Global Performance Assessments and Domestic Demands for Policy Reform

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Research has largely neglected whether some constituencies react more than others to data from Global Performance Assessments (GPAs), which rate countries on policy outcomes based on internationally-benchmarked metrics. We theorize that GPAs will be more relevant to globally exposed voters who take an international outlook in evaluating public policies. We test our theory with both subnational and national survey experiments from the U.S. using the paradigmatic case of GPAs in education policy (the Programme for International Student Assessment, or PISA), where perceptions of global labor market competition may condition whether voters prioritize data from GPAs. We discover that when, and only when, voters are primed to consider the mechanism of globalization central to our theory, labor market competition, as opposed to other drivers of globalization such as migration or technological change, do results fully align with expectations. Our project confirms that GPAs may have heterogenous effects on demands for high-quality public policies and complements a mounting set of studies on how GPAs influence policy reform with a novel experimental strategy focused on public opinion.

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Soon after the OECD released its first Programme for International Student Assessment (PISA) results in 2000, Germany's poor performance in 15-year-olds' math and literacy skills sparked a groundswell of demand for school reform (Davoli and Entorf 2018a). Outcry did not just come from politicians, bureaucrats, the media, and policymakers, but also from parents and other citizens—a phenomenon that became known as the "PISA shock" (Breakspear 2014). Since then, similar shocks have occurred in countries including Denmark (Egelund 2008), Japan (Tasaki 2017), and, most recently, Spain (Macià 2024), amplified by concerns about preparing graduates to compete in a high-skills global economy. Despite PISA's reputation as a catalyst for driving school improvement, however, little is known about how it shapes public opinion on education. Instead, most research has focused on PISA's impact on shaping elites' and transnational actors' beliefs and behaviors towards education policies (Kijima and Lipscy 2024), rather than the role of mass publics in driving demands for education reform.

This focus on elites and transnational actors is emblemmatic of most research on Global Performance Assessments (GPAs), which evaluate and rank countries across diverse policy areas (Bandura 2008; Kelley and Simmons 2015). Although much of the scholarly attention on GPAs has explored how cross-country rankings can induce governments to comply with international norms (Doshi, Kelley, and Simmons 2019) or can galvanize reform through elite shaming (Honig and Weaver 2019) and discourse (Pizmony-Levy 2018), some studies suggest that GPAs can generate bottom-up pressures for change by influencing public opinion (Cavari, Efrat, and Yair 2024; Davies, Gift, and Lastra-Anadón 2021; Kelley 2017). However, research has generally neglected whether GPAs shape public opinion, whether some voters respond more to GPA data than others, and how that might inform demands for public services. This gap is surprising given that domestic political pressure is a fre-

quently speculated mechanism through which GPAs spur policy change in both academic and policy discussions (Alfaro et al. 2021; Besley 2015; Doshi, Kelley, and Simmons 2019).

This article fills this gap by examining whether GPAs shape mass public opinion and exploring which types of voters are more likely to be impacted by information from GPAs. We theorize that, to the extent that some voters are, or perceive themselves to be, more globally-integrated than others, they are likely to find the international comparisons inherent in GPAs more salient to their policy preferences. Specifically, we argue that globally-integrated voters may, firstly, demand higher quality public services in policy domains where cross-national competition is important, and secondly, demand greater policy reform in response to GPA data due to their incentives to care about international competition. To test these predictions, we analyze original survey data on the impact of GPAs in the paradigmatic case of education policy, where GPAs have become prominent through international large-scale testing regimes like PISA and where reference points for performance on exams might vary based on whether voters take a global perspective in evaluating results.

We use education policy as our test case because politicians, civic leaders, and reformers routinely underscore globalization, and competition in global production markets especially, as one of the most compelling reasons for societies to demand better schooling (Ansell 2010; Bajoria 2011; Sahlberg 2006; West 2012). However, not all voters are equally integrated into international labor markets (Autor, Dorn, and G. H. Hanson 2016; Kim and Vogel 2020; Scheve and Slaughter 2018). Consequently, education is a policy area in which voters may vary in their demands for quality based on their integration into international labor markets, which will depend on perceptions of with whom they are competing for jobs, or with what producers their employers or sectors are competing. Against this backdrop, the rise of educational GPAs like PISA has been highly influential in magnifying reports about

global labor market competition (Pizmony-Levy and Bjorklund 2018; Kijima and Lipscy 2024) and informing popular debates over school reform. Yet the channels for GPA influence outside elite engagement in education, including how different constituencies process and act on such data, remain understudied (Kijima and Lipscy 2024).

We develop a stylized framework that distinguishes between two main types of voters: "globally-integrated" and "locally-rooted" voters. We start with the premise that globally-integrated voters may exhibit greater demands for education reform overall. Voters anchored more in global labor markets may expect that for children to succeed, they will need to compete, or their firms will need to compete, with peers from across the world, not just domestically. This may lead globally-integrated voters to demand more school reform, given a higher bar of competition that they recognize from abroad. Because a global outlook heightens concerns about equipping graduates with the skills to compete in cross-national labor markets, globally-integrated voters may demand higher quality education. We argue that concerns about international labor market competition may also make globally-integrated voters more sensitive to data spotlighting international comparisons on GPAs. When presented with data revealing underperformance on global tests, they may be even more inclined to demand education reform.

We examine our predictions in the U.S. context, where we marshal subnational and national data across two original surveys with embedded experiments. Our first (pre-registered) survey leverages unique variation in the state of Massachusetts in how schools perform by domestic versus global standards. We selected Massachusetts as a test case because, crucially, it is known to achieve at or near the top on standardized tests relative to other U.S. states, but does not perform as well by international standards. This makes it a hard test for our theory because the priors of voters should be anchored to the belief that schools

perform well before the informational treatment of a GPA. It also gives us variation over the relevant reference points—both domestic and international—against which respondents judge school quality. Voters who are locally-rooted and who only consider national performance should be content with Massachusetts's testing outcomes, whereas voters who are globally-integrated should consider international performance and want higher-quality schools.

Empirically, we find mixed support for our pre-registered predictions. Perceived exposure to globalization and data from GPAs documenting student underperformance each separately increases preferences for school reform. However, the effects of GPA performance information does not depend on whether respondents perceive themselves to be globally-integrated. Our mixed results led us to probe possible factors underlying this discrepancy. We reasoned that a key explanation could be the broadness with which both globalization and school reform are typically conceptualized in the literature. Although globalization is often treated as a monolithic force, it entails different drivers, including labor market competition, but also other aspects such as migration and technological change. Education reform, too, is associated with diverse types of change both inside and outside the classroom. To examine whether either of these factors condition responsiveness to GPAs, we conducted a follow-up, national experiment in the U.S. that disaggregated different elements of globalization and education reform.

Our follow-up study confirms that when, and only when, respondents explicitly consider the mechanism of globalization central to our theory, labor market competition, do results fully align with expectations. The specific type of school reform is not clearly related to the findings. In particular, data reveal that respondents primed to think of job competition from abroad are more inclined to demand education reform when prompted with information

from a GPA. We interpret our results as consistent with the idea that perceived exposure to globalization in a general sense does not condition how GPA data affect demand for policy reform. Instead, only when the domain of the GPA aligns with the specific nature of the threat posed by globalization do we see conditional effects of GPAs on demands for policy overhauls. We discover strongest effects when respondents are shown how underprepared students are to compete globally, coupled with being primed to think of labor market displacement from international competition.

Our findings contribute to the literature on the impact of GPAs on political behavior and government accountability. Although studies have probed how GPAs can impel elite and transnational pressures to reform policymaking (Kelley and Simmons 2015), less attention has been given to how these dynamics shape public opinion among diverse constituencies (Bieber and Martens 2011; Bisbee et al. 2019; Davoli and Entorf 2018b; Davies, Gift, and Lastra-Anadón 2021; Ramirez, Schofer, and Meyer 2018). Our findings suggest that exposure to GPA data can yield heterogeneous demands to improve policy outcomes. Through this, we tie into a literature in international political economy on the differential impacts globalization has on demands for social protection and policy reform (Anderson and Pontusson 2007; Walter 2017; Scheve and Slaughter 2018; Rehm 2009). In education, to the degree that globally-integrated voters demand specific reforms as a result of perceived job competition, governments may display more urgency to improve service delivery. However, what particular elements of globalization affect responses to GPAs in a given policy area may differ. Future research should test how specific elements of globalization can induce differential effects of GPAs in demanding reform.

GPAS AND DOMESTIC DEMANDS FOR POLICY REFORM

In recent decades, GPAs have exploded in their use and visibility (Cooley and Snyder 2015; Davis 2012; Kelley 2017; Kelley and Simmons 2015; Merry, Davis, and Kingsbury 2015; Singer and Braun 2018). Initiated primarily by international organizations, but also increasingly embraced by private businesses and enterprises, GPAs exist across a number of policy domains, including education, the environment, the economy, security, energy, infrastructure, transportation, and health. A recent tally on the number of GPAs has found nearly 300 (Kelley and Simmons 2019), with a pace of adoption that shows no signs of slowing. An expanding literature confirms that GPAs have been influential in triggering demands for policy change by bringing cross-nationally comparable measures to the often opaque area of policy evaluation (Kelley 2017; Kelley and Simmons 2015; Kijima and Lipscy 2024). Countries are encouraged to improve service delivery to present a positive image within the international arena. Consequently, GPAs are believed to drive policy innovation and improve efforts to replicate "best practices" across nations.

Research indicates that GPAs operate through three main pathways: domestic elite pressure and shaming, transnational pressure, and demands from domestic constituents (Kelley and Simmons 2015; Kelley 2017; Kijima and Lipscy 2024). Most of the literature on GPAs has focused on their "soft power" (Nye 2004) influence among elites and at the transnational level. First, scholars have examined how GPAs can bring about pressures from markets and independent parties, leading countries to adhere to international standards or create incentives for policy reform through elite shaming and discourse (Davis, Wilson, and Dalton 2018; Papanicolas and Jha 2017). By calling out high- and low-performing countries, GPAs provide both "carrots" and "sticks" that prompt reform. Domestic elites can use the "shock" of the release of a GPA as an opening to enact reform (Chen et al. 2019; Kijima and Lipscy

2024; Rothman 2017). Second, GPAs are also thought to influence transnational actors by conferring prestige or by suggesting a country is suitable for investment or international aid flows (Alfaro et al. 2021; Kijima and Lipscy 2024).

GPAs have been shown to make states mindful of elite and foreign audiences, but how GPAs affect domestic public opinion is a less explored channel for inducing reform. Voters are presumed to care about how their government performs relative to a global standard, which can heighten domestic scrutiny. However, this claim assumes that GPAs revealing comparative policy underperformance will universally increase demand for reform. This neglects the possibility that some voters may be more swayed by globally-benchmarked data than others. GPAs could have varied levels of salience depending on how much voters already prioritize a policy domain and how germane global comparisons are to their priorities. Specifically, voters who assume a more global mindset may be more invested in cross-national performance. When their frame of reference for what constitutes success is determined by an international standard, not a domestic one, GPAs may become more relevant. When the opposite is true, GPAs may be of less importance.

