Xiaowei Xu, and I report data for the UK from the Understanding Society panel on the 12-Item General Health Questionnaire score with values from 0 to 36 and here despair is defined as a score of 20 or higher.[8] Figure 3 shows that, as in the US, the hump shape in ill-being by age that is notable in the earlier period (2009–18) has disappeared in the later period, 2019–23, and has been replaced by a profile of despair that is declining with age.

The United Nations Development Programme commissioned a series of papers to determine whether this phenomenon is global. David Bell, Bryson, and I have studied the UK;[9] Anthony Lepinteur, Alan Piper, and I have studied France, Germany, Italy, Spain, and Sweden;[10] and Bryson and I have studied ex-Soviet countries, Latin America, Africa, the Middle East, and Asia.[11,12,13]

Figure 2

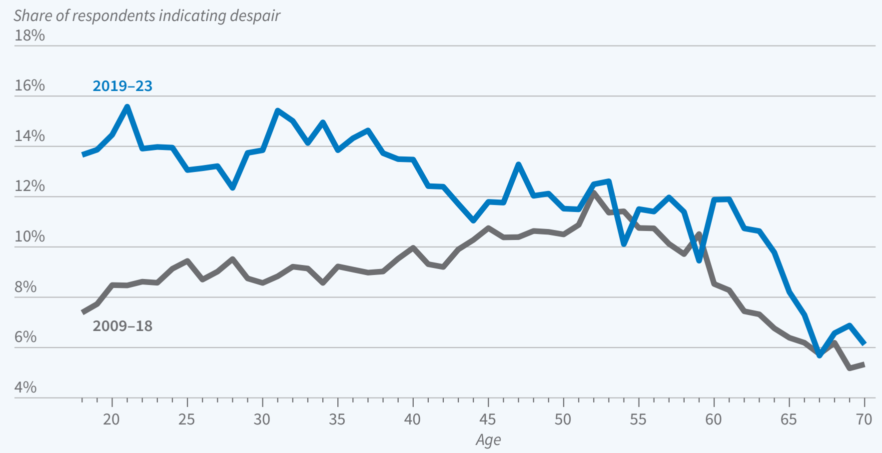
Despair in the United States, by Age



Despair is defined as having poor mental health for each of the last 30 days.
Source: "The Mental Health of the Young in Asia and the Middle East: The Importance of Self-Reports," Blanchflower DG, Bryson A. NBER Working Paper 33475, February 2025.

Figure 3

Despair in the United Kingdom, by Age



Despair is defined as having poor mental health for each of the last 30 days.
Source: "The Declining Mental Health of the Young and the Global Disappearance of the Hump Shape in Age in Unhappiness," Blanchflower DG, Bryson A, Xu X. NBER Working Paper 32337, April 2024.

The mental health of the young has worsened globally, and in work with Twenge I have shown this is especially the case in English-speaking countries — the UK, US, Australia, Canada, Ireland, and New Zealand.[14]

The finding of a youth mental health crisis across the world is especially strong in internet-based surveys, such as the EU Loneliness Survey of 2022, a subset of the Global Flourishing Study (2022–24 sample), and especially the Global Minds surveys of 2020–25 and the COME-HERE surveys of 2020–23 in Europe. In these surveys, we find that the young are the least happy and the most unhappy, wellbeing rises with age, and ill-being declines with age. We also found this in a telephone Flash Barometer survey for Europe in 2022. Indeed, we found broad evidence across 167 of the UN's 193 countries.[15] In each of these countries, an age 18–24 dummy was significantly negative in a positive affect equation using the Mental Health Quotient score. Results were the same with other wellbeing variables. We also found consistent evidence in many countries of declining wellbeing of 15-year-olds in the OECD's PISA surveys, which are self-reported.

The evidence is much weaker when traditional social surveys — where interviewers collect data either face-to-face or by phone — are examined, including the Gallup World Poll, the Eurobarometer, the Latinobarometer, the Afrobarometer, the World Values Survey, the European Social Survey, UNICEF's Multiple Indicator Cluster Surveys, EBRD's Life in Transition Surveys, and the International Social Survey Programme. In these surveys, the finding of low wellbeing of the young is much more apparent in negative affect variables such as anxiety and depression than it is in positive affect variables such as happiness and life satisfaction. Government surveys around the world, such as the Labour Force Survey in the UK, are facing challenges with high nonresponse of the young.

I explored cross-country differences by examining the Global Flourishing Study of 2022–24 across 22 countries that used both telephone and web-based surveys.[16] The results showed rising wellbeing with age in the internet surveys and declining wellbeing with age in the telephone surveys. The survey and question modes used matter as the young don't seem to answer the phone, and when they do, they tell interviewers differently and are more positive on mental health than if they self-report — there is, thus, evidence of social desirability response bias. The global mental health crisis of the young is picked up especially in self-reports. There is no contradiction in the results of these internet surveys regarding positive or negative affect variables.

The decline in the mental health of the young started in the second decade of the twenty-first century, is global, and disproportionately impacts young women. Some have argued the rise in smartphone use and the availability of the internet fit these facts well. My research suggests a clear association between the number of hours of the day spent on a smartphone, the age at which a child first got a cellphone, and poor mental health.

Others have suggested alternative explanations, including the Great Recession, changes in stigma over mental health issues, and different rules for mental health hospitalizations or even for what constitutes a suicide, but nobody has been able to show much of this empirically. It is hard to understand how this applies across the world in all cultures and languages and why it applies particularly to the young. The young are not joining youth clubs or the Scouts, playing sports, have less desire than in the past for spending time with others, and have increased material aspirations.

The iPhone was unveiled in January 2007 and 4.7 million phones were sold in the third quarter of 2008, and the iPad was launched in January 2010.[17] Sales of smartphones worldwide rose from 122 million in 2007 to 297 million in 2010, 970 million in 2013, 1.2 billion in 2014, and 1.5 billion a year since 2018, and 40 million smartphones a quarter are now being sold in Africa. The timing is right! According to the YRBSS, in 2021, 36 percent of high school males ages 14–18 had screen time of at least five hours a day compared with 43 percent of females, up from 19 percent and 21 percent in 2013, respectively.

Further research is clearly needed to understand the source of the global decline in the mental health of the young and how potential policy or other actions can respond to it.

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1 "The Great Divide: Education, Despair and Death," Case A, Deaton A. NBER Working Paper 29241, September 2021, and *Annual Review of Economics* 14(1), April 2022, pp. 1–21.
Return to Text

2 "Drug Overdose Deaths in the United States, 2003–2023," Garnett MF, Miniño AM. NCHS Data Brief No. 522, December 2024. National Center for Health Statistics.
Return to Text

3 "Transcript: Ezra Klein Interviews Jean Twenge," *New York Times*, May 19, 2023.
Return to Text

4 "The Mental Health of the Young in Asia and the Middle East: The Importance of Self-Reports," Blanchflower DG, Bryson A. NBER Working Paper 33475, February 2025.
Return to Text

5 Ibid.
Return to Text

6 "Declining Life Satisfaction and Happiness Among Young Adults in Six English-Speaking Countries," Twenge J, Blanchflower DG. NBER Working Paper 33490, February 2025.
Return to Text

7 "The Declining Mental Health of the Young and the Global Disappearance of the Hump Shape in Age in Unhappiness," Blanchflower DG, Bryson A, Xu X. NBER Working Paper 32337, April 2024.
Return to Text

8 Ibid.
Return to Text

9 "The Declining Mental Health of the Young in the UK," Blanchflower DG, Bryson A, Bell DNF. NBER Working Paper 32879, August 2024.
Return to Text

10 "Further Evidence on the Global Decline in the Mental Health of the Young," Blanchflower DG, Bryson A, Lepinteur A, Piper A. NBER Working Paper 32500, May 2024.
Return to Text

11 "The Mental Health of the Young in Ex-Soviet States," Blanchflower DG, Bryson A. NBER Working Paper 33356, January 2025.
Return to Text

12 "The Mental Health of the Young in Latin America." Blanchflower DG, Bryson A. NBER Working Paper 33111, November 2024.
Return to Text

13 "The Mental Health of the Young in Africa," Blanchflower DG, Bryson A. NBER Working Paper 33280, December 2024.
Return to Text

14 "Declining Life Satisfaction and Happiness Among Young Adults in Six English-Speaking Countries," Twenge J, Blanchflower DG. NBER Working Paper 33490, February 2025.
Return to Text

15 "Declining Youth Wellbeing in 167 UN Countries. Does Survey Mode or Question Matter?" Blanchflower DG. NBER Working Paper 33415, January 2025.
Return to Text

16 Ibid.
Return to Text

17 "Further Evidence on the Global Decline in the Mental Health of the Young," Blanchflower DG, Bryson A, Lepinteur A, Piper A. NBER Working Paper 32500, May 2024.
Return to Text

David G. Blanchflower

David G. Blanchflower is the Bruce V. Rauner Professor of Economics at Dartmouth College, specializing in unemployment, wellbeing, and wage macro policy. He served on the Bank of England's Monetary Policy Committee (2006–09) and was named Commander of the British Empire in 2009. Blanchflower is a research associate affiliated with the Labor Studies and Monetary Economics programs. He is also affiliated with the Adam Smith Business School at the University of Glasgow. His book, *The Wage Curve*, coauthored with Andrew J. Oswald, won Princeton University's Richard A. Lester Book Award. A British-born dual citizen, Blanchflower holds a master's degree from the University of Wales and a PhD from the University of London, with honorary doctorates from the Universities of Leicester, London, and Sussex.

