

Paper 1

Jianan Yang (Peking University) and Daixin He

Drug Affordability, Utilization and Adherence: Evidence from a Prescription Drug Price Reduction in China

Abstract:

Improving drug affordability are challenges faced by governments globally. In developing countries, the existence of non-price barriers to healthcare utilization makes the effect of improving affordability ambiguous. This paper evaluates the effect of price reduction on drug utilization and adherence by studying a drug procurement program in China, which brought down the prices of 10 chronic condition drugs by an average of 78%. Using a difference-in-differences design with a set of comparable drugs as controls, we find that this improvement in affordability led to a significant increase in demand by uninsured patients, whose purchases of treated drugs increased by 28.4% more than the insured. This response came both from new and existing medication takers. Drug adherence was improved for the uninsured who had poorer adherence at baseline. Our findings suggest that the bargaining power of the government to negotiate down drug prices can significantly improve utilization and adherence for the uninsured in the case of chronic conditions, which increasingly account for a large share of the disease burden in developing countries.

Paper 2

Daniel Avdic, Nils Gutacker, **Giovanni van Empel** (Monash University), and Johan Vikstrom

Provider Responses to Market Entry Under Competing Health Technologies

Abstract:

We study whether multi-technology healthcare providers respond to market entry of specialized single-technology competitors by inducing demand for legacy health technologies. To this end, we use the relaxation of regulatory restrictions in cardiac care in Sweden that led to a rapid expansion in the number of hospitals providing catheter-based treatment only. To establish causality, we exploit a feature of the Swedish healthcare system that restricts patient choice of healthcare providers, allowing providers considerable discretion in allocating patients to treatments. Relating observed treatments of residents in catchment areas where hospitals opened a catheter lab to residents in unaffected catchment areas, we find that patients with clinical indications for cardiac surgery were 10 percent more likely to receive catheter-based treatment after their local hospital opened a catheter lab. In contrast, we find no evidence that incumbent hospitals reduced their use of catheter treatment on their remaining patient population to offset reductions in surgical volume. We conclude that the lack of response to market entry among incumbent providers likely contributed to the swift technological change in the clinical management of acute coronary syndrome in the 2000s.

Paper 3

Kazuki Motohashi (Hitotsubashi University)

Unintended Consequences of Sanitation Investment: Negative Externalities on Water Quality and Health in India

Abstract:

Developing countries have increased sanitation investment to improve child health. However, scaling up latrine construction can cause water pollution externalities that offset direct health benefits due to poor treatment of fecal sludge. I estimate these negative externalities of a sanitation policy in India that subsidized the construction of over 100 million latrines. Exploiting geographical variation in a soil characteristic that affects the feasibility of latrine construction, I find that the policy increases river pollution by 72%. While it reduces diarrheal mortality overall, this positive health effect is eliminated when upstream areas have lower capacities for treatment of fecal sludge.

Paper 4

Stephen Hoskins, David Johnston, Johannes Kunz, Michael Shields, and **Kevin Staub**
(University of Melbourne)

Heterogeneity in the Intertemporal Persistence of Health: Evidence from a Monthly Micro Panel

Abstract:

Despite being widely used in health economics, dynamic models of health and healthcare typically assume that the persistence in these outcomes is the same for every individual. This paper explores individual-level heterogeneity in the persistence of health outcomes. Using simple regression methods that do not place any restriction on the distribution of the heterogeneity in persistence, the paper documents substantial heterogeneity in health, medical expenditures and healthcare use. We show that neglecting this heterogeneity leads to estimates that overstate the average persistence and can bias the coefficients of covariates. We find that between 75% and 87% of individuals display persistence, and that this persistence is related to the individuals' personality and socio-economic characteristics.

Paper 5

Kazuya Masuda and **Hitoshi Shigeoka** (University of Tokyo, Simon Fraser University, IZA, and NBER)

Education and Later-life Mortality: Evidence from a School Reform in Japan

Abstract:

We examine the mortality effects of a 1947 school reform in Japan, which extended compulsory schooling from primary to secondary school by as much as 3 years. The abolition of secondary school fees also indicates that those affected by the reform likely came from disadvantaged families who could have benefited the most from schooling. Even in this relatively favorable setting, we fail to find that the reform improved later-life mortality up to the age of 87 years, although it significantly increased years of schooling. This finding suggests limited health returns to schooling at the lower level of educational attainment.

