

The psychology and policy of overcoming economic inequality

Kai Ruggeri^{1, 2*}, Olivia Symone Tutuska³, Giampaolo Abate Romero Ladini⁴, Narjes Al-Zahli⁵, Natalia Alexander⁶, Mathias Houe Andersen⁷, Katherine Bibilouri⁸, Jennifer Chen⁹, Barbora Doubravová¹⁰, Tatianna Dugué⁸, Aleena Asfa Durrani¹, Nicholas Dutra⁸, R.A. Farrokhnia¹¹, Tomas Folke¹², Suwen Ge¹³, Christian Gomes⁸, Aleksandra Gracheva¹⁴, Neža Grilc¹⁵, Deniz Mırsra Gürol¹⁶, Zoe Heidenry⁸, Clara Hu⁸, Rachel Krasner⁸, Romy Levin⁸, Justine Li¹⁷, Ashleigh Marie Elizabeth Messenger¹⁸, Fredrik Nilsson¹⁹, Julia Marie Oberschulte²⁰, Takashi Obi²¹, Anastasia Pan⁸, Sun Young Park⁸, Sofia Pelica²², Maksymilian Pyrkowski²³, Katherine Rabanal²⁴, Pika Ranc²⁵, Žiga Mekiš Recek²⁵, Daria Stefania Pascu²⁶, Alexandra Symeonidou²⁷, Milica Vdovic²⁸, Qihang Yuan⁸, Eduardo Garcia-Garzon²⁹, Sarah Ashcroft-Jones³⁰

¹Department of Health Policy and Management, Mailman School of Public Health, Columbia University, New York, NY, USA

²Policy Research Group, Centre for Business Research, Judge Business School, University of Cambridge, Cambridge, UK

*Corresponding author: kai.ruggeri@columbia.edu (KRu)

³Department of Sociology, Columbia University, New York, NY, USA

⁴Department of General Psychology, University of Padua, Italy

⁵Department of Computer Science, Columbia University, New York, NY, USA

⁶Department of Conflict Resolution, Columbia University, New York, NY, USA

⁷Department of Psychology and Behavioral Sciences, Aarhus University, Denmark

⁸Department of Psychology, Columbia University, New York, NY, USA

⁹Department of Economics, Columbia University, New York, NY, USA

¹⁰Department of Psychology, Faculty of Social Studies, Masaryk University, Brno, Czech Republic

¹¹Columbia University, New York, NY, USA

¹⁴Department of Political Science, Columbia University, New York, NY, USA

¹⁵Department of Life Sciences, University of Roehampton, London, United Kingdom

¹⁶Department of Psychology, Koc University, Istanbul, Turkey

¹⁷Department of Biological Sciences, Columbia University, New York, NY, USA

¹⁸Faculty of Natural Sciences, University of Stirling, Stirling, Scotland

¹⁹Department of Clinical Neuroscience, Division of Psychology, Karolinska Institutet

²⁰Department of Psychology, Ludwig-Maximilians-Universität München, Munich, Germany

²¹Department of Public Administration, School of International and Public Affairs, Columbia University, New York, NY, USA

²²Psicologia Social e das Organizações, Instituto Universitário de Lisboa (ISCTE-IUL), Lisbon, Portugal.

²³Department of Psychology, SWPS University of Social Sciences and Humanities, Warsaw, Poland

²⁴Department of Cognitive Science, Columbia University, New York, NY, USA

²⁵Department of Psychology, Faculty of Arts, University of Ljubljana, Slovenia

²⁶Department of Developmental Psychology and Socialisation, University of Padua, Italy

²⁷Department of Clinical Psychology, Leiden University, Leiden, Netherlands

²⁸Department of Psychology, Faculty of Media and Communications, Singidunum University

²⁹School of Education and Health Sciences, Universidad Camilo José Cela, Villaneuva de la Cañada, Madrid, Spain

³⁰Department of Experimental Psychology, University of Oxford, Oxford, United Kingdom

Abstract: Economic inequality is associated with myriad negative individual and social outcomes globally. Interventions targeting individual and systemic drivers of inequality have largely failed to significantly reduce economic disparities. Factoring in behaviors of individuals that overcome significant economic disadvantages, known as positive deviants, can generate meaningful policy interventions. To illustrate those behaviors, we use multiple global datasets relating to financial behaviors finding that greater gender equality at the societal level is correlated with higher rates of women overcoming financial disadvantages, that unique patterns of positive deviants may be possible to leverage in behavioral interventions, and those outcomes may themselves protect against major economic shocks that disproportionately harm economically disadvantaged individuals and populations.