The Paradigmatic Case of Education

To examine these dynamics, we consider the paradigmatic case of education policy, where GPAs have become increasingly prominent and where variation may emerge both in pre-existing demands for schools and in whether voters evaluate outcomes with a global lens. We leverage education as a test case because, politically, unease about global competition for jobs has led to broad exhortations alerting the public to its importance (Bajoria 2011; Sahlberg 2006; West 2012). Global integration has been shown to drive demand for educational provision and reform (Ansell 2010; Garrett 1998; Rodrik 1998), particularly in

OECD countries. However, a robust finding from political economy is that not all citizens are equally integrated into international labor markets (Autor, Dorn, and G. H. Hanson 2016; Kim and Vogel 2020; Scheve and Slaughter 2018). Because of heterogeneous exposure to dynamics like trade and foreign direct investment, education is a policy domain where demands for quality and thus for reforms of the policy status quo may diverge based on exposure to the global market for talent.

Education is also an instructive case because, over the last several decades, it has seen wide-scale adoption of international exams that call attention to the global arms race for labor-market-ready skills (Pizmony-Levy and Bjorklund 2018; Kijima and Lipscy 2024). Studies have chronicled the significant impacts of GPAs—such as PISA, Trends in International Mathematics and Science Study (TIMSS), and Progress in International Reading Literacy Study (PIRLS)—in transforming popular debates surrounding school reform (Piro 2019; Kamens and McNeely 2010; Verger, Parcerisa, and Fontdevila 2019). Like with other GPAs, some research has posited that educational GPAs may shape demands for school improvement within populations (Hanushek, Peterson, and Woessmann 2010; Ramirez, Schofer, and Meyer 2018). However, because GPAs highlight international, not domestic, comparisons, how voters act on these data may depend on the salience of these comparisons. We theorize that a key driver of the salience of educational GPAs is the extent to which citizens believe they are integrated into global labor markets.

We assume two types of voters: globally-integrated and locally-rooted voters. We start from the premise that globally-integrated voters should demand the highest quality education overall. This aligns with the idea that voters who are more exposed to globalization demand higher skills to hedge against labor market competition.[1] Because they think of

[1]For both theoretical and empirical reasons, we focus on self-perceived global integration as the main driver of demand. This is the approach taken by Walter (2017) and subsequent scholarship on the charac-

careers as replaceable by workers irrespective of location, there are no built-in geographic boundaries that protect employment or wages. To guard against these insecurities, globally-integrated voters may be more likely to believe that higher quality education would enable graduates to better compete with workers from abroad (perhaps as a foundation to further training that would lead to higher value-added jobs). By comparison, locally-rooted voters may have less stringent quality expectations for schools. Given their perception that globalization plays a lesser role, they may view jobs as more shielded by national borders. To protect their jobs and income, locally-rooted voters may not require world-class education because workers abroad are not their relevant competition. This yields our first (preregistered) hypothesis:

- $\mathbf{H}_1$ *Globally-integrated citizens should have higher baseline demands for school reform than locally-rooted citizens.*

Because of differences in how voters evaluate the proximate market for skills, we argue that internationally-benchmarked data on school performance may be more salient to globally-integrated voters. These voters view the labor market as an international, often zero-sum competition, so they require that schools fare well compared to other schools abroad. When presented with novel information from GPAs indicating a failure to meet these requirements, globally-integrated voters may demand that politicians invest more in

teristics of globalization that drive policy preferences. Empirically, we are limited on what we can say about "actual" exposure because of missing data in self-reported industry employment in our Massachusetts data. To the extent that we can measure actual exposure to globalization, we find that there is a noisy correlation between a measure of actual industry exposure and self-reported globalization integration, as shown by the negative coefficients for exposed industry in Table A20. We also test the effects of these alternative measures of globalization (in accordance with our pre-registration plan) beyond self-perceived exposure: ones that use the volume of imports and exports of the industry respondents worked in (Appendix Section A5) and ones that measure general exposure to the world outside of Massachusetts (Appendix Section A6). In both cases, the effects of these variables are not substantively different from that of our main globalization variable, although not significant.

quality schooling. By contrast, locally-rooted voters anchored in domestic economies may not view employment competition as extending beyond national borders. Consequently, they may still demand good schools, but only in terms of how they prepare students to vie against workers within their country, region, state, or locality. GPAs may have less relevance to locally-rooted voters because they entail a global reference point that figures less centrally into their calculations of what makes a high-performing education system. This logic yields our second (pre-registered) hypothesis:

- $\mathbf{H}_2$ *When receiving negative information about the performance of schools that is benchmarked to international standards, citizens that view themselves as globally-integrated should increase their demands for school reform more than locally-rooted citizens.*

DATA & METHODS

Experiment 1: Massachusetts Survey Experiment

We first test our predictions with a state-representative subnational survey in Massachusetts, which randomly varied prompts intended to shift individual-level perceptions of integration into the global economy and perceptions of the state's educational performance according to an international benchmark.[2] We conducted the (pre-registered) survey in Massachusetts because it gives us analytical purchase over relevant reference points—both domestic and international—for judging the performance of schools. Massachusetts is known for performing exceptionally on K-12 outcomes relative to U.S. states. However, it performs less well according to global standards. In the 2019 National Assessment of Educational Progress (NAEP) ("the nation's report card"), for example, Massachusetts ranked first among all

[2]This survey is pre-registered in the EGAP Registry (available here).

states in math nationally (NCES 2022). Yet if Massachusetts were a country, it would have ranked 12th in math in the 2015 PISA (Massachusetts Department of Education 2016).[3]

This discrepancy makes Massachusetts a hard test for our theory because voters ought to be anchored to the idea that school quality is already good in the state. Headlines frequently remind Massachusetts residents that their schools often outperform the other 49 states in domestic tests,[4] and experts routinely champion Massachusetts as a national model for school quality.[5] As a result, shifting opinions toward reform off of this baseline by giving respondents information from a GPA should be more difficult, yielding conservative estimates. Massachusett's position as a top domestic performer but a middling performer by global standards also offers critical variation in the educational standards that may be relevant to different voters. If globally-integrated voters are more interested in international comparisons, they should be more responsive to the PISA data than locally-rooted voters, who should be more content with Massachusetts's reputation domestically.

Our survey experiment was administered online by the survey firm Bovitz to 2,001 adult residents in Massachusetts.[6] The survey, fielded between April 28, 2020, and May 7, 2020, was designed to be representative of Massachusetts residents by gender, age, race and eth-

[3]One report wrote that "Massachusetts, which is a high-achieving U.S. state and which averaged above the national PISA score, is still two years of formal schooling behind Shanghai" (Ryan 2013). Some commentary even suggests a more pessimistic picture, considering the affluent demographics of Massachusetts. In a 2016 news article titled "Decent PISA Numbers, But Can Mass. Students Really Do The Math?" a prominent business and education leader lamented that "a poor country [China] is actually managing to do better than Massachusetts in math, and about the same in science" (Kennedy 2016).

[4]Headlines in local newspapers—such as "Mass. Students Are Again Tops in National Test" (*Boston Globe*) (Fox 2015), "Massachusetts Test Scores Top Nation's School Districts Again" (*Boston Magazine*) (Glatter 2018) and "Massachusetts Public Schools Rank No. 1 in the Country. Do You Agree?" (*Boston.com*) (Osei 2021)—repeatedly emphasize the strength of Massachusetts schools.

[5]For example, experts have praised Massachusetts's reputation as "as a national leader in education reform" (Papay et al. 2020) and noted its "iconic status as the nation's longtime K–12 leader on the National Assessment of Educational Progress" (Hess and Hatfield 2015).

[6]Bovitz maintains a representative panel of respondents in the U.S. For publications using Bovitz data, see, for example: Bolsen, Druckman, and Cook (2014), Chong and Druckman (2013), Druckman, Peterson, and Slothuus (2013), and Saltzer and McGrath (2022).

nicity, employment, education, and location within the state from the most recent American Community Survey.[7] Data show that Massachusetts's labor force displays considerable variation along a key dimension of globalization exposure, which we might expect to alter perceived job competition and orientations toward the global economy. Greater Boston and other urban pockets have large shares of white-collar, internationally-mobile workers employed in industries like higher education, pharma, technology, and tradeable goods.[8] By contrast, rural areas in Massachusetts have significant employment in agriculture, tourism, manufacturing, and non-tradeable services.

In addition to the control (25% probability of assignment), we created three treatments, to which respondents were randomly assigned with equal probability. The *GPA Info.* treatment provided negative information from PISA on the performance of Massachusetts schools relative to an internationally benchmarked standard. The *Global Encouragement* treatment cued respondents to think about how globalization affects them and the world around them and the role that they play in globalization. The *Combination* treatment combined the *Global encouragement* and *GPA Info.* treatments. The exact text of the treatments is below:

1. **GPA Info.** (25% probability of assignment): "According to internationally benchmarked standards, schools in Massachusetts do not fare particularly well. For example, according to the Programme for International Student Assessment (PISA), if Massachusetts were a country, it would fare only about average on math relative to other advanced nations."

[7] See Table A1, which shows 2017 five-year estimates for Massachusetts.

[8] Recent research shows that Boston is in the "most exposed to trade" quartile of commuting zones in the U.S. (Autor, Dorn, and G. Hanson 2013). It also rates highly worldwide according to a major cities index in its overall level of globalization exposure (INSEAD 2021).

2. **Global Encouragement** (25% probability of assignment): "Increasingly, more and more people think that they and the world around them are affected by globalization and that they play an important role in contributing to this process."
3. **Combination (GPA Info. × Global Encouragement)** (25% probability of assignment): "Increasingly, more and more people think that they and the world around them are affected by globalization and that they play an important role in contributing to this process.

   According to internationally benchmarked standards, schools in Massachusetts do not fare particularly well. For example, according to the Programme for International Student Assessment (PISA), if Massachusetts were a country, it would fare only about average on math relative to other advanced nations."

We used the *Globalization Encouragement* treatment to raise and reinforce the salience of globalization in the minds of respondents (Fernandez-Albertos, Kuo, and Balcells 2013). The aim was to activate perceptions of the impact of globalization at both the personal and societal levels, as well as the role of individuals in shaping globalization (Buchan et al. 2009; Schaffer and Spilker 2014). This approach builds on extensive literature in political economy using "globalization-as-treatment" experiments (Naoi 2020). These studies attempt to switch on cognitive, psychological, or material orientations that implicate variables of interest, such as preferences toward immigration (Hainmueller and Hiscox 2010), trade policy (Sungmin and Tomz 2017), outsourcing (Mansfield and Mutz 2013), government accountability (Jensen and Rosas 2020), and integration into the international economy itself (Margalit 2012).

Our *GPA Info.* treatment simulated how PISA information is commonly reported on (Hopfenbeck and Gorgen 2017; Stack 2007a). Because the text simply notes that Mas-

sachusetts schools do not fare well relative to other countries, the language may be considered mild compared to more negative framings often used to provoke outrage, to call for accountability, or to push for reform (Grey and Morris 2018a; Gillis, Polesel, and Wu 2016). The alternative would be to provide a more provocate news treatment criticizing the state's schools or drawing on alarmist language. In that way, our experimental effects may be thought to be a statistical lower bound on the types of effects we might find with alternative phrasings. Research also suggests that this information is generally novel, as PISA performance is not widely known to U.S. citizens (Pizmony-Levy 2017). As a result, the GPA treatment is unlikely to simply be highlighting or reinforcing familiar information to most respondents.