Paper 6

Shampa Bhattacharjee, **Roopal Jain** (Shiv Nadar Institution of Eminence), and Arka Roy Chaudhuri

Demonetization and Child Health: Evidence from India

Abstract:

This paper aims to investigate the impact of the massive demonetization which occurred in India in 2016 on infant mortality. The demonetization policy was introduced to fight the black economy and it rendered approximately 86% of the circulating Indian currency invalid as legal tender, resulting in substantial shortages of cash in the following months. Old notes could be exchanged for new ones from banks. Thus, the effects of demonetization are expected to be more pronounced for districts with lower bank access. In order to identify the health effects of demonetization, we use a previous bank branch expansion policy that resulted in a discontinuity in access to banks at a predetermined policy cutoff. We employ a difference-in-discontinuity estimation strategy, wherein we compare districts with greater bank accessibility to those with lower bank access, around the cutoff defined by the bank branch expansion policy. Our findings reveal that among districts located around the policy cutoff, those with higher levels of bank accessibility experienced lower infant mortality during the postdemonetization period compared to districts with comparatively lower access to banks.

Paper 7

Ritwik Banerjee, **Satarupa Mitra** (Indian Institute of Management Bangalore), Soham Sahoo, and Ashmita Gupta

Teachers' Caste Bias Affects Students' Mental Health and Aspirations in Bihar, India

Abstract:

Social identity-based prejudice has a debilitating effect on various life outcomes. While the social science literature primarily focuses on the economic and social consequences, the mental health effects of such biases are vastly under-studied. We investigate this question in the context of caste discrimination in Bihar, India, using a large-scale, detailed, representative survey of public schools. Our analysis shows that a backward caste student has 0.30σ higher depression score and is 19 percentage points more likely to be categorized as 'depressed', relative to a forward caste student, when taught by a forward caste teacher. To understand the source of the effect on mental health, we show that forward caste teachers systematically underestimate the learning levels of backward caste students relative to forward caste ones. This constitutes an objective measure of teachers' caste-based prejudice. Further, backward caste students also exhibit considerably lower levels of educational aspirations relative to their forward caste counterparts. Our estimates suggest that about 7.7m students suffer from depression in Bihar, and out of that 6.7m are from backward castes. A significant proportion of such cases arise because of teachers' caste prejudice.

Paper 8

Zining Liu (Central University of Finance and Economics) and Cheng Wan

Air Pollution and the Burden of Long-Term Care: Evidence from China

Abstract:

We examine the causal effects of exposure to air pollution on the burden of long-term care (LTC) by matching a satellite-based PM_{2.5} (particulate matter smaller than 2.5 micrometers (μm) in diameter) dataset with a nationally representative longitudinal study in China over 2011–18. We find significant adverse effects of PM_{2.5} exposure – instrumented by thermal inversions – on the LTC burden. A 10 $\mu\text{g}/\text{m}^3$ increase in annual PM_{2.5} exposure increases average monthly hours of LTC and the associated financial costs by 28 hours and CNY 452, respectively. The effects are greater for those who had never smoked nor experienced severe air pollution (annual average PM_{2.5} > 35 $\mu\text{g}/\text{m}^3$) in the previous five years. We also find that as PM_{2.5} increases, chronic diseases, especially cardiovascular diseases, could lead to a higher likelihood of LTC dependency but reduced total hours and costs of providing LTC. Finally, we find that air pollution reduces the total life years of needing LTC, suggesting that air pollution increases LTC costs by increasing the severity of LTC dependency, rather than the duration of needing LTC. Our findings can assist policy makers in planning for LTC provision and clean air policies.

Paper 9

Xuqian Ma (UC Berkeley), Renfu Luo, Lingling Hou, and Yuhang Pan

Unlocking Resilience: Mitigating the Prenatal Air Pollution Exposure Effects via Postnatal Micronutrient Powders

Abstract:

Exposure to air pollution during pregnancy can negatively impact postnatal infants' performance. We experimentally evaluate the impact of providing micronutrient powders (MNP) on mitigating prenatal air pollution's effects for approximately two thousand children in China. We find that exposure to PM_{2.5} during the first and second trimesters reduces children's later development outcomes, and socioeconomically disadvantaged children are more affected by pollution during pregnancy. The provision of MNP supplementation partially mitigates the damages caused by prenatal air pollution exposure. Specifically, MNP effectively mitigates the impact of second-trimester pollutant exposure on psychomotor development. However, providing MNP does not provide immediate mitigation of effects on mental development, nor does it mitigate the impacts resulting from first-trimester pollutant exposure. These findings highlight the potential of policy interventions that prioritize early childhood nutrition for enhancing child development outcomes in regions characterized by high levels of air pollution.