Impact statement: Financial, survey, and global index data show more individuals overcome economic disadvantages in societies with greater gender equality, and that the behaviors of these individuals can inform more effective policies.

Author contributions:

Conceptualization: KRu

Data analysis: KRu, GARL, NAZ, MHA, SP, KRa, ŽMR, EGG, SAJ

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Introduction

Income and wealth inequality are a major burden in the US and globally, with perpetually negative consequences for individuals and populations ¹. Countries with greater income inequality tend to have lower life expectancy ², suppressed economic growth ³, and greater political polarization ⁴ relative to more equal societies. More than 70% of the global population currently resides in countries where inequality is rising, exacerbating risks of conflict and slowing economic development ⁵. These growing disparities have amplified existing wealth differences during the COVID-19 pandemic, raising concerns about long-term global trajectories for population well-being.

Common policies intended to reduce economic disparities directly through redistributive welfare programs or financial incentives (e.g., Conditional Cash Transfer programs) ⁶ have potential value. This is likely because population well-being tends to improve when population income increases, especially for people living in poverty or lower-income countries ⁷. However, such redistributive policies have failed to sufficiently minimize the increasing wealth gap and need to be integrated with other substantive interventions ⁸. Such interventions are typically based on the perspectives of economists and legislators, which often comprises a condensed group of geographic and socioeconomic viewpoints ⁹. This results in the vast majority of policies failing to consider true behaviors and challenges faced by those who have successfully overcome significantly disadvantaged circumstances. Known as positive deviants, these individuals should be studied to better equip policies to support sustained and meaningful upward economic movement ¹⁰.

Policies often emphasize either the individual (i-frame) or systemic (s-frame) aspects of inequality ¹¹, but typically not both in coordination. Consider the i-framed Takaful Programme in Egypt, which gives cash transfers to low-income and middle-income mothers on the condition that they send their children to school. Despite producing short-term benefits, the focus on middle-income families made the program less effective for the most vulnerable ¹². In contrast, South Korea's 747 Plan, a key feature of Lee Myung-bak's presidency launched in 2008, was an s-framed approach aimed at boosting the economy and increasing income per capita to US\$40,000. However, individual disparities were overlooked by architects of the strategy and the approach ultimately failed to reach any of its economic goals, leaving income per capita (US\$25,000) on a completely unchanged trajectory from the previous decades ¹³.

A positive trend reversed by a global pandemic

The COVID-19 pandemic added a new global barrier to overcoming inequality by disproportionately burdening low-income individuals. Incomes of individuals in the bottom 20% of earners in 2021 were estimated to be 6.7% lower than projected before the pandemic ¹⁴. Using data from a large study (n=12,930) on temporal discounting involving 60 countries ¹⁵, 12.5% of the total group was classified as being a positive deviant based on having been born into low-income homes yet showing healthy financial behaviors as adults. This was compared to 16.9% that had been born low-income and did not have such healthy financial habits. As is evident in Fig 1, individuals classified as positive deviants were less likely to have been negatively affected economically during the pandemic. Such patterns highlight both the benefits of upward movement (i.e., resilience against crises) and the self-perpetuating harms of economic inequalities (i.e., being poor makes you more vulnerable to becoming poorer in a crisis).