In line with studies of GPAs focused on policy change, our main DV was support for reform. This should be a high bar for changing one's mind in response to new information, given that it goes beyond dissatisfaction and involves taking actual action. We derived responses from the question: "Do you agree or disagree with the following statement? Public K-12 schools in Massachusetts need to be reformed." Answers were coded on a standard Likert scale, from 1 ("Strongly disagree") to 5 ("Strongly agree"). The question asked about schools in Massachusetts to enable comparison both to other U.S. states and other countries. For ease of interpretation, we dichotomized the variable in some of our analyses to signify general "agreement" with the need for reform, where the variable is coded as 1 if any reform is favored and 0 otherwise. For robustness, we also looked at two other DVs—the prioritization of education as a policy domain and support for more funding for schools—that similarly reflect a willingness to back educational improvements.[9]

Our main observational IV was a respondent's perceived globalization exposure. Intended to parallel our *Global Encouragement* treatment defined above, we asked respondents

[9]These latter analyses were not pre-registered.

whether they agreed or disagreed with the following three statements: 1) "Globalization affects my life in an important way"; 2) "The world around me is affected by globalization in an important way"; and 3) "I contribute to globalization in an important way." For each question, we coded the responses on a standard Likert scale, from 1 ("Strongly disagree") to 5 ("Strongly agree"). We then averaged answers across all of the questions to create a *Globalization Index* for each respondent, ranging from 0 (most locally-rooted) to 5 (most globally-integrated). In the analyses where we dichotomize these IVs (with those who "somewhat agree" or "strongly agree" coded as 1, and otherwise coded as 0), the globalization index is the average of these binary variables, ranging from 0 to 1.

We estimated the following equation:

$$Y_i = \phi(\alpha_i + \beta(\text{GPA Info.}_i \times \text{Exposure to Globalization}_i) + \\ + \gamma\text{GPA Info.}_i + \eta\text{Exposure to Globalization}_i + Z_i + \epsilon_i), \quad (1)$$

where Y_i is respondent i's preference for education reform , *Exposure to Globalization* is either the experimental *Global Encouragement* treatment or the observational self-reported measure of globalization exposure, *GPA Info.* is a dummy variable that codes whether respondent i received the *GPA Info.* treatment, and Z_i is a battery of individual-level controls, which we do not include in the main analyses but include in robustness checks.[10] We also estimated models without the interaction between *Exposure to Globalization* and *GPA Info.*, so that we can present the direct effects of each of those variables. We use the following link functions ϕ: first, ordered probits, with DVs on the full 1-5 Likert scale of agreement,

[10] In the robustness checks, we include the following sociodemographic controls: age indicators for being under 30, 30 to 65, and older than 65 years of age; gender (female indicator); race and ethnicity (indicators for white, black, and Hispanic); education (indicator for being a college graduate); indicators for being unemployed, having children, having being born in USA. We also include political controls: being a voter (having voted in the last election), being a self-reported Democrat, a Republican, and an indicator for self-identifying as "conservative."

and second linear probability and probit models, with the DV binarized for agreement with school reform.

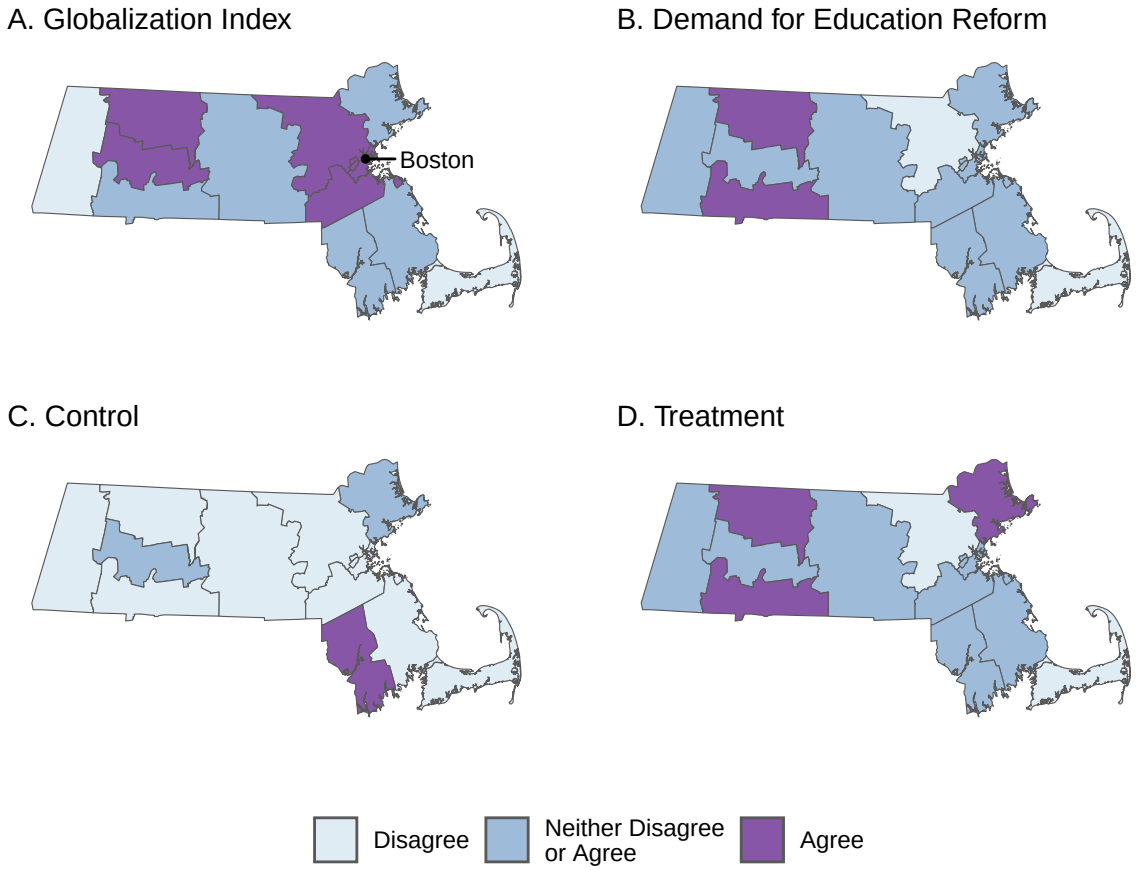
RESULTS

Massachusetts Experiment

Descriptively, we begin with Figure 1 Panels A and B by presenting the geographic variation in average perceptions of globalization exposure and support for school reform by county in Massachusetts. As expected in H_1, counties that comprise the greater Boston area (including Middlesex, Norfolk, and Suffolk counties in the East of the state) and the Springfield area (including Franklin, Hampden, and Hampshire counties in the West of the state) show both high perceived globalization exposure and high demand for school reform, providing suggestive evidence of their relationship. Panels C and D indicate that additional variation in support for education reform exists due to exposure to our randomized GPA information treatment, which could be consistent with H_2. Below, we test both hypotheses formally in our statistical models.

First, we tested H_1: whether perceived exposure to globalization boosts support for school reform. We find some evidence for this prediction, including via both the observational analysis and the experimental manipulation of the *Global Encouragement* treatment. Using respondents assigned to the control, Table A2 and Table A3 show ordered probit and linear probability results, respectively. Perceived measures of globalization are, as expected, positively related to support for school reform, though not significantly linked as in the probit models, as shown in Figure 2 (and Table A4). Substantive effect sizes of each of the three main measures of perceived globalization exposure range from 5 to 10 percentage points

Figure 1: Geographic Variation and Perception of the Degree that Globalization Affects a Respondent's Life and Support for Education Reform



Notes: In panel A , we plot the mean county-level response to the globalization index that includes answers to the questions 1) "Globalization affects my life in an important way"; 2) "The world around me is affected by globalization in an important way"; and 3) "I contribute to globalization in an important way.". In panel B, we plot mean county-level response to demand for education reform. We include only respondents who report valid Massachusetts counties (1,959). We drop Nantucket and Dukes (Martha's Vineyard) counties in these maps as there were only three respondents in our survey sample between those two counties. Both counties have approximately 1% of the population of Middlesex, the largest county. In Panels C and D we plot the same variable as in panel A, separately for each treatment group.
Data Source: Massachusetts Study.

from a 39 percent baseline of agreement (the marginal effects of the the probit estimates in Table A4).[11] A one unit change from 0 to 1 in the perceived globalization index is significantly associated with a 12.5 percentage point increase in support for school reform.[12]

Our experimental manipulation also yields consistent findings as above when estimating the ordered probit (Table A2), linear probability (Table A3), and probit models (Table A4). Receiving the *Global Encouragement* experimental treatment results in an X percentage point increase in support for school reform (in the probit models), compared to the control. Overall, respondents with higher perceived exposure to globalization express more support for school reform across both observational and experimental specifications. Models using the two other alternative DVs—prioritization of education and support for more school funding, shown in Table A18—yield similar findings.

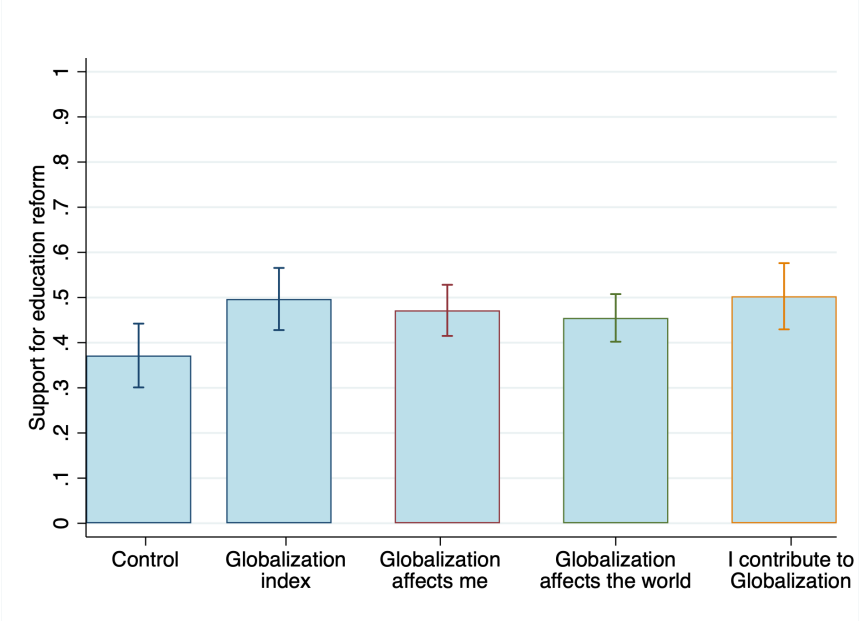
Next, we tested H_2: whether informing respondents of poor school performance using a GPA raises demand for school reform more among globally-integrated voters. Here, we find no evidence of a significant effect in either our observational or experimental analyses. In Tables A5 and A6, which show results from the ordered probit and linear probability models, respectively, there are no significant interaction effects between the observational measures of perceived exposure to globalization and the *GPA Info.* treatment, although the coefficient on *GPA Info.* $\times$ *Global. Index* is directionally as predicted. In the probit the models, as reported in Figure 3 (and Table A7), interactions are again all non-significant, including

[11] Agreeing that "Globalization affects my life" correlates with an 8.2 percentage point increase in support for school reform, compared to a 39 percent baseline (significant at .10 level). Similarly, agreeing that "The world around me is affected by globalization" is directionally linked to a 5.2 percentage point increase in support for reform (though not statistically significant). Finally, agreeing that "I contribute to globalization" is associated with with a 10 percentage point increase in support for reform (significant at .05 level).