Designing Online Information Environments

Michael Luca

In the wake of George Floyd's death in 2020, companies like Target and Google expanded or launched initiatives aimed at supporting Black-owned businesses. One common strategy was to digitally label and highlight these businesses, making them easier for customers to find and support. Five years later, companies are reassessing these efforts amidst political pressure to dismantle diversity initiatives. Some, like Wayfair, have been growing their efforts, while others, such as Target, are considering scaling back. Underlying these decisions is an economic question: How does the design of online information environments influence market behavior?

As customers spend an increasing amount of time online, platforms play an important role as architects of the information environments they face. Changes to the design of online environments — such as labelling a business as minority-owned, adjusting search algorithms, or moderating and aggregating product reviews — can alter everything from which products we purchase to how misinformation spreads.

Several central themes have emerged from recent research on the design of online information environments. Racial discrimination is a pervasive challenge in online platform design. Choices about which information is provided to customers can facilitate or mitigate bias, or even actively support minority groups. Second, customers can systematically misinterpret the information provided, or not provided, by firms, distorting markets and leading to inefficient outcomes. The impact of information ultimately depends not only on its content but also on its salience and complexity. Another theme concerns distortions in online reviews, which can undermine their informational content. Some ways of aggregating information can lessen these effects. Understanding and accounting for the factors that influence ratings can make them more informative and enable better decision-making.

Discrimination on Online Platforms

Some early discussions about online platforms highlighted their potential to reduce race- and gender-based discrimination. The reasoning was straightforward: If discrimination was based on visible cues like race or gender, the relative anonymity of online transactions could help reduce it. However, as platforms evolved, there was a shift toward incorporating more personal information, such as names and photos. On the Airbnb platform, for example, hosts could decide whether to accept a guest after viewing their profile, which included a name and photo but little else. This allowed a host to reject a guest based on their name or appearance, something that would not have been possible on earlier platforms like Expedia where the booking process was more automated. The shift toward Airbnb opened up new markets for bookings, but also more opportunities for discrimination relative to traditional hotel markets.

In an audit study on Airbnb, Ben Edelman, Dan Svirsky, and I found that providing hosts with profiles engendered discrimination: Guests with distinctively African-American names were roughly 16 percent less likely to be accepted than otherwise identical guests with distinctively White names.[1] Discrimination was prevalent across different types of properties, but most pronounced among hosts with no prior history of hosting Black guests.

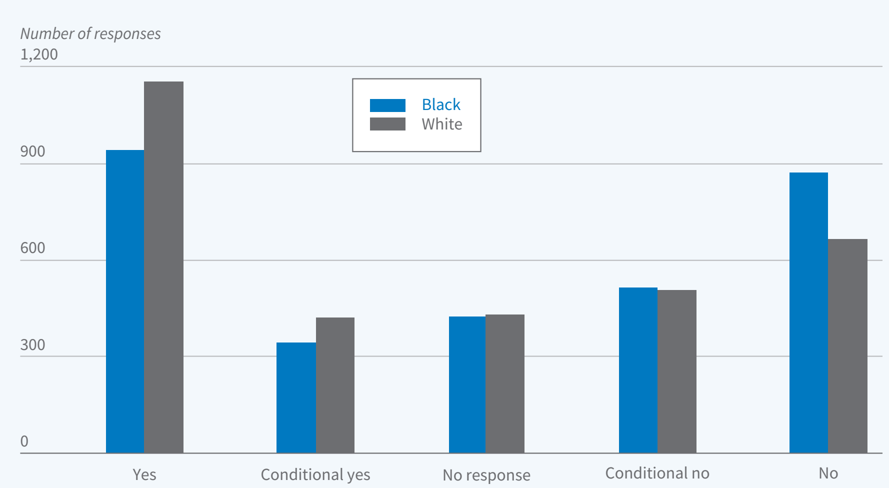
Expedia's platform, in contrast, minimizes the opportunity for discrimination at the booking stage, as listing managers do not see names or photos prior to booking.

Ray Fisman and I have explored steps platforms might take to mitigate bias through changes in their information and choice environments.[2] For example, consider the Airbnb feature known as "instant book," through which a host allows renters to book their property without prior approval. While this feature was designed to make booking simpler and more convenient, it also makes it harder for hosts to discriminate since the transaction occurs before, rather than after, markers of race are revealed.

Although platforms have taken steps to mitigate discrimination, racial bias remains a challenge. The degree of bias can evolve over time. Elizaveta Pronkina, Michelangelo Rossi, and I document spikes in anti-Asian discrimination on Airbnb toward the beginning of the COVID-19 pandemic.[3]

Figure 1

Responses by Airbnb Hosts to Booking Inquiries, by Guest Race



Source: "Racial Discrimination in the Sharing Economy: Evidence from a Field Experiment," Edelman B, Luca M, Svirsky D. American Economic Journal: Applied Economics 9(2), April 2017, pp. 1–22.

Our earlier research prompted Airbnb to create a task force with the goal of evaluating various strategies to mitigate discrimination. The company ultimately implemented a series of changes, including offering more instant booking, making users agree to a new anti-discrimination policy, removing host photos from the main search results, and not showing guest photos until after the booking decision has been made.

To help business students prepare for these challenges in the workplace, Scott Stern, Devin Cook, Hyunjin Kim, and I developed a case study focused on how Airbnb's leadership team might approach the challenge of addressing discrimination on the platform.[4] Other platforms, including Uber and LinkedIn, have now taken steps to understand and mitigate bias on their platforms.

While some platform designs can facilitate discrimination, others can support marginalized groups. For example, one strategy companies including Walmart, Target, Wayfair, and Yelp have explored is to make it easier for customers to find Black-owned businesses through new search tools and business labels. If consumers have a latent demand to support Black-owned businesses, these steps can reduce search frictions and allow consumers to act on this demand.

Abhay Aneja, Oren Reshef, and I investigated a feature that Yelp launched to allow users to find Black-owned restaurants more easily.[5] Businesses identified as Black-owned experienced increased demand, as indicated by more calls, more delivery orders, and — using cell phone data— more in-person visits. Our findings suggest underlying pent-up demand to support Black-owned businesses.

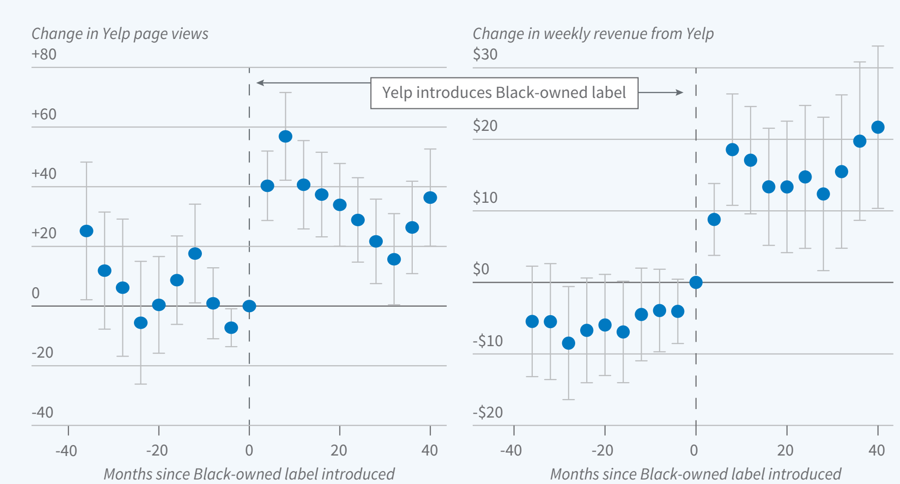
An analysis of reviewer profiles suggests that much of the effect seems to be driven by White customers, reflecting consumer demand among White restaurant-goers to support Black-owned businesses. We also found that the effects are larger in geographic areas with less racial bias, as proxied by aggregated Implicit Association Test scores, suggesting that the impact of these features depends in part on underlying customer demand.