Paper 10

Jiayi Wen (Xiamen University) and Haili Huang

Parental Health Penalty in Adult Children's Employment: Gender Difference and Long-Term Consequence

Abstract:

This paper examines the long-term gender-specific impacts of parental health shocks on adult children's employment in China. We build up an inter-temporal cooperative framework to analyze household work decisions in response to parental health deterioration. Then employing an event-study approach, we establish a causal link between parental health shocks and a notable decline in female employment rates. Male employment, however, remains largely unaffected. This negative impact shows no abatement up to eight years that are observable by the sample. These findings indicate the consequence of "growing old before getting rich" for developing countries.

Paper P1

Ashani Abayasekara (Monash University), David Johnston, Michael Shields, and Sonja de New

Closure of Australia's Automotive Assembly Industry: Impacts on Worker Outcomes

Abstract:

Australia's 100-year-old automobile industry ended in 2017 with the closure of the Toyota, General Motors, and Ford assembly plants. We study how this major economic event affected the automobile manufacturing workforce's economic and mental health outcomes. Using a difference-in-differences approach, we find that the economic wellbeing of blue-collar automobile workers – as measured by real wages, occupation instability, and welfare use – worsened in the years following plant closure announcements and actual closures. These effects were most pronounced for low-skilled workers, with estimates indicating a 30% decrease in wages, a six-percentage point increase in occupational switching, and a two percentage-point increase in welfare use in the post-closure period. In contrast to these economic effects, we do not find evidence for worsening mental health outcomes. One possible explanation for this latter result is that the support systems initiated by industry and government, such as counselling, resilience training, and wellbeing programs, effectively supported workers' mental wellbeing.

Paper P2

Sarthak Agarwal (Indian Institute of Management Lucknow), Somdeep Chatterjee, and Oindrila Dey

Family Planning in Mission Mode: Evidence from India's Mission Parivar Vikas (MPV) Program

Abstract:

Despite the pervasive presence of various types of family planning interventions world over, impact on fertility rates and adoption of contraception remain low in developing countries. In this paper, we explore whether a multidimensional policy incorporating these various facets like incentivizing adoption, actively enhancing information dissemination and providing easier access to contraception, under an umbrella family planning intervention can be a potential solution to this problem. Using a quasi-experimental estimation framework, we show that India's Mission Parivar Vikas (MPV) initiative, which incentivized the adopters of family planning while also offering performance-based incentives to the network of accredited health workers based on take-up of the intervention, led to a decline in fertility rates as well as an increase in adoption of family planning methods. The adoption effects are not just restricted to women - we also find that men are more likely to use contraception as a result of this holistic intervention. We also find improved health status of women and changes in stated fertility preferences of both men and women. We argue that a mediating channel for these results is increased exposure to information on family planning, as a direct consequence of the MPV.

Paper P3

Yunji Choi (Hong Kong University of Science and Technology)

Does \$1 Matter? Healthcare Demand Response to a Small Copayment

Abstract:

It has recently been found that zero is a special price that provokes both rational and behavioral responses, and a copayment as small as \$1-2 can mitigate moral hazard effect while not putting patients at financial risk (Iizuka and Shigeoka, 2022). Since small copayment public health insurance schemes are likely offered to the low-income group, this paper studies how low-income individuals respond. Medical Care Assistance (MCA) is a Korean public health insurance provided to the lowest 3% income group, in two forms: type 1 with zero copayment; and type 2 with relatively higher copayment. I exploit a setting where a copayment ranging from \$0.5-2 was imposed on outpatient and pharmacy visits of MCA type 1 enrollees in July 2007. I find that MCA type 1 enrollees reduced their visits to clinics by 7.95 percent and visits to pharmacies by 7.81 percent. In particular, patients make less visits for injection and physiotherapy. The outpatient expenditure at clinics also decreased by 8.60 percent on average. However, expenditure from pharmacy claims only decreased by 2.5 percent. This is partially driven by the fact that patients tend to increase their per-visit medication supply. The average number of quarterly pharmacy visits for drugs on digestive system, drugs on nervous system, dermatological drugs, and antibiotics decreased the most. On the other hand, total amount of quarterly medication supply for anti-hypertensive drugs, statin, and anti-depressants did not decrease. However, anti-diabetic drugs for diabetes patients decreased by a small but significant magnitude although short-term health consequences or reduction in preventive care was not observed.