[12] Similar results are shown in analogous models that include individual controls in Table A12 (ordered probits), Table A13 (LPM), Table A14 (probit models).

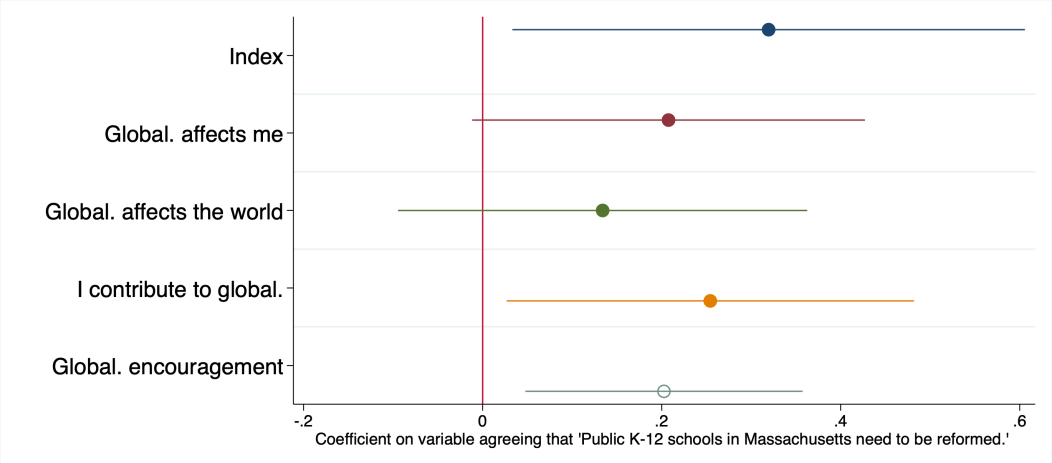
Figure 2: Perceived levels of global integration and support for education reform

Panel A: Support levels



Note: Y-axis is share supporting school reform (dichotomous) and x-axis indicates binarized agreement. Point estimates and 95% confidence intervals from separate probit models in Table A4 (level from control group shown from Model 1, for simplicity).

Panel B: Coefficients on global integration variables



Note: Dichotomous DV is "supports school reform." Coefficient plot of support for school reform, with point estimates and 95% confidence intervals. Full set of coefficients from probit models are shown in Table A4.

for the *Global. index* variable.[13]

The experimental results also do not match our predictions. When leveraging assignment to the *Global Encouragement* treatment, the effects of its interaction with the *GPA* treatment are significant, but in the opposite direction from those anticipated for the ordered probit (Table A5), linear probability (Table A6), and probit (Table A7) models. Again, we find similar results for prioritization of education and support for more school funding in Table A19. Statistical power is not a concern. The magnitude of the interaction coefficients is smaller than their constituent terms while the standard errors for the interaction terms are larger than for the main coefficients in each model. This suggests that the non-significant interaction is not just a function of limited sample size,[14] but more likely a true null finding.[15]

Experiment 2: National Survey Experiment

Given that our results found support for H_1 but not H_2, we conducted a follow-up, national survey in the U.S. to examine reasons for our mixed findings. Beyond generalizing to the

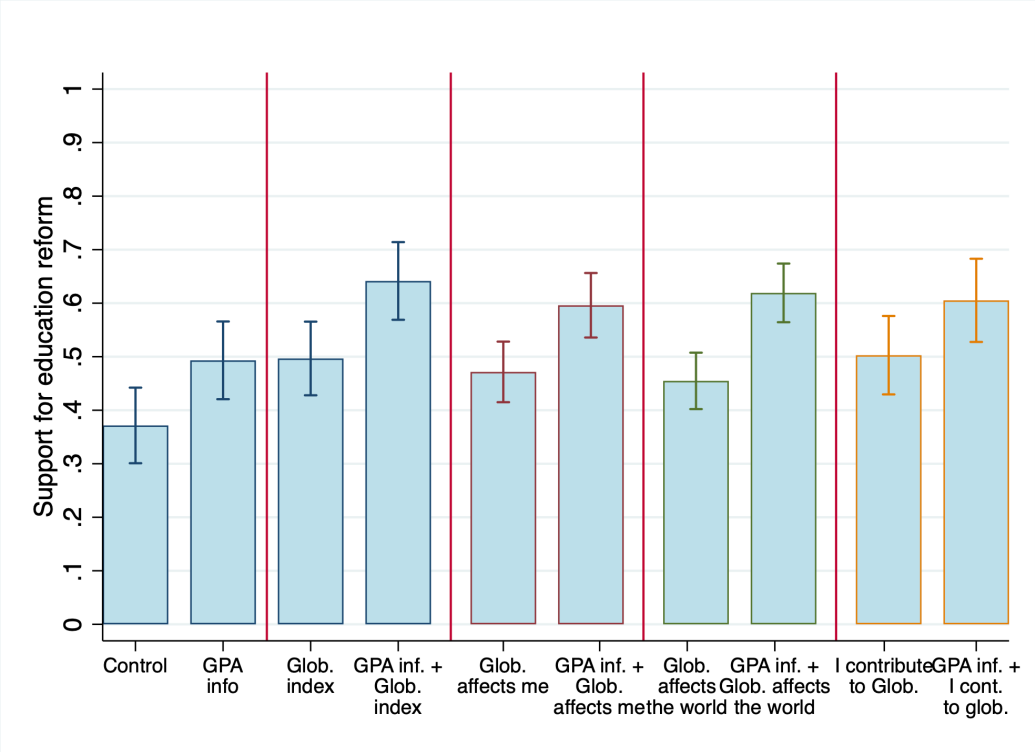
[13]Once again, similar results are shown in models that only differ by including individual controls. These are shown in Table A15 (ordered probits), Table A16 (LPM), Table A17 (probit models).

[14]Although it is not our preferred measure of globalization exposure, in A5, we explore for reference whether "actual globalization exposure" (working in an industry exposed to globalization) has similar relations with supporting education reform. Given the data limitations (a fifth of respondents did not answer questions about their industry) and theoretical preeminence of self-perceived exposure (Walter 2017), our estimates are noisier (and possibly biased), and we find limited support for either H_1 or H_2, with statistically insignificant coefficients for main effects of globalization exposure, and interactions of GPA Information and exposure.

[15]Given some baseline effects of global competition on demands for reform in education, it is possible that the main effects of GPA information and of globalization exposure in education policy absorb some of the potential for increasing support for reform. Despite there being no strict mathematical ceiling effects in demand for school reform, with support topping out at 60% in our Massachusetts sample, the effects of the GPA and globalization exposure conditions are not clearly additive. This may be because an effective ceiling of what share of respondents is willing to support reform is reached among respondents receiving each individual expermental condition. Alternatively, it could also be that the GPA treatment in education, like the globalization prime, activates similar concerns about international job market competition given how closely the two are linked.

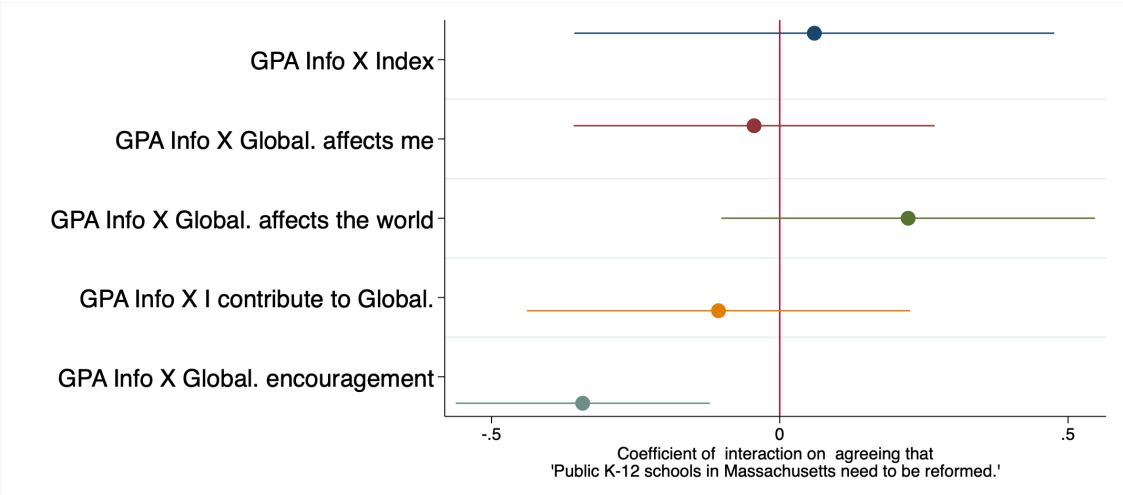
Figure 3: Perceived Levels of Global Integration, GPA Information Treatment, and Support for Education Reform

Panel A: Support levels



Note: Y-axis is share supporting school reform (dichotomous) by subgroup indicated in the x-axis (e.g. Benchmark + Globalization affects me indicates the share corresponding to the subgroup receiving the *GPA Info.* treatment as well as agreeing with the statement "globalization affects me"). Point estimates and 95% confidence intervals from separate probit models in Table A7 (levels for control and for *GPA Info.* treatment arm from model 1, for simplicity).

Panel B: Interaction of GPA Information Treatment with Global Integration Variables



Note: Dichotomous dependent variable is support for school reform. Coefficient plot of interaction variables of GPA Information Treatment and the global integration variables indicated on support for school reform. Coefficients from separate probit models in Table A7.

national population, the second survey accounted for two possible factors that we suspected could explain the discrepancies. The first is how we operationalized globalization. Consistent with previous research, the Massachusetts survey examined broad experiences with globalization without specifying which aspects of globalization respondents believe a better education system could address. However, our core predictions center on labor market competition. To parse whether this particular feature of globalization drives preferences, we embedded experimental conditions in the national survey to capture globalization via competition for jobs from abroad, immigration, and technology-driven structural change. The point was to test whether voters explicitly primed to think about exposure to labor market competition are more responsive to GPA data.

The second factor that we considered was how voters express support for improved education. As with prior work, the Massachusetts survey operationalized education reform broadly. However, voters may still hold varying views on what constitutes reform and what it means to support change. Although in the past school reform was frequently linked to charters, accountability, and test-based evaluation, today it is also often linked to outcomes like socio-emotional learning, teacher retention, and equity. Because education is a valence issue, respondents may have also indicated support for school reform because they did not have to think carefully about the costs and benefits of specific proposals. To parse these issues, we asked a battery of new DV questions in the national survey to measure which particular reform proposals respondents favored. The goal was to examine whether, in response to globalization exposure and GPA data, voters support specific types of educational change beyond the catch-all term reform.

Besides disaggregating measures of globalization and education reform, the national survey has other benefits. First, it improves external validity. By moving beyond the sin-

gle state of Massachusetts, we obtain a more approximate measure of how voters across diverse contexts react to GPA data conditional on their perceived integration into global labor markets. In addition, by comparing U.S. national outcomes to other countries on PISA, the analysis more closely mirrors the types of cross-country contrasts that GPAs typically consider. Although PISA collects subnational results for select countries, and studies have examined comparisons like those involving Massachusetts, PISA primarily draws comparisons across nations. Finally, the national context arguably provides a more instructive baseline for assessing demands for reforms that have taken hold in countries due to GPAs like PISA. Because most school reforms resulting from PISA have occurred at the national level, a national survey gives a more useful indication of the broad-based calls for change that could emerge from poor performance on an international assessment.