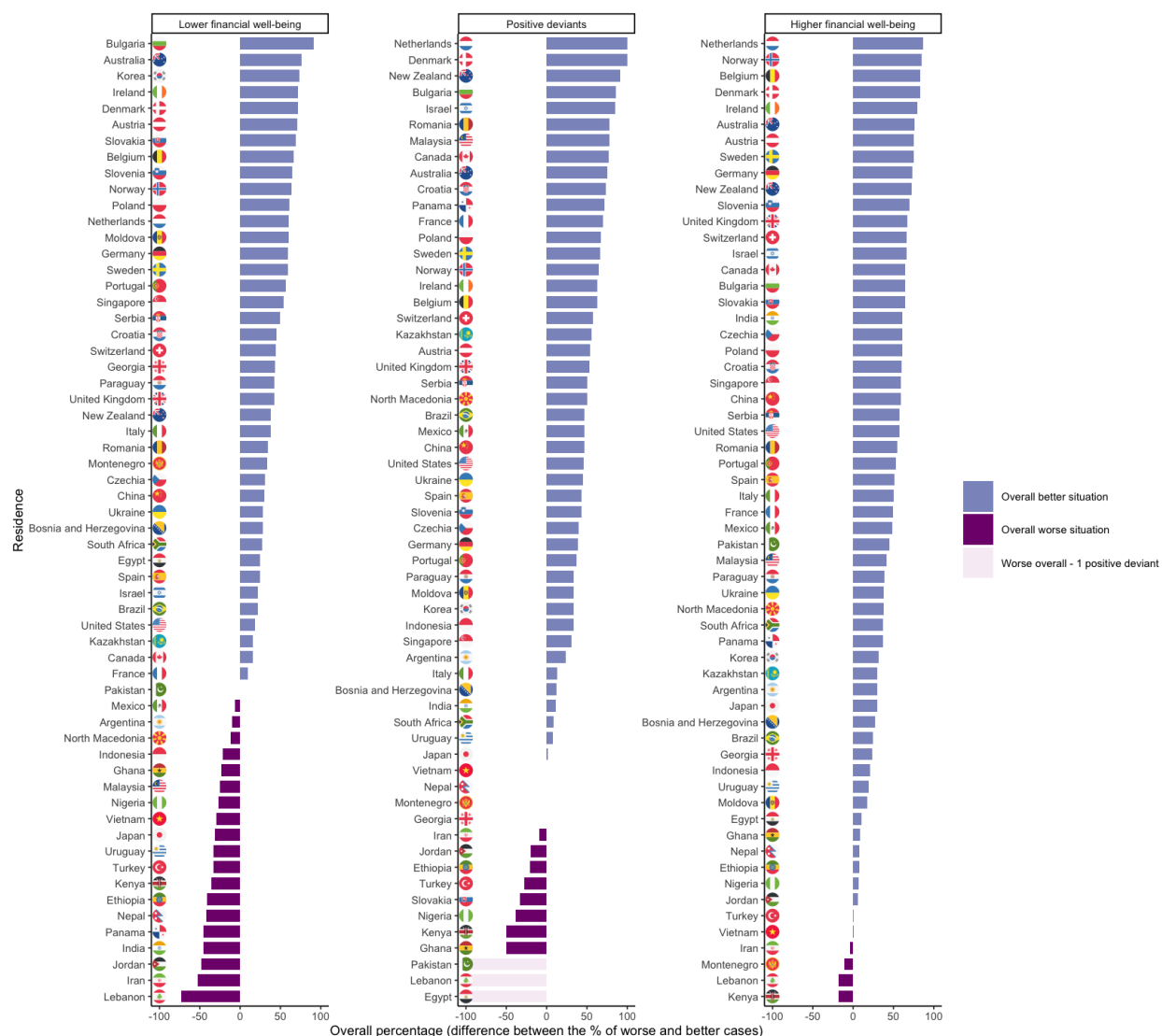


Fig 1. Comparison of financial impacts of the COVID-19 pandemic in 2020 between financial circumstances. Each element is ordered by the rate of difference between those experiencing positive/neutral impacts and those experiencing negative impacts by country within each group. Pakistan, Lebanon, and Egypt had only one positive deviant, so the proportion is shaded to avoid skewing perception.