Paper P4

Yuki Kanayama (Cambodia Development Resource Institute)

Early Cohabitation and Intimate Partner Violence: Evidence from Cambodia

Abstract:

Child marriage is considered a leading cause for intimate partner violence (IPV) in developing countries, but few studies have examined the causal relationship between the two. Using the individual-level data from Cambodia, we show how early cohabitation affects the attitudes of ever-married women toward IPV. To isolate exogenous variation, we use age at menarche as an instrumental variable for age at first cohabitation, and thus, our estimates are relevant to women whose timing of cohabitation is related to the timing of menarche. We find that later cohabitation makes women more tolerant of IPV. This is because later-married women are less likely to work after marriage, their partners are less educated, and their household wealth is smaller. These findings seem to suggest a premium of younger brides in the marriage market, which may potentially offset the negative effects of early cohabitation on IPV. In line with these findings, our suggestive evidence shows that the estimated effects of cohabitation timing on the probability of experiencing different forms of IPV are statistically indistinguishable from zero. Our findings indicate that simply delaying the timing of first cohabitation may have unintended consequences for these women, and thus, should be combined with comprehensive interventions to change people's perceptions and the marriage market.

Paper P5

Arpita Khanna (National University of Singapore)

Long-Run Impacts of the Bengal Famine of 1943: A Gender Analysis

Abstract:

This paper studies the long term consequences of the Bengal famine of 1943-44 on its survivors about 60 years later. Using World Health survey (WHS) data from Bangladesh and the Indian state of West Bengal and applying differences-in-differences methodology, I find that those with exposure to more intense famine reported having significantly higher number of symptoms of diseases such as asthma, angina, TB and depression. In addition, they were significantly more likely to face difficulty with their daily life activities. However, the results are almost entirely concentrated among females with males showing almost no negative long term impact of the famine. An investigation of possible mechanisms explaining this gender disparity point towards mortality selection among males being more relevant in explaining the disparity as opposed to son preference hypothesis.

Paper P6

Emilie Berkhout, **Rhea Molato-Gayares** (Asian Development Bank), Albert Park, and Daniel Suryadarma

Lead Exposure from Automotive Battery Recycling and Cognitive Ability in Indonesia

Abstract:

Human exposure to the toxic element lead is known to affect children's health through impaired cognitive development, stunted growth, and higher risk of behavioral problems. One of the most common sources of lead exposure is the recycling of used lead-acid batteries (ULABs), commonly found in automotive vehicles. This paper studies the impacts of lead exposure through ULAB recycling on learning outcomes in Indonesia. We exploit three types of variation in a two-way fixed effects model to identify a causal impact from exposure to ULAB recycling sites: variation in the starting year of these sites, variation in distance of the household to the site and variation in the age of first exposure. We find large negative impacts on performance in a test for numeracy skills and a test for fluid intelligence when the respondent was exposed in utero or during early childhood and lived less than 6 kilometers from the ULAB recycling sites. We find that these effects persist in adulthood.

Paper P7

Masaru Nagashima (IDE-JETRO)

Abortion Legalisation and Adolescent Consequences among Females in the Developing World

Abstract:

Females in the developing world make major life decisions, such as those regarding marriage and fertility, as early as their teenage years. This study shows that exposure to a liberalised abortion regime significantly affects such choices. The study uses data from low- and middle-income countries covering Africa, Asia, and Latin America and employs an approach that combines the RKD and DID frameworks. The pooled data analysis reveals no strong relationship between longer exposure to extended legal access to abortion and teenage births or pregnancy termination. In contrast, it unveils a positive association with educational attainment and a negative link with teenage sexual debut and marriage. These results indicate that females with extended abortion access expect greater returns on education and increase their educational attainment accordingly; at the same time, they delay sexual initiation. The study also demonstrates the consistency of the findings across countries.