We fielded our national survey through a convenience sample of respondents through the Harvard Digital Lab for the Social Sciences (DLABSS) (Strange et al. 2019). DLABSS has been used in more than a dozen published academic studies and is broadly akin to surveys such as MTurk in its representativeness. It is highly diverse in terms of standard demographic variables (age, race, sex, location), although relative to nationally-representatives panels such as the Current Population Survey, DLABSS tends to have a disproportionate number of respondents with higher levels of schooling, lower incomes, and more political engagement. The DLABBS panel has replicated multiple well-known academic studies, and one of its core benefits is its reliance on volunteers who may be more intrinsically motivated to give honest and careful answers. Given the control researchers have over the randomization process, internal validity is maintained with engaged respondents randomly assigned in a survey experiment (Read, Wolters, and Berinsky 2022).[16] The survey was administered to 1,040 volunteers nationally from the DLABSS panel.

[16] See https://dlabss.harvard.edu/results for published papers using DLABSS data.

We independently randomized three separate treatment arms. In the first, we included a control with no information about globalization (25% probability of assignment), as well as the following three primes:

- **Job Competition from Abroad (25% probability of assignment):** "More and more people think that they and the world around them are affected by globalization. As a result, they worry that there will be more competition for jobs from companies and workers based abroad."
- **Immigration (25% probability of assignment):** "More and more people think that they and the world around them are affected by globalization. As a result, they worry that increasing immigration from abroad is changing their society."
- **Technological Change (25% probability of assignment):** "More and more people think that they and the world around them are affected by globalization. As a result, they worry technology is replacing human workers."

In our second treatment arm, we independently randomized a control with no information about a GPA (50% probability of assignment) and the following prime:

- **GPA Info. (50% probability of assignment):** "According to internationally benchmarked standards, schools in the United States do not fare particularly well. For example, according to the latest Programme for International Student Assessment (PISA) results, published in December 2023, the United States fares below the average on math relative to other advanced nations. It fares below countries like Canada, South Korea, Poland, or Germany."

We fit models analogous to those in equation (1), where we interact receiving each of the three globalization primes with the separate prime about the underperformance of the U.S. education system on the GPA:

$$Y_i = \phi(\alpha_i + \sum_{j=1}^{3} \beta_j(\text{GPA Info.}_i \times \text{Globalization Type}_{ij}) + \gamma\text{GPA Info.}_i + \sum_{j=1}^{3} \eta_j\text{Globalization Type}_j + Z_i + \epsilon_i), \quad (2)$$

where Y_i encodes respondent i's preferences for educational changes of different types in each specification, β_j is the coefficient of interest that estimates the effect of receiving GPA information interacted with a dummy variable for a particular *Globalization Type* (indexed by j), and Z_i is a battery of controls.[17]

In an initial specification, we ask an analogous question about support for education reform as in the Massachusetts study, except abstracted to the national level: "Do you agree or disagree with the following statement? "Public K-12 schools in the United States need to be reformed." We also introduce six additional questions designed to unpack respondent attitudes toward school reform. The first asks whether respondents support school change in any form, while the remaining five focus on specific policy changes: 1) the need for more teachers; 2) the need for higher-quality teachers; 3) the need for charter schools; 4) the need for expanding school choice; and 5) the need for a focus on foundational literacy and numeracy skills.

Table A8 presents results using support for school reform as the DV. Looking first at main (non-interaction) effects for the linear probability (column 1) and probit (column

[17]We include these controls in the main specification since our sample is a non-robustness convenience sample. Controls are very similar to those used for robustness in Experiment 1. The only difference is the absence of a voter indicator, which is not available in the DLABSS survey.

2) models, we find a positive and statistically significant coefficient on *GPA Info.*, which suggests that respondents who receive the GPA treatment are significantly more likely to demand school reform than those who do not. Unlike in the first experiment and in contrast to H_1, however, we do not find any positive and significant effects of the globalization encouragement treatments, including priming respondents to think about international job market competition. Turning to interactions, in the probit model (column 4), we obtain a positive and statistically significant interaction on *GPA Info. X Competition*, whereas interactions between *GPA Info.* and *Immgration* and *Tech replacement*, respectively, are both non-significant.[18] Consistent with H_2, this substantiates that labor market competition as a particular feature of globalization appears to make respondents more responsive to GPA data documenting underperformance.

Taken together, one interpretation of the null main effect of *Competition* on H_1, combined with the positive and significant interaction effect of *GPA Info. X Competition* on H_2, is that the influence of GPA information on support for school reform among globally-integrated voters is even stronger than anticipated. Respondents are not automatically driven to support more school reform simply because they are primed to consider international labor market competition. Instead, they only support more school reform when they are induced to think both that international job market competition is considerable and they know that the performance of schools is not up to standard. Specifically, the marginal effect of receiving the *GPA Info.* prime, in combination with the *Competition* prime, increases support for education reform by 7.5 percentage points, according to the probit models.

Results for specific types of school reform are shown in Figure 4 (and Table A10).[19] In these models and in the models without interactions in Table A11, priming respondents

[18] No interaction of globalization type with *GPA Information* is statistically significant in the linear probability models (column 2 of Table A8).

[19] Analogous results with linear probability models are shown in Table A9.

to consider job competition from abroad exhibits some main effects between the type of globalization exposure and support for school reform, which aligns with H_1. Considering only associations with statistical significance, job market competition is positively linked to the perceived need for higher-quality teachers, non-charter school choice, and prioritizing foundational literacy and numeracy skills. There are a greater number of statistically significant associations for these main effects than with the other types of globalization presented. The effects of receiving the *Competition* prime range from 8-12 percentage point increases in the probability of stating the need for specific changes, depending on the policy. Again, however, differences in support for specific changes are not conditioned by GPA information, as would be predicted by H_2. The interaction effects of GPA information and each globalization type do not follow a clear pattern and are largely statistically insignificant.[20] This implies that the type of school reform is not clearly related to how perceived exposure to globalization shapes responsiveness to GPA information.

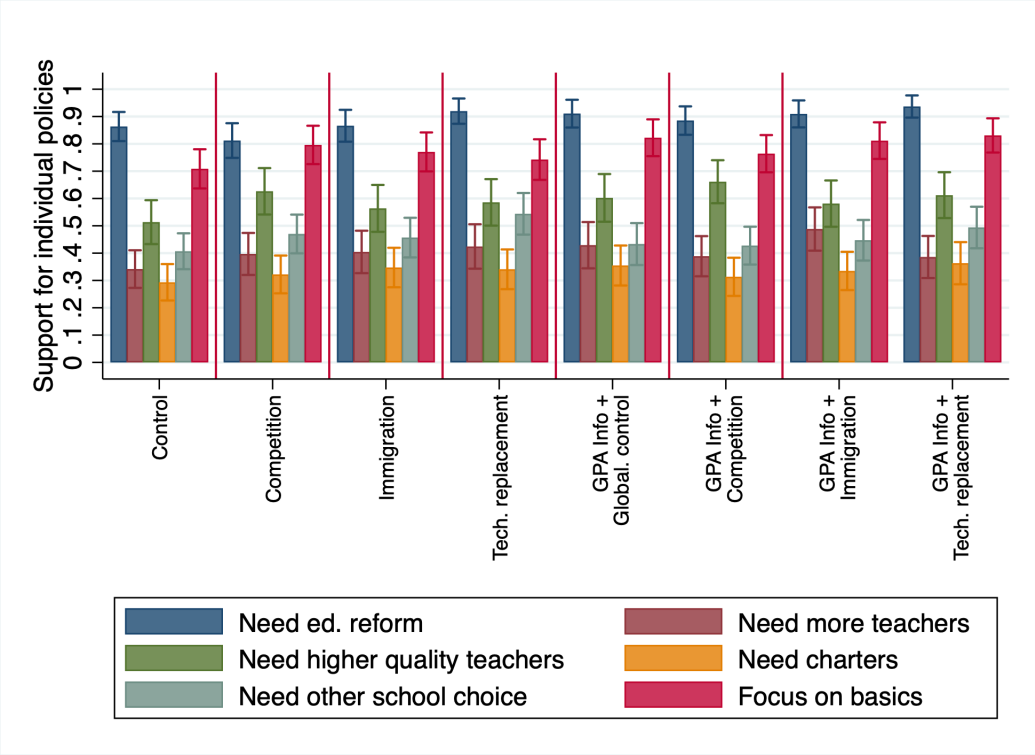
CONCLUSION

Using two survey experiments, we leveraged the paradigmatic case of education policy to show that GPA information documenting underperformance can raise demand for policy reform more among voters with global orientations. Experiment 1 (the Massachusetts survey) confirmed that voters who see themselves as more immersed in global markets, and for whom cross-national job market competition is salient, have higher overall demands for education reform than locally-rooted voters. Experiment 2 (the national survey) revealed

[20]It is worth noting that the GPA information prime's main effect is similarly sized to the effect of competition in each of the models in Table A10 (4-11 percentage points). This suggests that when respondents receive both treatment primes (*GPA info.* and *Competition*), their effects are not additive, with a similarly sized but negative effect of their interaction, perhaps reaching an effective ceiling of how much respondents are likely to support change.

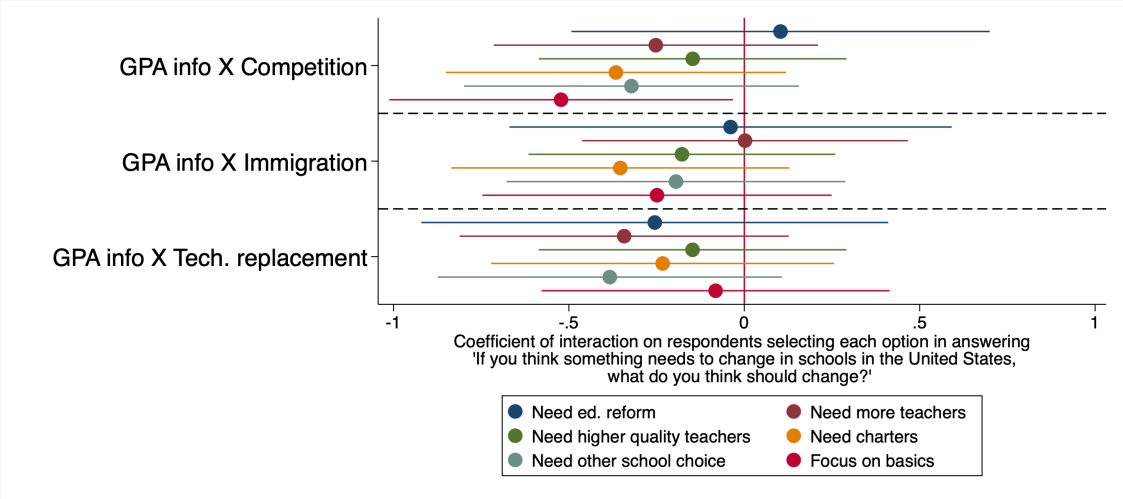
Figure 4: Perceived Levels of Global Integration, GPA Information Treatment, and Support for Education Reform and Specific Policy Changes in National Survey Experiment

Panel A: Support levels



Note: Y-axis is share supporting each policy (dichotomous) by subgroup indicated in the x-axis. Point estimates and 95% confidence intervals from separate probit models in Tables A8 (support for education reform) and A10 (specific policy changes).