Major redistributive initiatives were attempted during the pandemic at a scale not previously seen. However, evidence so far has been mixed at best as to whether they had any substantive effect on alleviating the burden of income disparities. Yet, these issues are not unique to COVID policies; consider three major policy initiatives from different continents, which each produced anecdotal benefits but had no measurable impact on the trajectory of inequality:

Germany's Supplementary Child Allowance ¹⁶: monthly payments to support children in low-income households, which increased the financial situation for 81% of recipients, but many eligible families did not apply out of a lack of awareness ¹⁷;

Brazil's Family Grant Program ¹⁸: a conditional cash transfer requiring certain familial behaviors such as mandatory school attendance for children and health measures to increase economic stability. Though the lowest 10% of Brazil's household incomes increased wealth by 23.5% between 2001-2004 ¹⁹, analysis concluded that this was more associated with increased wages and employment being the main factor of diminishing income inequality ¹⁹; and

Moving to Opportunity housing experiment ²⁰ in the U.S.: vouchers provided to impoverished families to move to neighborhoods with better quality housing, leading to children under 13 whose families moved to a lower-poverty area having an annual income that was 31% higher on average in their mid-twenties compared to the average income of the control group, while simultaneously producing negative impacts for children over the age of 13 ²¹.

The mixed results of these policies are not a criticism of the attempts themselves, but an indication of the complexity of the problem and an incentive to reevaluate the framework for policy creation. To blend how the two policy frames ("I" and "s") intersect, researchers are increasingly interested in how psychological factors also impact inequality. For example, by demonstrating how stronger social ties between poor and high income individuals can facilitate upward economic mobility, recent work by Chetty et al. ² quantifies the unique individual factors that contribute to overcoming inequality. But while there are potential policy applications for this, such as better integration of households from different economic classes in schools, these alone are unlikely to impact broad, relentless, population-level inequalities. They also do not identify specific behaviors that could benefit individuals if implemented. Instead, they speak more to the result of environmental factors, rather than to deliberate or even unintentional choices.

In the following sections, we outline considerations relates to both i-frame and s-frame approaches, with the overall aim to demonstrate a path for integrating both. Doing so would indicate better if addressing both individual choices and system-driven behaviors would have a meaningful effect on reducing economic inequality. We begin with an example of i-framed thinking by design: they can be addressed in the short-run and adapted over time and populations. We then integrate the s-frame, which is better understood by observing individual behaviors along with structure data, but which requires substantially larger, long-run investment.

Leveraging the behaviors of those who overcome

Despite the challenges of reducing inequality, some individuals appear capable of taking advantage of these policies even when they are not universally successful. By searching for the (contextually) optimal behaviors amongst disadvantaged groups and then quantifying the contours of those behaviors, we present a potentially better approach to designing policies aimed at reducing inequality.

Unprecedented levels of direct financial support from governments to lower-income individuals during the pandemic has had mixed effectiveness at stemming, mitigating, or even reducing inequalities. Still, some extremely valuable behaviors were observed. Figure 2 displays spending patterns following the CARES Act Economic Impact Payments in the U.S. in April 2020. For

approximately 6,000 low-income individuals that received a payment of exactly \$1,200, 94% of the first \$1,200 spent after receiving the stimulus check went to discretionary spending and daily living expenses. Yet, within that group, about 4% of individuals allocated around 5% of the check to savings or investing. This trend continued for spending beyond the first \$1,200, though slightly lower at 3%. Those patterns are highly consequential: individuals that set aside money will have greater financial well-being over time than individuals that allocated entirely to near-term spending.