Information and Inferences

The economics of information has a rich history, analyzing concepts including uncertainty, adverse selection, screening, signaling, and more recently designing information in a world with costly communication, imperfect inferences, and rapidly evolving technology. Platforms and artificial intelligence offer expanded opportunities — from personalized information to AI-based decision aids — to provide and synthesize valuable information for decision-makers, sometimes overcoming and other times amplifying classic challenges.

Figure 2

Introduction of Black-Owned Restaurants Label on Yelp



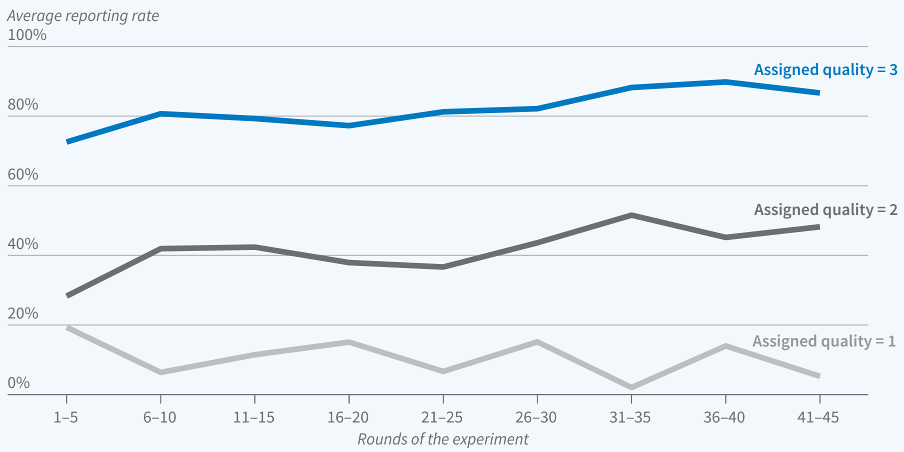
Source: "The Benefits of Revealing Race: Evidence from Minority-Owned Local Businesses," Aneja A, Luca M, Reshef O. NBER Working Paper 30932, September 2023.

A central result in information economics is that market forces have the potential to lead firms to disclose information voluntarily and completely, as long as the information is verifiable and the costs of disclosure are small. To see the mechanism, consider a case in which unknown sellers offer products of different quality and can credibly disclose the quality to prospective buyers. Customers become fully informed if quality is disclosed, but cannot distinguish quality when companies do not disclose. In this situation, the best businesses among those that do not disclose — those with the highest quality products — have an incentive to disclose and thereby separate themselves from the other non-disclosing firms. Applied iteratively, this logic leads all non-disclosing firms to ultimately disclose, so that in equilibrium consumers correctly infer the very worst from nondisclosure: the non-disclosing firms must have the lowest quality products. This highlights how voluntary disclosure can help solve asymmetric information problems in some settings, and points to policies that can increase the extent of disclosure. For example, some cities send hygiene scorecards that restaurants can voluntarily post on their doors, which is an attempt to make disclosure both low cost and verifiable.

However, the unraveling result — in which only the lowest quality firms withhold information — also rests on strong assumptions around the inferences consumers make when businesses withhold. To directly test the unraveling hypothesis, Ginger Jin, Daniel Martin, and I ran a series of lab experiments focused on disclosure decisions and inferences.[6] In contrast to theoretical predictions, we found that individuals provided with private information do not fully disclose it when the information is less positive and receivers are not sufficiently skeptical about nondisclosure. The results suggest

Figure 3

Experimental Evidence on Self-Reporting Behavior



Each line corresponds to players in a "no feedback, fixed role" scenario.
Source: "Is No News (Perceived As) Bad News? An Experimental Investigation of Information Disclosure," Jin GZ, Luca M, Martin D. NBER Working Paper 21099, May 2018, and American Economic Journal: Microeconomics *13(2), May 2021, pp. 141–173.*

limits to the foregoing narrative and also underscore that consumers are not as sophisticated as some models assume. Many consumers fail to interpret no information as bad news. Consumer education could ameliorate this and may be needed for voluntary disclosure to work in some settings, even if sellers have perfect information and a certification agency can verify their information for free.

Mandatory disclosure can, in principle, help to overcome these challenges, but is not a panacea, especially since companies have discretion not only about what information to disclose to customers but also how to disclose it. Even when disclosure is mandatory, as in the case of credit card agreements, mortgage statements, and privacy policies, important details can be buried in legalese or confusing formats, making it hard for consumers to identify and act on them. While disclosure can, at times, be complex by necessity, information complexity can also arise from the strategic incentives that companies face if consumers make systematic mistakes that are not in their own interest.

Jin, Martin, and I ran a series of experiments in which disclosure was mandatory but senders could decide how complicated to make the disclosure.[7] Although policymakers may assume that required disclosures will ensure transparency, our experiments show otherwise: information senders with unfavorable news systematically introduce complexity.

The strategic complexity observed in disclosures by senders replicated the harmful effects of nondisclosure since many consumers did not sufficiently penalize complexity. Some of the consumers in the experiment overestimated their ability to accurately synthesize complex information and, in the process, made mistakes that benefited the information sender.

For policymakers, this highlights the value of considering not only what information should be provided to consumers but also how to present it. In a world where people are bombarded with complex information, there can be value in presenting relevant information in a way that makes it easy for consumers to make decisions. Daisy Dai and I found that a pilot study that shifted the visible prominence of information changed consumer responses to the information.[8]

Platforms offer new opportunities for businesses and policymakers to revisit their approaches to disseminating information. For instance, health agencies are increasingly looking at social media advertisements and disclosure via platforms to reach stakeholders and to complement information they are already providing. Using data from Facebook and Instagram, Susan Athey, Kristen Grabarz, Nils Wernerfelt, and I conducted a meta-analysis of more than 800 experiments run by 174 public health-related organizations, such as the US Centers for Disease Control and Prevention and the World Health Organization, involving roughly $40 million in advertising.[9] We had access to the near universe of experiments run by these organizations on the platforms, so we were able to estimate the average effect of all of the interventions that were tested, rather than the effect of any one particular campaign. For interventions aimed at behavioral change around COVID-19, our results suggest that the interventions cost an estimated $5.68 for each additional person vaccinated.

Each individual experiment had limited samples, making it hard for many agencies to assess whether their specific campaigns were effective. This points to both the potential and the challenges of social media advertising as a tool for policy-related organizations. Larger experiments, more efforts aimed at meta-analyses, and further focus on boundary conditions can help to develop frameworks that can be used to understand the conditions under which such campaigns are likely to be effective.

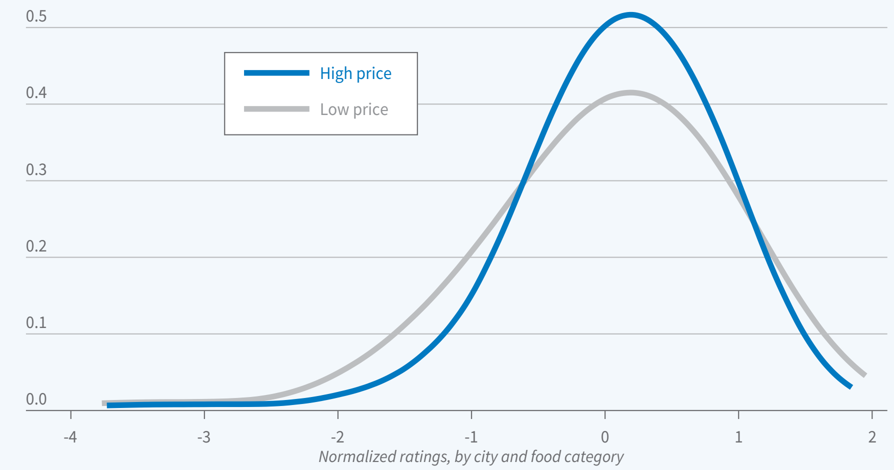
Challenges to the Quality of Online Reviews

In addition to disseminating information directly from businesses and policymakers to households, platforms have also facilitated the growth of user-generated content. Reputation systems, both stand-alone sites like TripAdvisor and integrated sites on e-commerce platforms like Airbnb, are prime examples. They make decisions about how to generate, aggregate, and display content.