Panel B: Interaction of GPA Info. prime with global integration variables



Note: Dichotomous dependent variable is support for education reform each policy. Coefficient plot of interaction variables of GPA Information and each of the global integration exposure types on support for each policy, from separate probit models in Tables A8 (support for education reform) and A10 (specific policy changes).

that when, and only when, voters are specifically primed to think about labor market competition as a particular facet of globalization do these voters also react more to GPA information highlighting policy underperformance. To the extent that education is representative of other policy areas, our findings suggest that a global orientation can make voters more responsive to GPA data that expressly call attention to disappointing outcomes on international rankings.

Despite the clear link to global competition in the case of education, there are reasons to think that our results may generalize to other policy areas. Most notably, education policy may be a particularly hard case in which to vary levels of support for change. Data consistently show that most people like their local schools (Peterson, Henderson, and West 2014; Phi Delta Kappa International 2022), as we find in our Massachusetts sample: 58% of respondents give an A or a B to their state's schools, and accordingly only 44% support reform in our control group. This means that publicizing negative information about other policy areas—such as energy policy, healthcare, or the business climate, where individuals have weaker personal attachments to relevant institutions—could yield even stronger responses in demanding change. Additionally, because voters are more likely to have some preexisting opinions about school quality due to regular state and national test reporting, opinions on less frequently scrutinized policies may be more malleable to GPA information.

One limitation of our results is that it cannot account for who consumes GPA information. Out of necessity, we randomly assign the GPA treatments. However, actual consumption of GPAs like PISA may be conflated by self-selection. For example, although PISA is often highly publicized in countries like the U.S., awareness may be less in middle- and lower-income countries. This may be one reason why PISA shocks have mostly been concentrated in advanced, OECD democracies, even as more developing countries have participated over

time. Press narratives of underperformance may also be biased toward elite media even in wealthy countries. This is consistent with some research showing that more educated citizens offer more accurate estimates of how they think schools fare on PISA (Pizmony-Levy 2017). Because reports about GPAs are also framed through elites with vested interests (Grey and Morris 2018b; Jang 2023; Stack 2007b), public opinion may be shaped by the extent to which results are presented in a positive or negative light.

An important testable implication of our findings is that GPAs may actually exacerbate inequality by creating divergent pressures on politicians to improve public services. Leaders of organizations overseeing GPAs often assume that making the quality of public services transparent can boost demands for reform in countries with evident deficiencies. However, there is reason to doubt that spotlighting such information will invariably catalyze across-the-board improvements. Especially in countries with highly decentralized public services, heterogeneous preferences for public services could aggravate inequities (Kelly and Witko 2012; Obinger, Leibfried, and Castles 2005; Wibbels 2006). Although globalization exposure is not necessarily collinear with socioeconomic demographics because many blue-collar, as well as white-collar, jobs are highly exposed to tradable sectors, the geographic concentration of globalization exposure could produce uneven pressures for reform.

Our experimental strategy offered a novel attempt at parsing how globally-benchmarked data can have differential impacts in shaping demands for high-quality public policies. More research is needed into how GPAs can induce domestic constituencies to pressure governments to reform policy. Our research design could be extended to other policy domains beyond education where internationally-benchmarked data might plausibly have heterogeneous effects on reform preferences based on global orientations. Another priority might be to explicitly compare how responsive globally-integrated and locally-rooted voters are to

GPAs relative to national performance assessments, which only provide within-country ratings of policy performance. Future research could also analyze cross-national variation in demand for public policies conditional on global exposure measures (trade openness, FDI, etc.) and GPA rankings. Our study sets the groundwork for future studies on disaggregating voter preferences to information supplied by GPAs.

Competing interests: The author(s) declare none

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Online Appendix for "Globalization, Performance Indicators, and Demands for Education"

A1 MASSACHUSETTS SURVEY RESULTS

Sample Characteristics

Table A1: Demographic Targets for Survey Experiment

Demographic Characteristic	Proportion (%)
Male	48
Female	52
18-24	9
25-34	18
35-44	15
45-54	18
55-64	17
65+	20
Hispanic	8.8
Non-Hispanic	81.0
White/Causasian	82.8
Black/African-American	7.4
American Indian or Alaska Native	0.2
Asian	5.3
Native Hawaiian or Pacific Islander	0.0
Some other race	4.1
Employed	62.3
Unemployed	6.0
Not in labor force	32.7
Less than high school	9.7
High school diploma or GED	24.7
Some college	15.8
Associate's degree	7.7
Bachelor's degree	23.4
Masters, Ph.D. or other Professional degree	18.7
Greater Boston Area	45.0
Rest of state	55.0

Main models of perceived integration

Table A2: Beliefs about global integration and support for education reform: Ordered probit models.

	Support for Education Reform (1-5)				
	(1)	(2)	(3)	(4)	(5)
Index	0.239*				
	(0.125)				
Global. affects me		0.121*			
		(0.0668)			
Global. affects the world			0.115*		
			(0.0684)		
I contribute to global.				0.159**	
				(0.0643)	
Global. encouragement					0.105
					(0.0664)
Observations	522	522	522	522	1013

Each column shows results from separate ordered probit models, with models 1-4 restricted to the control group 5 restricted to respondents in the control and global encouragement treatment groups. Support for education reform is answer to the question "Do you agree or disagree with the following statement? Public K-12 schools in Massachusetts need to be reformed." It ranges from "Strongly disagree" (1) to "Strongly agree" (5). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3: Beliefs about global integration and support for education reform. Dichotomous dependent variable in OLS models.

	Support for Education Reform				
	(1)	(2)	(3)	(4)	(5)
Index	0.125**				
	(0.0568)				
Global. affects me		0.0814*			
		(0.0437)			
Global. affects the world			0.0526		
			(0.0455)		
I contribute to global.				0.100**	
				(0.0459)	
Globally integrated encouragement					0.0805**
					(0.0313)
Constant	0.371***	0.390***	0.402***	0.402***	0.437***
	(0.0365)	(0.0327)	(0.0367)	(0.0265)	(0.0217)
Observations	522	522	522	522	1013

Each column shows results from separate OLS models restricted to those in the control group (1-4) and the control group and global integration encouragement treatment group in column 5. Support for education reform is the answer to the question "Do you agree or disagree with the following statement? Public K-12 schools in Massachusetts need to be reformed", binarized among those who agree, and those who disagree or are neutral. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: Beliefs about global integration and support for education reform. Dichotomous dependent variable in probit models.

	Support for Education Reform				
	(1)	(2)	(3)	(4)	(5)
Index	0.320**				
	(0.146)				
Global. affects me		0.208*			
		(0.112)			
Global. affects the world			0.134		
			(0.117)		
I contribute to global.				0.254**	
				(0.116)	
Globally integrated encouragement					0.203**
					(0.0790)
Constant	0.371***	0.390***	0.402***	0.402***	0.437***
	(0.0365)	(0.0327)	(0.0367)	(0.0265)	(0.0217)
Observations	522	522	522	522	1013

Each column shows results from separate probit models restricted to respondents in the control group (columns 1-4), and those in the control group and the global integration encouragement prime (in column 5). Support for education reform is the answer to the question "Do you agree or disagree with the following statement? Public K-12 schools in Massachusetts need to be reformed", binarized among those who agree, and those who disagree or are neutral. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A5: Global Benchmark, beliefs about global integration and support for education reform: Ordered probit models.

	(1)	(2)	(3)	(4)	(5)
GPA Info.	0.204*	0.233**	0.130	0.246***	0.215**
	(0.115)	(0.103)	(0.115)	(0.0799)	(0.0662)
Global. index	0.244*				
	(0.127)				
GPA Info. X	0.0512				
Global. Index	(0.179)				
Global. affects me		0.140			
		(0.0956)			
GPA Info. X		-0.0160			
Global. affects me		(0.134)			
Global. affects the world			0.129		
			(0.101)		
GPA Info. X			0.153		
Global. affects the world			(0.141)		
I contribute to Global.				0.188*	
				(0.103)	
GPA Info. X				-0.0726	
I contribute to Global.				(0.144)	
Global encouragement					0.107
					(0.0667)
GPA Info. X					-0.258***
Global encouragement					(0.0944)
Observations	1012	1012	1012	1012	2001

Each column shows results from separate Ordered probit models restricted to respondents in the control group and the GPA info treatment and observational measures of global integration (columns 1-4). Support for education reform is answer to the question "Do you agree or disagree with the following statement? Public K-12 schools in Massachusetts need to be reformed." It ranges from "Strongly disagree" (1) to "Strongly agree" (5). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A6: Global Benchmark, beliefs about global integration and support for education reform. Dichotomous dependent variable in OLS models.

	Support for Education Reform				
	(1)	(2)	(3)	(4)	(5)
GPA Info	0.123**	0.142***	0.0765	0.145***	0.129***
	(0.0519)	(0.0462)	(0.0518)	(0.0379)	(0.0312)
Global. index	0.0234				
	(0.0825)				
GPA Info X Global. Index	0.0234				
	(0.0825)				
Global. affects me		0.0814*			
		(0.0437)			
GPA Info X Global. affects me		-0.0173			
		(0.0626)			
Global. affects the world			0.0526		
			(0.0455)		
GPA Info X Global. affects the world			0.0879		
			(0.0647)		
I contribute to Global.				0.100**	
				(0.0459)	
GPA Info X I contribute to Global.				-0.0425	
				(0.0665)	
Global. encouragement					0.0805**
					(0.0313)
GPA Info X Global. encouragement					-0.136***
					(0.0446)
Constant	0.379***	0.403***	0.398***	0.441***	0.437***
	(0.0258)	(0.0235)	(0.0262)	(0.0191)	(0.0217)
Observations	1012	1012	1012	1012	2001

Each column shows results from separate OLS models restricted to respondents in the control group and the global benchmark treatment and observational measures of global integration (columns 1-4), and data from all treatment arms and an indicator for being exposed to the global integration encouragement prime (in column 5). Support for education reform is the answer to the question "Do you agree or disagree with the following statement? Public K-12 schools in Massachusetts need to be reformed", binarized among those who agree, and those who disagree or are neutral. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A7: Global Benchmark, beliefs about global integration and support for education reform. Dichotomous dependent variable in probit models.