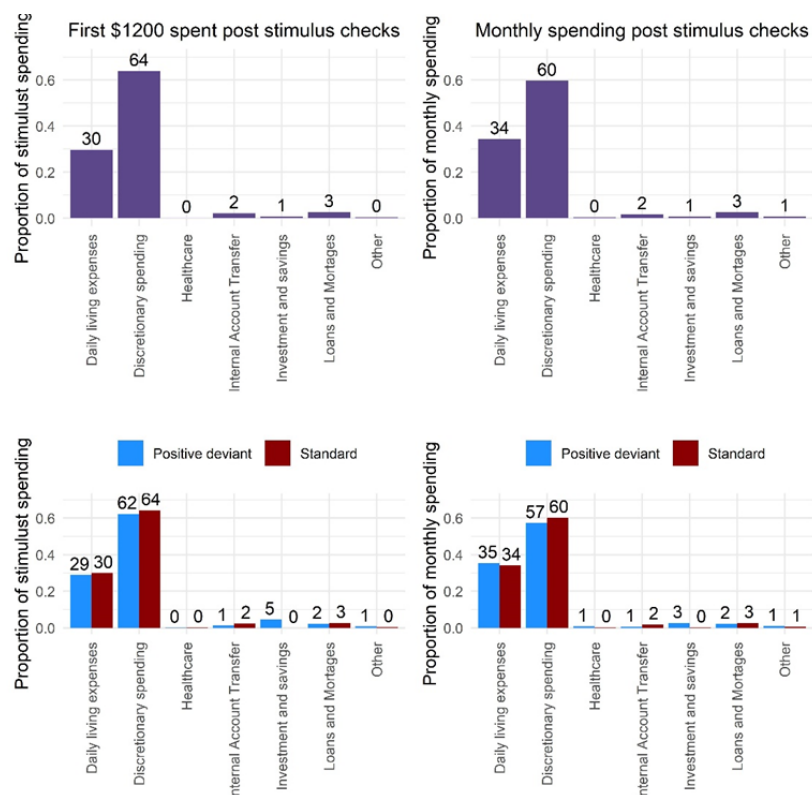


Fig 2. Spending patterns in a low-income (\$17,240-\$34,480) group in the U.S., split by positive deviants and others, immediate spending post stimulus check and for the first month following the stimulus check.

Finding distinct patterns among positive deviants - such as the precise allocations of savings - presents a potentially meaningful target for policies, which encourage better long-term financial management. Misguided approaches might encourage a low-wage individual to save money without addressing cost of living, thereby being superficially effective while also encouraging greater use of high-interest debt such as credit cards ²². Encouraging sub-optimal or potentially harmful financial decisions in this way will nullify even well-intentioned choices of low-income individuals seeking to improve their circumstances.

Actionable insights on the behaviors of those who have overcome inequality - rather than assuming or encouraging choices based on what works for people *on average* - may better position policies to reduce economic inequality at the individual level *because* they factor in the context. Therefore, it may be better to leverage specific values (3-5%) saved by positive deviants directly in policies aimed at encouraging increased savings to avoid those negative effects.

Even with effective interventions, individual behavior cannot alone resolve the wider structural barriers. Consider that between countries, the rates of overcoming inequality are highly varied: in the dataset of 60 countries described earlier, positive deviance rates ranged from 0.8% (Egypt) to 26.2% (Canada). As individuals from countries with the largest income disparities demonstrate greater rates of high-risk behaviors and increased debt accumulation ²³, policies that aim to influence behavior cannot be presumed to be equally effective in all contexts and choosing intervention approaches is highly consequential. Heterogeneity in rates of overcoming inequality between countries suggest variability in the unique barriers, resources, and opportunities.

Immovable objects (systemic barriers) versus unstoppable forces (human behavior)

The World Economic Forum estimates another 170 years before the global gender opportunity and economic participation gap is fully closed ²⁴. Though global gender disparity is declining, it is at different rates between countries, amplifying the need for contextually-adapted policies to make meaningful impact ²⁴. This is an example of a structural roadblock, which many nations have attempted to target via fiscal policies.

Using data from 59 of the countries in the dataset mentioned earlier along with the UN's Gender Inequality Index (see Data Availability), Fig. 3 shows how rates of positive deviance are directly related to the level of gender equality within a specific country. Greater gender equality is associated with higher rates of women overcoming disadvantaged childhood financial circumstances ($r = -0.31$ $P = 0.017$; for Fig. 3 the r value was reversed), with no significant correlation for men. This indicates that greater equality improves the overall circumstance for women without a negative impact on men. Similar patterns have been found in the US healthcare sector, where general wage increases overall were directly associated with decreases in the wage gap ²⁵.