Reshef and I study whether ratings reflect customer perceptions of quality, or quality adjusting for prices.[10] Since price sensitivity can vary across customers and prices can change over time, understanding the impact of prices on ratings is relevant for customers and platforms alike. Looking at daily data on delivery orders placed through

Figure 4

Distribution of Restaurants' Yelp Star Ratings, by Price



Source: "The Effect of Price on Firm Reputation," Luca M, Reshef O. NBER Working Paper 27405, May 2021, and Management Science *67(7), May 2021, pp. 4409–4419.*

Yelp, we found that a price increase of 1 percent was associated with a decrease of 3–5 percent in the average rating. The price effect on ratings does not seem to be driven by consumer reactions to price changes but by changes in absolute price levels. This result connects to long-standing economics questions about the link between price and reputation. For restaurants, this points to the reputational effects of pricing strategies. Price changes thus complicate the interpretation of average ratings by customers and by platforms.

A key open question concerns how to aggregate reviews. Suppose that a restaurant has reviews that span a decade. Should they all get the same weight? Should older ones be down-weighted? If a platform has insight into the types of reviews that are more or less informative, they can adjust the aggregation accordingly. Dai, Jin, Lee, and I explore the aggregation problem and develop a model that endogenously assigns more weight to newer reviews relative to older reviews and to "elite" reviewers relative to "non-elite" ones.[11] The core insight is that in most realistic models of user behavior, it is suboptimal — from an informational content perspective — to reveal simple arithmetic averages. Companies can use this insight to develop more informative aggregate ratings.

A related challenge is dealing with fake reviews, which can undermine trust in the system and reduce the value of the information provided to potential customers. Georgios Zervas and I analyzed reviews flagged by an algorithm as suspicious; the results suggest that businesses facing tougher competition or suffering from a poor reputation were more likely to engage in review fraud.[12] Data from a related sting operation by Yelp showed consistent patterns. Platform operators must make decisions about how to handle suspicious reviews.

Putting It All Together

Online information ecosystems play an increasingly central role in modern society. Thoughtful design choices can help platforms present information in ways that support better decision-making and fairer outcomes. As digital platforms continue to evolve, carefully considering how information is provided, aggregated, and interpreted can contribute to more efficient markets, greater transparency, and improved outcomes for customers and businesses alike.

1 "Racial Discrimination in the Sharing Economy: Evidence from a Field Experiment," Edelman B, Luca M, Svirsky D. *American Economic Journal: Applied Economics* 9(2), April 2017, pp. 1–22.
Return to Text

2 "Fixing Discrimination in Online Marketplaces," Fisman R, Luca M. *Harvard Business Review* 94(12), December 2016, pp. 88–95.
Return to Text

3 "Scapegoating and Discrimination in Times of Crisis: Evidence from Airbnb," Luca M, Pronkina E, Rossi M. NBER Working Paper 30344, March 2023, and published online as "The Evolution of Discrimination in Online Markets: How the Rise in Anti-Asian Bias Affected Airbnb During the Pandemic," *Marketing Science*, February 2024.
Return to Text

4 "Racial Discrimination on Airbnb (A)," Luca M, Stern S, Cook D, Kim H. *Harvard Business School Case Collection*, August 2022.
Return to Text

5 "The Benefits of Revealing Race: Evidence from Minority-Owned Local Businesses," Aneja A, Luca M, Reshef O. NBER Working Paper 30932, September 2023, and *American Economic Review* 115(2), February 2025, pp. 660–689.
Return to Text

6 "Is No News (Perceived As) Bad News? An Experimental Investigation of Information Disclosure," Jin GZ, Luca M, Martin D. NBER Working Paper 21099, May 2018, and *American Economic Journal: Microeconomics* 13(2), May 2021, pp. 141–173.
Return to Text

7 "Complex Disclosure," Jin GZ, Luca M, Martin DJ. NBER Working Paper 24675, February 2021, and *Management Science* 68(5), August 2021, pp. 3236–3261.
Return to Text

8 "Digitizing Disclosure: The Case of Restaurant Hygiene Scores," Dai W, Luca M. *American Economic Journal: Microeconomics* 12(2), May 2020, pp. 41–59.
Return to Text

9 "Digital Public Health Interventions at Scale: The Impact of Social Media Advertising on Beliefs and Outcomes Related to COVID Vaccines," Athey S, Grabarz K, Luca M, Wernerfelt N. *Proceedings of the National Academy*

of Sciences 120(5), January 2023.
Return to Text

[10] "The Effect of Price on Firm Reputation," Luca M, Reshef O. NBER Working Paper 27405, May 2021, and *Management Science* 67(7), May 2021, pp. 4409–4419.
Return to Text

[11] "Aggregation of Consumer Ratings: An Application to Yelp.com," Dai W, Jin G, Lee J, Luca M. *Quantitative Marketing and Economics* 16, December 2017, pp. 289–339.
Return to Text

[12] "Fake It Till You Make It: Reputation, Competition, and Yelp Review Fraud," Luca M, Zervas G. *Management Science* 62(12), January 2016, pp. 77–93.
Return to Text

Michael Luca

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International Migration, Remittances, and Economic Development

Dean Yang

The international development community — and development economists in particular — are constantly on the lookout for effective anti-poverty interventions for developing societies. The most dramatic income gains arise when people move from a developing country to a developed country for work. Migrants can experience five-fold wage gains, an improvement that dwarfs other interventions.[1,2]

Do migrants' origin communities gain from international migration as well? The aggregate numbers of migrants and the funds they send home suggest the potential for large impacts. In 2020, 281 million people lived outside their country of birth, up from 173 million in 2000.[3] International migrants typically remit large portions of their incomes to beneficiaries in their origin areas. Migrant remittances rose from $71 billion in 2000 to $656 billion in 2023, making them one of the largest types of international financial flows to developing countries.[4] Remittances are typically more than twice the value of official development assistance (foreign aid), and often approach or surpass the value of FDI flows (Figure 1).

In my research, I seek to understand how international migration affects development in migrants' origin countries. To do so, I take advantage of natural experiments and use randomized controlled trials (RCTs) of approaches aimed at increasing the development impact of migrant remittances and improving the outcomes of international migrants.

Economic Impacts of Migration on Origin Countries

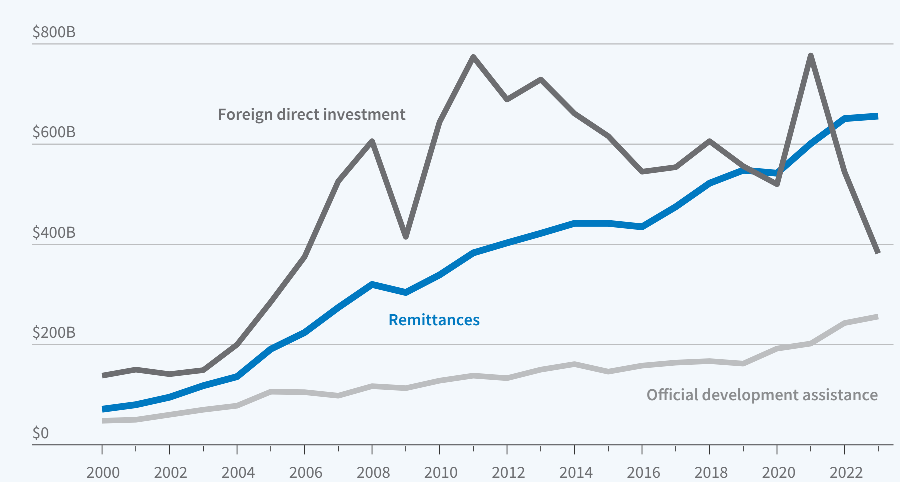
What effects do migrant earnings have on migrants' origin households? I exploit a natural experiment to examine the causal impact of changes in the economic circumstances of migrants on remittances and other outcomes in migrant origin households.[5] Many households in the Philippines have one or more members working overseas at any one time. These overseas Filipinos work in dozens of foreign countries and experienced sudden changes in exchange rates due to the 1997 Asian financial crisis. The exchange rate shocks were unexpected and varied in magnitude across overseas Filipinos' locations: in the year following the crisis, the US dollar and currencies in the main Middle Eastern destinations of Filipino workers appreciated by 50 percent against the Philippine peso. By contrast, the currencies of Taiwan, Singapore, and Japan rose by only 26 percent, 29 percent, and 32 percent, while those of Malaysia and Korea fell slightly against the peso. I examine the impacts of these exchange rate shocks on migrants' origin households using panel household survey data.