	Support for Education Reform				
	(1)	(2)	(3)	(4)	(5)
GPA Info.	0.311**	0.359***	0.194	0.366***	0.324***
	(0.133)	(0.118)	(0.132)	(0.0968)	(0.0792)
Global. index	0.320**				
	(0.146)				
GPA Info. X	0.0600				
Global. Index	(0.212)				
Global. affects me		0.208*			
		(0.112)			
GPA Info. X		-0.0445			
Global. affects me		(0.160)			
Global. affects the world			0.134		
			(0.117)		
GPA Info. X			0.223		
Global. affects the world			(0.165)		
I contribute to Global.				0.254**	
				(0.116)	
GPA Info. X				-0.106	
I contribute to Global.				(0.170)	
Global. encouragement					0.203**
					(0.0790)
GPA Info. X					-0.342***
Global. encouragement					(0.112)
Constant	0.371***	0.390***	0.402***	0.402***	0.437***
	(0.0365)	(0.0327)	(0.0367)	(0.0265)	(0.0217)
Observations	1012	1012	1012	1012	2001

Each column shows results from separate probit models restricted to respondents in the control group and the global benchmark treatment and observational measures of global integration (columns 1-4), and data from all treatment arms and an indicator for being exposed to the global integration encouragement prime (in column 5). Support for education reform is the answer to the question "Do you agree or disagree with the following statement? Public K-12 schools in Massachusetts need to be reformed", binarized among those who agree, and those who disagree or are neutral. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A2 NATIONAL (DLABSS) SURVEY RESULTS

Table A8: Effects of different types of globalization alongside GPA info. OLS and probit models

	OLS		Probit	
GPA info	0.0471**	0.0525	0.261**	-0.0518
	(0.0198)	(0.0400)	(0.108)	(0.147)
Competition	-0.0376	-0.0519	-0.178	-0.293**
	(0.0299)	(0.0463)	(0.143)	(0.145)
Immigration	0.0106	0.0141	0.0366	-0.240*
	(0.0285)	(0.0428)	(0.152)	(0.140)
Tech replacement	0.0436*	0.0635*	0.266*	0.127
	(0.0259)	(0.0382)	(0.161)	(0.150)
GPA info × Competition		0.0266		0.406*
		(0.0602)		(0.212)
GPA info × Immigration		-0.00731		0.254
		(0.0563)		(0.206)
GPA info × Tech replacement		-0.0406		0.0145
		(0.0517)		(0.210)
Observations	1010	1010	1010	1010

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table display models of support for education reform without (columns 1 and 3) and with (columns 2 and 4) using OLS (columns 1 and 2) and probit (columns 3 and 4) models. All models include individual controls.

Table A9: Effects of different types of globalization alongside GPA info on demand for different types of reform. OLS models.

	(1) Something needs to change	(2) Need more teachers	(3) Need higher quality teachers	(4) Need charters	(5) Need other school choice	(6) Focus on basics
GPA info	0.0768**	0.0707	0.0914	0.0964*	0.0485	0.113**
	(0.0302)	(0.0576)	(0.0612)	(0.0510)	(0.0523)	(0.0515)
GPA info × Competition	-0.0626	-0.0764	-0.0582	-0.121*	-0.0981	-0.152**
	(0.0447)	(0.0793)	(0.0856)	(0.0718)	(0.0728)	(0.0719)
GPA info × Immigration	-0.0586	0.0123	-0.0687	-0.107	-0.0590	-0.0687
	(0.0389)	(0.0812)	(0.0874)	(0.0734)	(0.0749)	(0.0723)
GPA info × Tech replacement	-0.0592*	-0.102	-0.0580	-0.0776	-0.118	-0.0288
	(0.0345)	(0.0826)	(0.0871)	(0.0759)	(0.0773)	(0.0723)
Competition	0.0198	0.0454	0.120**	0.0560	0.0827*	0.0903*
	(0.0362)	(0.0531)	(0.0603)	(0.0494)	(0.0494)	(0.0517)
Immigration	0.0553*	0.0643	0.0590	0.0786	0.0706	0.0635
	(0.0326)	(0.0537)	(0.0609)	(0.0513)	(0.0507)	(0.0526)
Tech replacement	0.0789***	0.0924*	0.0783	0.0551	0.140***	0.0338
	(0.0296)	(0.0560)	(0.0607)	(0.0514)	(0.0515)	(0.0527)
Observations	1012	1010	1011	1010	1012	1008

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Columns represent six different regressions analyzing interaction effects based on types of reform demanded. OLS models include individual controls.

Table A10: Effects of different types of globalization alongside GPA info on demand for different types of reform. Probit models

	(1) Something needs to change	(2) Need more teachers	(3) Need higher quality teachers	(4) Need charters	(5) Need other school choice	(6) Focus on basics
GPA info	-0.0594	0.240	0.235	0.303*	0.163	0.397**
	(0.160)	(0.169)	(0.157)	(0.174)	(0.175)	(0.178)
GPA info × Competition	0.147	-0.252	-0.147	-0.366	-0.322	-0.522**
	(0.231)	(0.236)	(0.224)	(0.247)	(0.243)	(0.250)
GPA info × Immigration	0.115	0.00217	-0.178	-0.353	-0.195	-0.249
	(0.223)	(0.237)	(0.223)	(0.246)	(0.246)	(0.254)
GPA info × Tech replacement	-0.0861	-0.342	-0.148	-0.233	-0.383	-0.0816
	(0.234)	(0.239)	(0.224)	(0.249)	(0.250)	(0.253)
Competition	-0.0459	0.141	0.309**	0.176	0.280*	0.300*
	(0.161)	(0.162)	(0.155)	(0.173)	(0.166)	(0.172)
Immigration	-0.00365	0.202	0.151	0.253	0.227	0.212
	(0.161)	(0.162)	(0.154)	(0.175)	(0.168)	(0.168)
Tech replacement	0.261	0.295*	0.199	0.170	0.451***	0.108
	(0.170)	(0.165)	(0.154)	(0.174)	(0.172)	(0.166)
Observations	1012	1040	1040	1040	1040	1040

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Respondents are the subset of those agreeing that something needs to change. Columns show results from probit models, including individual controls, with DV (0-1) being selecting from a menu of options in response to the question "If you think something needs to change in schools in the United States, what do you think should change?".

Table A11: Effects of different types of globalization and GPA info on demand for different types of reform

	(1) Something needs to change	(2) Need more teachers	(3) Need higher quality teachers	(4) Need charters	(5) Need other school choice	(6) Focus on basics	(7) Focus on inclusive curricula
GPA info	0.327**	0.0916	0.118	0.0653	-0.0638	0.183*	0.00795
	(0.137)	(0.0833)	(0.0792)	(0.0876)	(0.0866)	(0.0884)	(0.0973)
Competition	-0.0886	0.0165	0.242*	0.00104	0.126	0.0517	0.382**
	(0.169)	(0.117)	(0.111)	(0.124)	(0.121)	(0.122)	(0.136)
Immigration	0.251	0.210*	0.0690	0.0879	0.141	0.108	0.314*
	(0.187)	(0.118)	(0.111)	(0.124)	(0.124)	(0.125)	(0.139)
Tech replacement	0.663***	0.130	0.132	0.0662	0.269*	0.0825	0.249*
	(0.229)	(0.119)	(0.112)	(0.124)	(0.124)	(0.124)	(0.141)
Observations	1012	1040	1040	1040	1040	1040	1040

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Respondents are the subset of those agreeing that something needs to change. Columns show results from probit models, including individual controls, with DV being selecting from a menu of options in response to the question "If you think something needs to change in schools in the United States, what do you think should change?".

A3 ALTERNATIVE MODELS WITH DIFFERENT SPECIFICATIONS

A3.1 Robustness checks for Massachusetts survey models: models with individual controls

The following models replicate all models of perceived integration in the Massachusetts survey, from Table A2-A7, but include individual-level contols. The controls included are the following: age indicators for being under 30, 30 to 65, and older than 65 years of age; gender (female indicator); race and ethnicity (indicators for white, black, and Hispanic); education (indicator for being a college graduate); indicators for being unemployed, having children, having being born in USA. We also include political controls: being a voter (having voted in the last election), being a self-reported Democrat, a Republican, and an indicator for self-identifying as "conservative."

Table A12: Beliefs about global integration and support for education reform: Ordered probit models.

	Support for Education Reform (1-5)				
	(1)	(2)	(3)	(4)	(5)
Index	0.232*				
	(0.139)				
Global. affects me		0.110			
		(0.103)			
Global. affects the world			0.139		
			(0.109)		
I contribute to global.				0.169	
				(0.105)	
Global. encouragement					0.105
					(0.0676)
Observations	522	522	522	522	1013

Models include individual controls, as specified in the text. Each column shows results from separate ordered probit models, with models 1-4 restricted to the control group 5 restricted to respondents in the control and global encouragement treatment groups. Support for education reform is answer to the question "Do you agree or disagree with the following statement? Public K-12 schools in Massachusetts need to be reformed." It ranges from "Strongly disagree" (1) to "Strongly agree" (5). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A13: Beliefs about global integration and support for education reform. Dichotomous dependent variable in OLS models with individual controls.

	Support for Education Reform				
	(1)	(2)	(3)	(4)	(5)
Index	0.128**				
	(0.0620)				
Global. affects me		0.0699			
		(0.0463)			
Global. affects the world			0.0606		
			(0.0489)		
I contribute to global.				0.0989**	
				(0.0483)	
Globally integrated encouragement					0.0798**
					(0.0318)
Constant	0.126	0.150	0.147	0.134	0.263***
	(0.113)	(0.111)	(0.113)	(0.111)	(0.0833)
Observations	522	522	522	522	1013

Models include individual controls, as specified in the text. Each column shows results from separate OLS models restricted to those in the control group (1-4) and the control group and global integration encouragement treatment group in column 5. Support for education reform is the answer to the question "Do you agree or disagree with the following statement? Public K-12 schools in Massachusetts need to be reformed", binarized among those who agree, and those who disagree or are neutral. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A14: Beliefs about global integration and support for education reform. Dichotomous dependent variable in probit models, with individual controls.

	Support for Education Reform				
	(1)	(2)	(3)	(4)	(5)
Index	0.333**				
	(0.162)				
Global. affects me		0.182			
		(0.121)			
Global. affects the world			0.157		
			(0.128)		
I contribute to global.				0.261**	
				(0.125)	
Globally integrated encouragement					0.203**
					(0.0808)
Constant	-0.987***	-0.925***	-0.931***	-0.970***	-0.609***
	(0.310)	(0.305)	(0.308)	(0.303)	(0.217)
Observations	522	522	522	522	1013

Models include individual controls, as specified in the text. Each column shows results from separate probit models restricted to respondents in the control group (columns 1-4), and those in the control group and the global integration encouragement prime (in column 5). Support for education reform is the answer to the question "Do you agree or disagree with the following statement? Public K-12 schools in Massachusetts need to be reformed", binarized among those who agree, and those who disagree or are neutral. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A15: Global Benchmark, beliefs about global integration and support for education reform: Ordered probit models, with individual controls.

	(1)	(2)	(3)	(4)	(5)
GPA Info.	0.184	0.214**	0.114	0.240***	0.221***
	(0.119)	(0.106)	(0.120)	(0.0826)	(0.0674)
Global. index	0.289**				
	(0.134)				
GPA Info. X	0.0716				
Global. Index	(0.183)				
Global. affects me		0.151			
		(0.0995)			
GPA Info. X		0.00745			
Global. affects me		(0.136)			
Global. affects the world			0.160		
			(0.106)		
GPA Info. X			0.164		
Global. affects the world			(0.144)		
I contribute to Global.				0.213**	
				(0.105)	
GPA Info. X				-0.0720	
I contribute to Global.				(0.146)	
Global encouragement					0.0953
					(0.0673)
GPA Info. X					-0.259***
Global encouragement					(0.0960)
Observations	1012	1012	1012	1012	2001

Models include individual controls, as specified in the text. Each column shows results from separate Ordered probit models restricted to respondents in the control group and the GPA info treatment and observational measures of global integration (columns 1-4). Support for education reform is answer to the question "Do you agree or disagree with the following statement? Public K-12 schools in Massachusetts need to be reformed." It ranges from "Strongly disagree" (1) to "Strongly agree" (5). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A16: Global Benchmark, beliefs about global integration and support for education reform. Dichotomous dependent variable in OLS models, with individual controls.