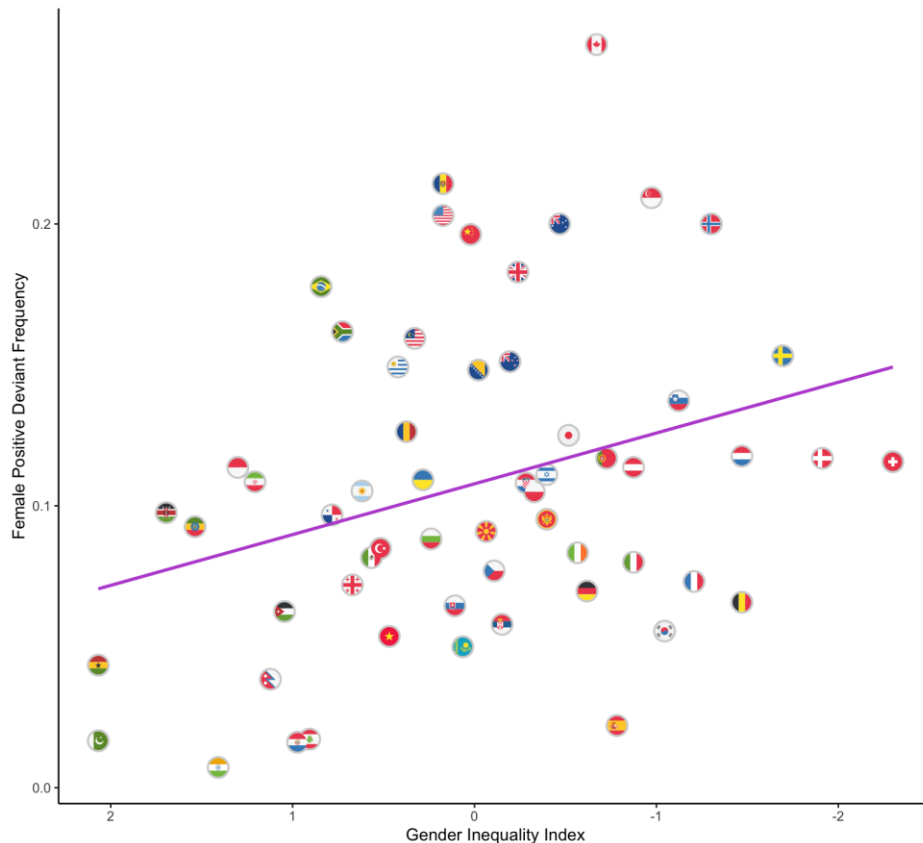


Fig 3. Relationship between gender equality and rates of female positive deviance in 59 countries. Gender inequality scores are reversed for easier understanding in the visual.

These patterns demonstrate clearly the need to address structural elements of inequality. Examples of these types of policies (detailed in Supplemental Materials, Table S4) include programs like Japan’s requirement for large companies to disclose gender pay differences ²⁶, the United Kingdom’s Pay Transparency Initiative ²⁷, or Iceland’s Equal Pay Standard ²⁸. While the Japanese and Icelandic policies are new and yet to be assessed, the UK approach showed a clear, positive impact on reducing wage disparity. Similarly, the Netherlands require corporate boards to comprise at least one-third women to ensure more equal participation at a level that removes salary ceilings ²⁹.

Combining – not competing – systems and behaviors

The argument is not to move away from i- or s-framed approaches, but instead to blend together the structural and the individual, taking into account both the psychological and environmental factors impacting outcomes. While many address one or the other, rather than work in combination, failing to factor in potential differences in decision-making based on circumstances is clearly inadequate.

To better incorporate the psychological factors into substantive policy, observe the different patterns indicated in Figure 4 between individuals classified as positive deviants and adults that remain financially disadvantaged. Differences emerge clearly between the two groups when parsing out specific temporal choice anomalies such as inconsistency between receiving money versus paying, or when magnitudes shift. Furthermore, clear differences exist in how discretionary income is spent, with large effect sizes for spending on debt as well as investing. However, similar to patterns in the original study, global differences in temporal discounting scales were not significantly different between positive deviants and other disadvantaged adults, which holds true for several of the behaviors tested (not in the figure). These results indicate that the local economic context (e.g., inflation, inequality) has more to do with long-term decisions than simply income or wealth.