When migrants experience positive exchange rate shocks, there are substantial positive impacts on their origin households. Figure 2 displays the impact of a 25 percent improvement in the exchange rate facing migrants, well within the range of actual shocks. It leads to a 15 percent increase in remittances over the subsequent 15 months. These additional resources are channeled primarily into investments: educational spending rises by 13 percent, school attendance increases for both boys (3.5 percent) and girls (1.8 percent), and households increase their entrepreneurial activity, with hours worked in self-employment rising by 11.6 percent. There is a substantial increase in the number of vehicles owned, which are probably partly used for business (households become more likely to have transportation businesses). Notably, overall labor supply stays stable. Claudia Martínez and I show that a shock of this magnitude leads to a 16.7 percent fall in the poverty rate.[6] These findings suggest that migrants' earnings have substantial positive effects on the long-run economic prospects of their origin households.

In a related paper, I show how Filipino migrant workers' decisions to return from overseas and to invest in household enterprises are intertwined. A substantial fraction appear to be "target earners" who wait until they have saved a threshold amount and then

Figure 1

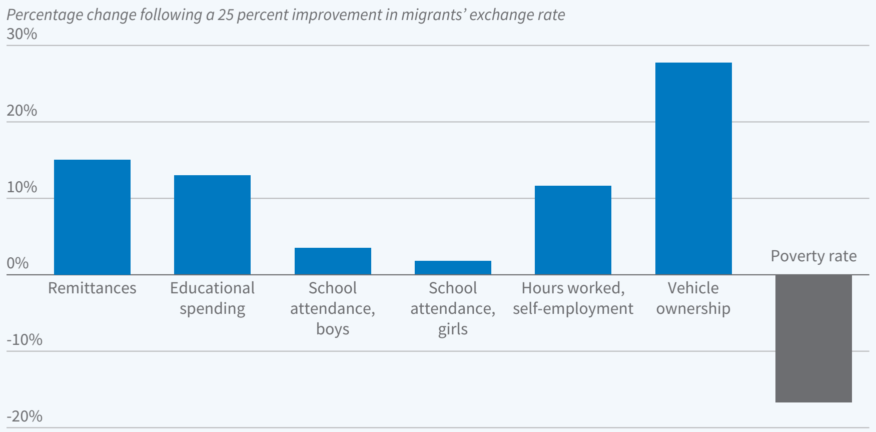
Income Flows to Low- and Middle-Income Countries



Source: "Remittances Slowed in 2023, Expected to Grow Faster in 2024," World Bank. Migration and Development Brief 40, June 2024.

Figure 2

Effect of Increase in Purchasing Power of Remittances



Sources: "Remittances and Poverty in Migrants' Home Areas: Evidence from the Philippines," Yang D, Martínez C. In International Migration, Remittances, and the Brain Drain*, Özden C, Schiff M, editors, pp. 81–121. Washington: World Bank, 2006. "International Migration, Remittances, and Household Investment: Evidence from Philippine Migrants' Exchange Rate Shocks," Yang D. NBER Working Paper 12325, June 2006, and* Economic Journal *118(528), April 2008, pp. 591–630.*

return home and invest.[7]

While migrant resources have positive impacts on households, what are the effects on the local economy overall? Gaurav Khanna, Emir Murathanoglu, Caroline Theoharides, and I address this question, focusing on impacts across 74 Philippine provinces. Our empirical approach also involves the 1997 Asian financial crisis exchange rate shocks, but this time exploits the fact that provinces vary at baseline (prior to the crisis) in the importance of overseas migrant income as a share of provincial income, as well as in the international destinations where migrants work.[8] Provinces thus faced heterogeneous shocks to the value of overseas migrants' income on a provincial per capita basis. We find that positive shocks to migrant income have substantial and long-lasting economic impacts in Philippine provinces. Increases in migrant income lead to investments in education and small enterprises in origin provinces. Investments in education play a large role in raising the incomes of future overseas migrants from the province, as well as income from domestic (nonmigrant) sources back home. Initial positive migrant income shocks are magnified over time: there is a virtuous cycle in which initial education investments lead future migrants to be better educated and work in higher-skilled jobs. In the long run, increases in domestic income are larger than migrant income gains. An initial 1 standard deviation positive shock to migrant income increases global (migrant plus domestic) income per capita by 0.2 standard deviations, or 2,272 Philippine pesos, over the long run.

Income from international migration not only improves a range of outcomes in origin areas, it also helps them cope with negative shocks. HwaJung Choi and I study how migrants help attenuate the effects of adverse shocks associated with rainfall.[9] Among households in the Philippines with overseas migrant members, rainfall-driven income shocks are associated with changes in remittances in the opposite direction: remittances fall when income rises, and vice versa. In such households, roughly 60 percent of exogenous declines in income are replaced by remittance inflows from overseas. In another paper, I examine the impact of hurricanes on international financial flows using country-level panel data.[10] For the poorest developing countries, hurricane damage leads to large inflows of migrant remittances amounting to 20 percent of experienced damages. The remittance response is roughly one-quarter as large as the response of foreign aid. Finally, Parag Mahajan and I show that migration itself can be a mechanism for coping with negative shocks.[11] We assemble country-level panel data on hurricanes around the world and show that they cause migration to the US. The migration response is larger in origin countries with larger stocks of migrants already in the US, which illustrates how migrant networks facilitate international migration. A key channel is prior migrants sponsoring new migrants for green cards (permanent residency).

Enhancing Development Impacts of Remittances

To investigate ways to increase the beneficial impacts of remittances, I have conducted RCTs that enhance migrants' ability to control or monitor how remittances are used in the origin country. Migrants often are seen as having strong preferences to save or invest remittances for the future; giving them more control over the use of remittances may have positive effects on development outcomes.

Nava Ashraf, Diego Aycinena, Martínez, and I conducted an RCT among US-based migrants from El Salvador.[12] We randomized offers of financial tools that improve the ability of migrants to ensure that remittances are deposited and accumulated in savings accounts in their home country. The savings may be for future use by the recipient household or the migrant. Some migrants may send their funds to be saved in El Salvador because they perceive savings held in the US to be relatively insecure.

Migrants in the study were randomly assigned to a control group or to one of three treatment conditions that provided them varying levels of monitoring and control over their savings in El Salvador. Comparisons across the treatment conditions revealed the causal impacts of offering varying degrees of control on savings account take-up, savings balances, and remittances.

The results support a desire for monitoring and control over remittance uses—in particular, over the extent to which remittances are saved in formal savings accounts. Across the experimental conditions in our sample, migrants were much more likely to open savings accounts and accumulate more savings in El Salvador if they were assigned to the treatment condition offering the greatest degree of monitoring and control.

In other studies, we have found that migrants also desire control over the use of remittances to finance education. Kate Ambler, Aycinena, and I implemented an RCT offering Salvadoran migrants the ability to directly fund educational expenses for students of their choice in El Salvador.[13] Additional treatments provided matching funds for these educational remittances. We found that demand for control in this context is elastic with respect to the match rate: there was no demand for unmatched educational remittances, but positive demand when matched. The offer of the match caused increased educational expenditures, higher private school attendance, and lower labor supply of youths in Salvadoran households connected to migrant study participants. We found substantial "crowd in": for each $1 received by beneficiaries, educational expenditures increased by $3.72.

In another study, Giuseppe De Arcangelis, Majlinda Joxhe, David McKenzie, Erwin Tiongson, and I investigate the impact of offering Filipino migrants in Italy control over the use of remittances for education in the Philippines.[14] We find evidence in a field experiment that people share more with home-country family members when they can channel those funds towards education or signal that the funds are intended for education.