Paper P8

Christine Ho, Dahye Kim, **Rohan Ray** (National University of Singapore), and Bussarawan Teerawichitchainan

Childlessness and Health in Middle Age and Older Adulthood: Causal Evidence from Singapore

Abstract:

Health and well-being in mature adulthood are significant concerns given the prevalence of individuals aging without children. Exploiting two new instruments for childlessness, infertility during reproductive years and number of childless siblings, we investigate the causal relationship between childlessness and health in middle age and older adulthood. The instruments associate with childlessness but not directly with health in mature adulthood. Using a nationwide dataset of 1,500 Singaporeans aged 50 and above, we show that OLS underestimates the negative effects of childlessness on health. 2SLS estimates indicate that childlessness associates with higher likelihoods of poorer self-reported health and mental distress.

Paper P9

Yangyang Zhang (Jinan University) and Shiko Maruyama

The Fertility of the Disabled in Developing Countries: The Role of Gender and Son Preference

Abstract:

Sons are perceived as a source of old-age security in developing countries without well-established public support systems. While disabilities may bring difficulties in childbearing and childrearing, disabled people may have a heightened need for old-age security and hence a stronger son preference. This paper represents the first empirical study that explores the impact of disabilities on fertility within the context of developing countries. To interpret the results as causal, we construct retrospective panel data by leveraging comprehensive historical information on fertility and disabilities, and estimate the Finite-mixture logit (FML) model that incorporates unobserved time-invariant heterogeneity nonparametrically. Using large, first-hand survey data in China, we find that disabilities, particularly severe and physical disabilities, significantly reduce the odds of fertility. Notably, the negative effect is more pronounced when the disabilities are experienced by wives as compared to husbands. However, the mixture model also reveals two latent types with a stark contrast. The first type, referred to as the patriarchal type, constitutes approximately 60% of the population and demonstrates a stronger preference for sons than the non-patriarchal type. Among the patriarchal type, which is more prevalent among rural couples with older and better-educated husbands and wives, disabilities experienced by wives are not only disregarded but even exploited to facilitate subsequent childbearing until a son is born. These findings underscore the significance of targeted support for disabled individuals, particularly women, within the developing world.

Paper 11

Andres Cuadros-Menaca, Di Fang, **Rodolfo M. Nayga, Jr.** (Texas A&M University), and Michael Thomsen

Universal Free Meals and School Suspensions

Abstract:

We estimate the impact of universal meals on out-of-school suspensions in the United States. We adopt a difference-in-differences research design and exploit the time variation in adopting provisions that permit free meals to be provided to all enrolled students (i.e., Provision 2, Provision 3, and the Community Eligibility Provision). Adopting universal meals decreases suspensions by approximately nine percent for elementary students and seven percent for middle and high school students. These impacts are more pronounced in schools with fewer students eligible for free and reduced-price meals in pre-adoption periods. Moreover, we find evidence indicating that these effects grow over time.

Paper 12

Aureo de Paula, **Timothy Halliday** (University of Hawai‘i at Mānoa), Rachel Inafuku, and Lester Lusher

VOG: Using Volcanic Eruptions to Estimate the Impact of Air Pollution on Student Learning Outcomes

Abstract:

We pair variation stemming from volcanic eruptions with the census of Hawai‘i’s public schools student test scores to estimate the impact of $PM_{2.5}$ and SO_2 on student performance. Increased particulate pollution decreases test scores. These results are concentrated among schools located in south Hawai‘i, which has the highest level of pollution on average. The effects of $PM_{2.5}$ are larger for the poorest pupils by a factor of at least four. We demonstrate that poor air quality disproportionately impacts the human capital accumulation of economically disadvantaged children.

Paper 13

Siho Park (University of Illinois Urbana-Champaign)

Health Screening and Selection: Evidence from Biennial Subsidies in South Korea

Abstract:

This study examines the role of subsidies in health screening participation, selection into screening and disease diagnosis by using biennial subsidies from the South Korean national health insurance. The biennial subsidies provided at even ages increase the take-up and produce two types of spillover. Within an individual, there is positive spillover in take-up from subsidized to not-subsidized screenings and within each screening, there is positive spillover in take-up between spouses. Subsidies for screening also induce participation of compliers with worse health conditions than always-takers due to negative selection on income. Lastly, screenings induced by subsidies increase hospital visits for a new illness.