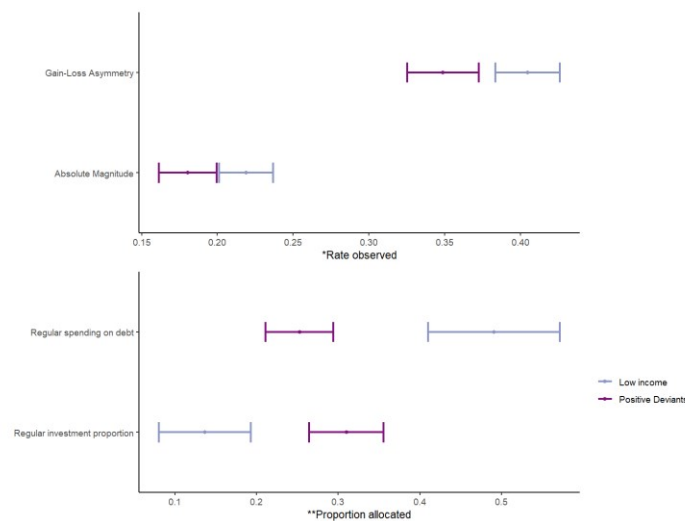


Fig 4. Unique behavioral patterns identified between positive deviants and individuals that remain in bad financial circumstances across *60 countries (top) and in the **United States and Canada (bottom).

However, not all patterns generalize, which is why two of the constructs are only US and Canadian data, which present very similar systems (the exclusion of certain countries are also statistically motivated, as some countries had too few positive deviants to produce reliable analyses). Other countries can look extremely different, particularly those with substantially different economic systems and opportunities where fewer individuals overcome poverty. In these locations, allocating large portions of income to debt repayments can actually be more closely associated with having overcome poor financial circumstances.

Concurrently with system-level changes such as wage transparency, policies should incorporate features that encourage choices associated with overcoming inequality (such as optimal savings allocations). This is not to say the precise examples used here, such as immediately trialing 3-5% savings interventions, should be rolled out without validation. Instead, we argue for iterative testing of both intervention frames, moving from smaller to larger scale and investment.

Limitations

The data we use here only provide limited insight into human behaviors outside of the context of our measures, which are narrow by design. We strongly encourage future research to invest into observing true behaviors (e.g., from financial institutions, healthcare, schools, tax agencies, and insurance companies) rather than repetitive surveying. Direct observation will also support assessment that incorporates pre-existing financial and legal restrictions and provide a clearer picture of what behavioral patterns may enable or secure upward economic mobility, better informing high impact policies. This also extends to having more indicative measures of wealth rather than relying only on income, given income does little to account for costs of living (i.e., wealth would indicate ability to save), debt, or prior economic circumstances with longer-term effects on individuals that grew up poor (such as costs of caring for low-income parents) ³⁰.

We also recommend more focus into the makeup of positive deviants, specifically in terms of migration. While immigrants comprise a small minority in the data we use to identify positive deviants, our classification may slightly inflate rates of deviance due to the comparison standard. This can be easily resolved by shifting the baseline to the standard in country of birth, not of current residence. However, it may also provide greater insight into how immigration may be a major factor in addressing economic inequality within and between countries.

Conclusion

Though there is increased interest and investment into systemic and institutional interventions to reduce and alleviate economic inequality, policies have thus far fallen short. Even generous and simple financial incentives are alone ineffective at reducing inequality or even modestly advancing the economic position of those receiving payments ³¹. Rather than continue approaches based on assumptions of normative behaviors, policies must target both the systemic barriers and concurrently the behaviors of individuals facing significant social and economic challenges, perhaps by encouraging the choices of peers that have overcome inequality. That means large-scale investment targeting barriers such as gender pay gaps must also be met with innovative, individually relevant policies that reduce the risk of choices or behaviors that propagate inequality based only on challenging circumstances. As demonstrated, such approaches will directly impact the well-being of individuals and populations.

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Data and materials availability: All data are publicly available for the survey data used and (<https://osf.io/njd62/>) from the UN Gender Inequality Index (<https://hdr.undp.org/data-center/documentation-and-downloads>). Financial transaction data were provided through an agreement with Columbia Business School.