Helping Migrant Workers

International migrant workers often face significant challenges in their destination countries. I have studied interventions that could help improve their outcomes. Toman Barsbai, Vojtech Bartos, Victoria Licuanan, Andreas Steinmayr, Tiongson, and I ran an RCT of an intervention aimed at reducing mistreatment of Filipino women employed as domestic workers in Hong Kong and Saudi Arabia.[15] The intervention — encouraging workers to show employers a family photo while providing a small gift when starting employment — reduced worker mistreatment, improved satisfaction with employers, and increased job retention. The mechanism appears to be a reduction in employers' perceived social distance from employees.

We have also found that information provision to migrants can have complex effects on their social networks. Barsbai, Licuanan, Steinmayr, Tiongson, and I conducted an RCT among new Filipino immigrants to the US that improved information about settling in the US.[16] The treatment led immigrants to acquire fewer new social network connections. Treated immigrants make fewer new friends and acquaintances and are less likely to receive support from organizations of fellow immigrants. This suggests that information and social network links can be substitutes: better-informed immigrants invest less in expanding their social networks upon arrival.

In Conclusion

International migration generates substantial economic benefits not only for migrants themselves but also for their origin communities. It can be a powerful tool for economic development, enabling investments in education and entrepreneurship while providing insurance against economic shocks. Our research has shown that these positive impacts can be further enhanced through interventions that give migrants more control over remittance use and that help improve their working conditions abroad. The demonstrated success of various interventions suggests promising avenues for expanding the economic development benefits of international migration in the future.

1 "The Place Premium: Bounding the Price Equivalent of Migration Barriers," Clemens MA, Montenegro CE, Pritchett L. *The Review of Economics and Statistics* 101(2), May 2019, pp. 201–213.

"How Important Is Selection? Experimental vs. Non-Experimental Measures of the Income Gains from Migration," McKenzie D, Stillman S, Gibson J. *Journal of the European Economic Association* 8(4), June 2010, pp. 913–945. "Long-Term Impacts of International Migration: Evidence from a Lottery," Gibson J, McKenzie D, Rohorua H, Stillman S. *The World Bank Economic Review* 32(1), February 2018, pp. 127–147.
Return to Text

2 "Economics of International Wage Differentials and Migration," Pritchett L, Hani F. *Oxford Research Encyclopedia of Economics and Finance*, July 2020.
Return to Text

3 "International Migrant Stock 2020," United Nations, Department of Economic and Social Affairs, Population Division (2020), December 2020.
Return to Text

4 "Remittances Slowed in 2023, Expected to Grow Faster in 2024," World Bank Group press release, June 26, 2024.
Return to Text

5 "International Migration, Remittances, and Household Investment: Evidence from Philippine Migrants' Exchange Rate Shocks," Yang D. NBER Working Paper 12325, June 2006, and *Economic Journal* 118(528), April 2008, pp. 591–630.
Return to Text

6 "Remittances and Poverty in Migrants' Home Areas: Evidence from the Philippines," Yang D, Martínez CA. In *International Migration, Remittances, and the Brain Drain*, Ozden C, Schiff M, editors, pp. 81–121. Washington, DC: World Bank, 2005.
Return to Text

7 "Why Do Migrants Return to Poor Countries? Evidence from Philippine Migrants' Responses to Exchange Rate Shocks," Yang D. NBER Working Paper 12396, July 2006, and *Review of Economics and Statistics* 88(4), November 2006, pp. 715–735.
Return to Text

8 "Abundance from Abroad: Migrant Income and Long-Run Economic Development," Khanna G, Murathanoglu E, Theoharides CB, Yang D. NBER Working Paper 29862, October 2022.
Return to Text

9 "Are Remittances Insurance? Evidence from Rainfall Shocks in the Philippines," Yang D, Choi H. *World Bank Economic Review* 21(2), May

2007, pp. 219–248.
Return to Text

[10] "Coping with Disaster: The Impact of Hurricanes on International Financial Flows, 1970–2002," Yang D. *The BE Journal of Economic Analysis and Policy* 8(1), 2008, Article 13.
Return to Text

[11] "Taken by Storm: Hurricanes, Migrant Networks, and US Immigration," Mahajan P, Yang D. NBER Working Paper 23756, August 2017, and *American Economic Journal: Applied Economics* 12(2), April 2020, pp. 250–277.
Return to Text

[12] "Savings in Transnational Households: A Field Experiment among Migrants from El Salvador," Ashraf N, Aycinena D, Martínez C, Yang D. NBER Working Paper 20024, March 2014, and *Review of Economics and Statistics* 9(2), May 2015, pp. 332–351.
Return to Text

[13] "Channeling Remittances to Education: A Field Experiment Among Migrants from El Salvador," Ambler K, Aycinena D, Yang D. NBER Working Paper 20262, June 2014, and *American Economic Journal: Applied Economics* 7(2), April 2015, pp. 207–232.
Return to Text

[14] "Directing Remittances to Education with Soft and Hard Commitments: Evidence from a Lab-in-the-Field Experiment and New Product Take-Up Among Filipino Migrants in Rome," De Arcangelis G, Joxhe M, McKenzie D, Tiongson E, Yang D. NBER Working Paper 20839, January 2015, and *Journal of Economic Behavior and Organization* 111, March 2015, pp. 197–208.
Return to Text

[15] "Picture This: Social Distance and the Mistreatment of Migrant Workers," Barsbai T, Bartos V, Licuanan V, Steinmayr A, Tiongson E, Yang D. NBER Working Paper 30804, December 2022, and forthcoming in the *Journal of Political Economy Microeconomics*.
Return to Text

[16] "Information and the Acquisition of Social Network Connections," Barsbai T, Licuanan V, Steinmayr A, Tiongson E, Yang D. NBER Working Paper 27346, June 2020, and published as "Information and Immigrant Settlement," *Journal of Development Economics* 170, September 2024.
Return to Text

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Annual Report of Awards to NBER Affiliates, Spring 2025

Katharine Abraham was elected to serve as president-elect (in 2025) and president (in 2026) of the American Economic Association.

John Abowd received the Association for Computing Machinery Policy Award for his work in modernizing the US Census Bureau's processing and dissemination of census, survey, and administrative data.

Daron Acemoglu, **Simon Johnson**, and **James A. Robinson** were awarded the 2024 Nobel Memorial Prize in Economic Sciences "for studies of how institutions are formed and affect prosperity."

Klakow Akepanidtaworn, Rick Di Mascio, **Alex Imas**, and Lawrence Schmidt won the Dimensional Fund Advisors First Prize for best paper in *The Journal of Finance* for Selling Fast and Buying Slow: Heuristics and Trading Performance of Institutional Investors (NBER Working Paper 29076).

Pol Antràs was elected a member of the American Academy of Arts and Sciences.

Costas Arkolakis, **John Asker**, **David Atkin**, **Paul Beaudry**, **Sandra E. Black**, **Alessandra Casella**, **Janice C. Eberly**, **Erica M. Field**, **Henrik Kleven**, **Kala Krishna**, **Deborah J. Lucas**, **Annamaria Lusardi**, **N. Gregory Mankiw**, **Enrique Gabriel Mendoza**, **Ismael Mourifié**, **Guillermo Ordoñez**, **Mar Reguant**, **Diego Restuccia**, **Andrés Rodríguez-Clare**, **Luigi Zingales**, and **Gabriel Zucman** were elected fellows of the Econometric Society.

Jeremy Atack, **Robert Margo**, and **Paul Rhode** were awarded the Larry Neal Prize for the best article in *Explorations in Economic History* for De-skilling: Evidence from Late Nineteenth Century American Manufacturing (NBER Working Paper 31334).

H. Spencer Banzhaf received the Joseph Spengler best book prize from the History of Economics Society for his book *Pricing the Priceless: A History of Environmental Economics* and was named an honorary fellow of the Society for Benefit-Cost Analysis.

Julian Betts received a Research-Practice Partnership Award from the California Educational Research Association.

Barbara Biasi received the *American Economic Journal: Economic Policy* Best Paper Award for The Labor Market for Teachers Under Different Pay Schemes (NBER Working Paper 24813).

Carola Binder's book, *Shock Values: Prices and Inflation in American Democracy*, was named one of the top 10 books of 2024 by *The Wall Street Journal*.

Judd B. Kessler, **Dmitry Taubinsky**, and **Eric Zwick**, along with Erin T. Bronchetti and Ellen B. Magenheim, won the Exeter Prize for Research in Experimental Economics, Decision Theory, and Behavioral Economics for their paper Is Attention Produced Optimally? Theory and Evidence from Experiments with Bandwidth Enhancements (NBER Working Paper 27443).

Emily Breza and **Elizabeth Setren** each received a Presidential Early Career Award for Scientists and Engineers from the National Science Foundation.

John Campbell was named a fellow of the Financial Management Association and won the Skandia Research Award from the Swedish House of Finance.

Richard Clarida received the John Whitehead Award for Distinguished Public Service and Financial Leadership from the Museum of American Finance.

Lauren H. Cohen was named a Top 25 Global Family Enterprise Academic by Family Capital.

Zoe B. Cullen, **Ellora Derenoncourt**, **Eduardo Dávila**, **Maryam Farboodi**, **Kilian Huber**, and **Ludwig Straub** were named Sloan Research Fellows.

Janet Currie served as president of the American Economic Association, received the Society of Labor Economists Jacob Mincer Award, was elected an International Fellow of the British Academy, and was named a Doctor Honoris Causa by Università della Svizzera italiana and a Clarivate Citation Laureate by the Institute for Scientific Information.

Leemore Dafny was elected to the National Academy of Medicine.

Eduardo Dávila was awarded the Banco Sabadell Foundation Award for Economic Research and the Arthur Greer Memorial Prize for Outstanding Scholarly Publication or Research from Yale University.

Thomas S. Dee received the Peter H. Rossi Award for contributions to the theory or practice of program evaluation by the Association for Public Policy Analysis and Management, and the Outstanding Public Communication of Education Research Award by the American Educational Research Association.

Florian Ederer received the Jerry S. Cohen Award for Antitrust Scholarship from the American Antitrust Institute.

Maryam Farboodi received the Elaine Bennett Research Prize from the American Economic Association Committee on the Status of Women in the Economics Profession.

Raquel Fernández was awarded the Carlos Diaz-Alejandro Prize by the Latin American and Caribbean Economic Association and elected a fellow of the Society for the Advancement of Economic Theory.

John Friedman was elected vice president of the Eastern Economic Association.

Kenneth Gillingham and **Donna Ginther** were named fellows of the American Association for the Advancement of Science.

Sherry Glied won the American Public Health Association's Carl Taube Award for Lifetime Contribution to the Field of Mental Health.

Gopi Shah Goda, Matthew R. Levy, Colleen Flaherty Manchester, Aaron Sojourner, Joshua Tasoff, and Jiusi Xiao's paper, Are Retirement Planning Tools Substitutes or Complements to Financial Capability? (NBER Working Paper 30723), was a finalist for the TIAA Institute Paul A. Samuelson Award.

Claudia Goldin received honorary doctorates from Brown University, Boston University, and Simmons University, the University of Chicago Alumni Medal, and was named one of *Time's* Women of the Year.

Jacob Goldin was awarded the Donald M. Ephraim Prize in Law and Economics by the University of Chicago.

Niels Joachim Gormsen, **Killian Huber**, and **Sangmin Simon Oh** received the Kellogg School of Management Moskowitz Prize for their paper Climate Capitalists (NBER Working Paper 32933).

Robert J. Gordon received an honorary doctorate from Université Paris 1 Panthéon-Sorbonne.

Bronwyn H. Hall and **John Haltiwanger** were named Distinguished Fellows of the American Economic Association.

Caroline Hoxby was elected to membership in the American Academy of Sciences and Letters.

Hilary Hoynes was awarded the Daniel M. Holland Medal by the National Tax Association.

Steven Kaplan was elected a Distinguished Fellow of the American Finance Association.

Elisabeth Kempf and **Margarita Tsoutsoura** received the Second Place Jensen Prize from the *Journal of Financial Economics* for their paper Political Ideology and International Capital Allocation (NBER Working Paper 29280) with Mancy Luo and Larissa Schäfer.

Morris M. Kleiner received the Economics Career Achievement Alumni Award from the Department of Economics of the University of Illinois Urbana-Champaign.

Pinelopi Koujianou Goldberg was named a Distinguished Fellow of the Center for Economic Studies at Ludwig-Maximilians-Universität München and delivered the associated Munich Lecture in Economics.

Christian Leuz was honored as a Falling Walls Foundation Global Call Winner in Social Sciences and Humanities for his work on fracking and transparency.

Andrew Lo received a *Journal of Investment Management* Special Distinction Award, a 25th Annual Bernstein Fabozzi/Jacobs Levy Award for outstanding article in the *Journal of Portfolio Management*, and a Questrom-CEMA Best Paper Award for "Performance Attribution for Portfolio Constraints" with Ruixun Zhang.

Nicole Maestas was elected to the National Academy of Medicine.

Matteo Maggiori received the Junior Prize for Money and Macroeconomics from the Banque de France and the Toulouse School of Economics.

Nadya Malenko received the Brattle Group First Prize in Corporate Finance from *The Journal of Finance* for "Trading and Shareholder Democracy" with Doron Levit and Ernst G. Maug, the Best Paper in Corporate Finance Award at the Society for Financial Studies Cavalcade North America for Voting Choice (NBER Working Paper 31636) with Andrey Malenko, and the Best Paper Award on Corporate Finance from the Northern Finance Association for Custom Proxy Voting Advice (NBER Working Paper 32559) with Edwin Hu and Jonathon Zytnick.

Ulrike Malmendier served as president-elect of the American Finance Association, was elected a fellow of the European Corporate Governance Institute, awarded the Marsilius Medal by the University of Heidelberg, and named one of the 100 most influential women in the German economy by *Manager Magazin*.

Olivia S. Mitchell received the CIO Lifetime Achievement Award for her contributions to research on retirement, public and private pension structures, and long-term investing.

Jonathan A. Parker, **Antoinette Schoar**, and Yang Sun were awarded the TIAA Paul A. Samuelson Award for Outstanding Scholarly Writing on Lifelong Financial Security for their paper Retail Financial Innovation and Stock Market Dynamics: The Case of Target Date Funds (NBER Working Paper 28028).

Lubos Pastor and **Pietro Veronesi** were awarded the Stephen A. Ross Prize in Financial Economics for their paper Technological Revolutions and Stock Prices (NBER Working Paper 11876).

James M. Poterba was named a fellow of the National Association for Business Economics.

Hélène Rey received the Bernhard Harms Prize from the Kiel Institute for the World Economy, the Senior Prize in Monetary Economics and Finance from the Banque de France and the Toulouse School of Economics, and was named Chevalier in the Ordre national du Mérit.

Dani Rodrik received an honorary doctorate from the University of Buenos Aires.

Joshua L. Rosenbloom was elected to the Economic History Association Society of Distinguished Fellows.

David Sraer received the Junior Finance Prize from the Banque de France and the Toulouse School of Economics.

Stijn Van Nieuwerburgh was awarded the Yuki Arai Faculty Research Prize in Finance by NYU Stern for his paper Work from Home and the Office Real Estate Apocalypse (NBER Working Paper 30526) with Arpit Gupta and Vrinda Mittal.

Dimitri Vayanos alongside Hao Jiang and Lu Zheng received the Swiss Finance Institute's Outstanding Paper Award for Passive Investing and the Rise of Mega-Firms (NBER Working Paper 28253).

Emil Verner received a 2024 Excellence Award in Global Economic Affairs from the Kiel Institute for the World Economy.

Michael Weber and **Ulrike Malmendier's** paper with Francesco D'Acunto and Juan Ospina, "Exposure to Grocery Prices and Inflation Expectations," was named one of the most influential policy papers of recent years by Overton.

Daniel Xu was awarded the Robert E. Lucas Jr. Prize for his paper How Costly Are Markups? (NBER Working Paper 24800) with Chris Edmond and Virgiliu Midrigan.

Conferences and Meetings

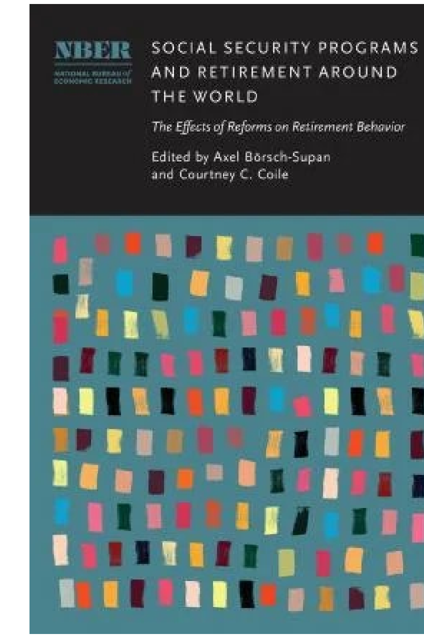
Detailed programs for NBER conferences are available at nber.org/conferences

Title of Conference/Meeting	Organizers	Dates
The Determinants of Mortality	David M. Cutler and Adriana Lleras-Muney	January 9–10, 2025
Advancing Economic Measurement	Katharine G. Abraham and Daniel E. Sichel	January 16–17, 2025
Industrial Organization Program Meeting	Claudia Allende, Matthew Grennan, and Bradley Shapiro	January 31–February 1, 2025
Economics of Crime Working Group Meeting	Jens Ludwig and Crystal Yang	February 7, 2025
Digital Economics and AI Tutorial	Chiara Farronato, Avi Goldfarb, and Catherine Tucker	February 12, 2025
Digital Economics and AI Meeting	Daniel Björkegren, Avi Goldfarb, and Catherine Tucker	February 13, 2025
Economics of Health Program Meeting	Zarek Brot, Christopher S. Carpenter, Amy Finkelstein, Emily C. Lawler, David Molitor, and Elena Prager	February 20–21, 2025
Gender in the Economy: Women in the Digital World	Jessica Goldberg, Sydnee Caldwell, and Tavneet Suri	February 28, 2025
Economic Fluctuations and Growth Program Meeting	Adrien Auclert and Emi Nakamura	February 28, 2025
Law and Economics Program Meeting	Christine Jolls	February 28, 2025
CRIW Conference on The Changing Nature of Work	Susan N. Houseman, Anne Polivka, and Ayşegül Şahin	March 6–7, 2025
Immigrants and the US Economy	Aimee Chin and Kalena Cortes	March 7, 2025
Monetary Economics Program Meeting	Hassan Afrouzi and Annette Vissing-Jorgensen	March 7, 2025
Economics of Aging Program Meeting	Kathleen M. McGarry, Kosali I. Simon, and Jonathan S. Skinner	March 7, 2025
Data Infrastructure for Decarbonizing Transportation	Christopher R. Knittel and Katalin Springel	March 13–14, 2025
Chinese Economy Working Group Meeting	Nancy Qian, Shang-Jin Wei, and Daniel Xu	March 20–21, 2025
Energy Markets, Decarbonization, and Trade	Natalia Ramondo and Joseph S. Shapiro	March 20–21, 2025
Linking Historical Data Sources for Small Populations	Achyuta Adhvaryu, Randall Akee, and Emilia Simeonova	March 21, 2025

Books

Social Security Programs and Retirement around the World: The Effects of Reforms on Retirement Behavior

Axel Börsch-Supan and Courtney Coile, editors



Employment among older men and women has increased dramatically in recent years, reversing a downward trend in the closing decades of the twentieth century. Social Security Programs and Retirement around the World: The Effects of Reforms on Retirement Behavior examines how changing retirement incentives have reshaped labor force participation trends among older workers.

The chapters feature country-specific analyses for Belgium, Canada, Denmark, France, Germany, Italy, Japan, Netherlands, Spain, Sweden, the UK, and the US. They find that while there is significant heterogeneity across countries, the reforms of recent decades have generally reduced the implicit tax on work at older ages. These changes correlate positively with labor force participation.

The studies exploit the variation in the timing and extent of reforms of retirement incentives and employ microeconometric methods to investigate whether this correlation reflects a causal relationship. Policy changes appear to have contributed to rising labor force activity, but other factors like the role of women in the labor force, improved health, and changes in private pensions likely also play important roles.

Entrepreneurship and Innovation Policy and the Economy, volume 4

Benjamin Jones and Josh Lerner, editors

Entrepreneurship and Innovation Policy and the Economy, volume 4 synthesizes key findings about entrepreneurial and innovative activity in many sectors of the economy, conveying insights on contemporary challenges and seeking to inform policy. Several research papers address issues related to artificial intelligence (AI).

In the first paper, Pierre Azoulay, Joshua Krieger, and Abhishek Nagaraj examine the future evolution of AI and potential effects on market structure and competition.

Next, Gaétan de Rassenfosse, Adam Jaffe, and Joel Waldfogel focus on how generative AI may influence creative activities and the intellectual property system.

Martin Beraja, Wenwei Peng, David Yang, and Noam Yuchtman examine Chinese government investment in the AI sector.

Turning to research funding models, Arielle D'Souza, Kendall Hoyt, Christopher Snyder, and Alec Stapp elucidate the key features of Operation Warp Speed, which delivered effective COVID-19 vaccines in record time, and consider other settings in which this approach to research support might be applicable.

Next, Christoph Carnehl, Marco Ottaviani, and Justus Preusser study the design of scientific research grants more broadly, analyzing existing grant systems and identifying key tradeoffs as well as open research issues.

Finally, Amy Nice highlights the role of the science, technology, engineering, and mathematics (STEM) workforce in supporting the US defense sector and examines US workforce needs and immigration policy through this lens.

Measuring and Accounting for Environmental Public Goods: A National Accounts Perspective

Nicholas Z. Muller, Eli Fenichel, and Mary Bohman, editors

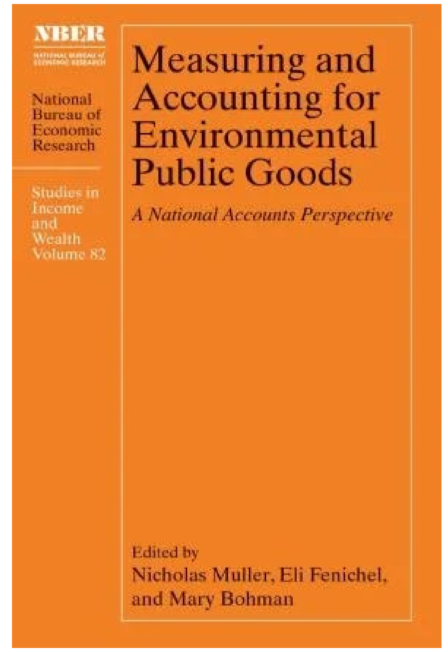
While the importance of natural resources and the contributions of the environment to welfare are apparent, traditional national income and wealth accounting practices do not measure or value environmental public goods.

This volume examines the conceptual and empirical basis for integrating natural capital — forests, oceans, and air — into the economic and environmental statistics that inform public policy. It offers innovative approaches to valuing nonmarket environmental goods and services, including strategies for capturing heterogeneity in measurement across types of capital, geography, and individuals.

The chapters focus on measuring productivity with adjustments for pollution damage, developing a microdata infrastructure to advance our understanding of the distribution of environmental amenities and hazards, and estimating long-run sustainable development indicators.

Case studies consider coastal assets, forests, and marine ecosystems, and develop strategies for implementing specific environmental-economic accounts such as environmental activity accounts and natural capital accounts for forests and the marine economy.

As national income accounting standards are updated to incorporate expanded guidance on issues related to natural capital, this timely book will help inform decisions on the measurement and treatment of climate, air, water, and other public goods.



Environmental and Energy Policy and the Economy, volume 6

Matthew J. Kotchen, Tatyana Deryugina, and Catherine D. Wolfram, editors

This volume presents six new papers on environmental and energy economics and policy.

James Bushnell and Aaron Smith illustrate a new way of modeling uncertainty for the purpose of understanding climate policy effects in the US electricity sector.

Xinming Du, Muye Ru, and Douglas Almond estimate the effect of a federal requirement for oil and gas firms to detect and repair methane leaks, showing that the removal of the regulation in 2020 prompted an increase in emissions.

Ivan Rudik, Derek Lemoine, and Antonia Marcheva explore equity and efficiency tradeoffs in climate adaptation funding as part of the 2021 US Bipartisan Infrastructure Law.

John Bistline, Kimberly Clausing, Neil Mehrotra, James Stock, and Catherine Wolfram outline a range of different US climate policy options for near-term implementation.

Frances Moore considers the potential economic consequences of accounting for nonstationarity in the distribution of weather because of climate change.

Finally, Ben Groom and Frank Venmans discuss different ways of quantifying the social value of temporary reductions in atmospheric carbon, with implications for carbon offset markets.