	Support for Education Reform				
	(1)	(2)	(3)	(4)	(5)
GPA Info	0.125**	0.139***	0.0825	0.152***	0.138***
	(0.0531)	(0.0472)	(0.0532)	(0.0384)	(0.0316)
Global. index	0.133**				
	(0.0598)				
GPA Info X Global. Index	0.0210				
	(0.0842)				
Global. affects me		0.0782*			
		(0.0451)			
GPA Info X Global. affects me		-0.00547			
		(0.0634)			
Global. affects the world			0.0591		
			(0.0475)		
GPA Info X Global. affects the world			0.0821		
			(0.0660)		
I contribute to Global.				0.104**	
				(0.0473)	
GPA Info X I contribute to Global.				-0.0532	
				(0.0677)	
Global. encouragement					0.0773**
					(0.0316)
GPA Info X Global. encouragement					-0.140***
					(0.0452)
Constant	0.250***	0.274***	0.287***	0.268***	0.347***
	(0.0890)	(0.0874)	(0.0885)	(0.0871)	(0.0618)
Observations	1012	1012	1012	1012	2001

Models include individual controls, as specified in the text. Each column shows results from separate OLS models restricted to respondents in the control group and the global benchmark treatment and observational measures of global integration (columns 1-4), and data from all treatment arms and an indicator for being exposed to the global integration encouragement prime (in column 5). Support for education reform is the answer to the question "Do you agree or disagree with the following statement? Public K-12 schools in Massachusetts need to be reformed", binarized among those who agree, and those who disagree or are neutral. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A17: Global Benchmark, beliefs about global integration and support for education reform. Dichotomous dependent variable in probit models, with individual controls.

	Support for Education Reform				
	(1)	(2)	(3)	(4)	(5)
GPA Info.	0.318**	0.352***	0.207	0.389***	0.349***
	(0.136)	(0.121)	(0.136)	(0.0987)	(0.0807)
Global. index	0.341**				
	(0.154)				
GPA Info. X	0.0645				
Global. Index	(0.218)				
Global. affects me		0.200*			
		(0.116)			
GPA Info. X		-0.00824			
Global. affects me		(0.163)			
Global. affects the world			0.150		
			(0.122)		
GPA Info. X			0.219		
Global. affects the world			(0.169)		
I contribute to Global.				0.267**	
				(0.121)	
GPA Info. X				-0.136	
I contribute to Global.				(0.174)	
Global. encouragement					0.196**
					(0.0800)
GPA Info. X					-0.354***
Global. encouragement					(0.114)
Constant	-0.648***	-0.584**	-0.551**	-0.601***	-0.389**
	(0.234)	(0.229)	(0.232)	(0.227)	(0.158)
Observations	1012	1012	1012	1012	2001

Models with individual controls, as specified in the text. Each column shows results from separate probit models restricted to respondents in the control group and the global benchmark treatment and observational measures of global integration (columns 1-4), and data from all treatment arms and an indicator for being exposed to the global integration encouragement prime (in column 5). Support for education reform is the answer to the question "Do you agree or disagree with the following statement? Public K-12 schools in Massachusetts need to be reformed", binarized among those who agree, and those who disagree or are neutral. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A3.2 Models with alternative dependent variables

While our pre-registered strategy focuses on support for education reforms, we next show results for alternative variables: the prioritization of education policy over other domains and support for more funding. We present the OLS results when using the Globalization Index. We present the results for H1 in Table A18, comparable to Table A3. Results are directionally similar to those for supporting education reform, in that increased perceptions of globalization are associated with greater prioritization of education (directionally) and with support for more funding for schools.

Table A18: Beliefs about global integration and alternative dependent variables. Dichotomous dependent variable in OLS models.

	(1) Ed. is priority	(2) Support for more funding
Index	0.0504	0.268***
	(0.0474)	(0.0525)
Constant	0.186***	0.536***
	(0.0297)	(0.0365)
Observations	522	522

Each column shows results from separate OLS models restricted to respondents in the control group. Education is priority is drawn from question "What do you feel are the most important policy problems facing Massachusetts today? Choose 2." Support for more funding reform is the answer to the question "Do you think that government funding for public K-12 schools in Massachusetts should increase, decrease, or stay about the same?", binarized among those who agree, and those who disagree or are neutral. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

In Tables A2 and A5, we use the full Likert Scale from 1 ("Strongly disagree that schools need to be reformed") to 5 ("Strongly agree that schools need to be reformed") from respondents assigned to the control arm of the experiment in an ordered probit model. For both hypotheses, we show the dichotomized measure used in probit models in Figures 2 and 3, and Tables A4 and **??** for ease of interpretation, although results are substantively similar.

We test the interaction between exposure to a globalization benchmark with holding beliefs about global integration. We present results with these alternative dependent variables in Table A19 and we also find similar null results as those for support for education reform presented in Table A6.

Table A19: GPA Info. treatment, beliefs about global integration and alternative dependent variables. Dichotomous dependent variable in OLS models.

	(1) Ed. is priority	(2) Support for more funding
GPA Info.	0.0556	0.0539
	(0.0433)	(0.0513)
Global. index	0.0504	0.268***
	(0.0474)	(0.0525)
GPA Info. X Global. index	-0.0568	-0.0645
	(0.0699)	(0.0773)
Constant	0.186***	0.536***
	(0.0297)	(0.0365)
Observations	1012	1012

Each column shows results from separate OLS models restricted to respondents in the control group. Education is priority is drawn from question "What do you feel are the most important policy problems facing Massachusetts today? Choose 2." Support for more funding reform is the answer to the question "Do you think that government funding for public K-12 schools in Massachusetts should increase, decrease, or stay about the same?", binarized among those who agree, and those who disagree or are neutral. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A4 ADDITIONAL RESULTS

In Table A20, we provide correlations between all measures of exposure to globalization. The global integration index is composed of the first three rows: globalization affects me, globalization affects the world around me, and I contribute to globalization. Both "Exposed Industry" and "Level of Exposure" ask respondents to self-report the industry they work in using the three-digit North American Industry Classification System (NAICS) categories.[21]

Table A20: Correlation coefficients between perceived and actual levels of global integration

	Global integration Index	Globalization affects me	Globalization the world	I contribute to global.	Exposed Industry
Global. affects me	0.8342***				
Global. affects the world	0.8234***	0.6033***			
I contribute to global.	0.7078***	0.3534***	0.3415***		
Exposed Industry	-0.0715***	-0.0719***	-0.0694***	-0.0267	
Level of Exposure	0.0075	-0.0072	0.0076	0.0178	0.6933***

Pairwise correlation coefficients. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

In Table A21, we provide for reference a table with the effect of receiving the *GPA Info*.

[21]The full list of NAICS codes can be found at the United Census Bureau website here https://www.census.gov/naics/?58967?yearbck=2017. From the self-reported industries there, we calculate a respondent's level of export orientation and import competition. Export orientation is defined as a sector's exports divided by the sector's total output. Import competition is defined as a sector's total imports divided by a sector's total output. Formally, this is defined as,

$$X_i/Y_i, \tag{A1}$$

$$M_i/Y_i, \tag{A2}$$

where X_i is the level of exports for sector i, Y_i is the total output for sector i, and M_i is the level of imports for sector i. Equation A1 is export orientation, and Equation A2 is import competition. For non-tradeable industries that do not export or import goods, we impute a level of 0 import orientation and export orientation. See Mansfield and Mutz 2009 for other applications in political science. Using these values, we create a binary indicator for "some global integration" that takes the value of 1 if either variable is positive, and zero otherwise. We also create a measure of the "objective" level of global integration for each respondent by taking the average of the values of their total Export Orientation and Import Competition measures. Previous studies have found that an individual's "objective" exposure to globalization is closely related to subjective perceptions of globalization as we measure here (Anderson and Pontusson 2007; Rehm 2009; Scheve and Slaughter 2004; Walter 2017)

treatment on its own, independently of its interactions with other variables.

Table A21: GPA Info. treatment and support for education reform

	(1)	(2)
GPA Info.	0.129***	0.0733**
	(0.0312)	(0.0312)
Constant	0.437***	0.437***
	(0.0217)	(0.0217)
Treatment FE		×
Observations	1012	2001

Each column shows results from separate OLS models restricted to respondents in the control group and the GPA Info. treatment (column 1), and including all four treatment arms (column 2). We include an indicator for each treatment arm in column 2. * $p <$ 0.10, ** $p <$ 0.05, *** $p <$ 0.01

Finally in Tables A22, we test whether respondents that perceive themselves to be more integrated in the global economy are more or less likely to send their children to a traditional public school. This analysis is restricted to respondents with children, so the sample size is smaller. There is no relationship between whether respondents perceive themselves to be more integrated in the global economy and whether they send their children to public schools except for whether the respondent believes they contribute to globalization, which has a negative and significant relationship. This negative effect washes out when we combine all three perception of globalization variables in the global integration index.

Table A22: Perceived and actual global integration and children attending traditional public schools or not

	Child Attends Traditional Public School					
	(1)	(2)	(3)	(4)	(5)	(6)
Global integration Index	-0.0620					
	(0.0500)					
Global. affects me		0.00716				
		(0.0377)				
Global. affects the world			0.00831			
			(0.0399)			
I contribute to global.				-0.130***		
				(0.0394)		
Exposed Industry					-0.0415	
					(0.0390)	
Level of exposure						-0.0682
						(0.0885)
Observations	431	431	431	431	431	302

Each column shows results from separate OLS models restricted to respondents with children, from all treatment arms. Dependent variable is answer to the question "Thinking about the school-age child (or children) who currently live with you, what kinds of schools have they attended?". It is coded as 1 if the respondent answered "Traditional Public Schools". We include an indicator for each treatment arm. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A5 TRADE BASED MEASURES OF GLOBAL INTEGRATION

We present, for reference, results that use levels of trade exposure as a measure of global integration. To construct a more "objective" measure of levels of global integration, we construct a measure of trade exposure by asking respondents to self-report where they work using using the three-digit North American Industry Classification System (NAICS) categories.

Unfortunately, this analysis is limited, as 548 of the 2,001 (27%) respondents did not report an NAICS industry category, resulting in missing observations. This missing might come due to respondent fatigue—the full list of categories is long—or the fact that some respondents might also be unemployed and skip the question despite there being an option for unemployed in these categories.

As a result, these estimates are noisier, and possibly biased by nonrandom nonresponse than those using perceived globalization levels (for which we have full responses). We implement analogous models to the ones above using these measures of "objective" levels of global integration instead of perceived integration. In particular, we implement three types of OLS models. In the first one, we use just the indicator of "some global integration". In the second, we include the measure of the "objective" level of global integration. In the third, we include the level of integration measure as well as the indicator for having some integration. We find that the effects of trade exposure are directionally consistent with our hypothesis H1: trade exposure is positively associated with more support for education reform in all models. These results are shown in Table A23. None of the coefficients are statistically significant, however. The non-significant nature of these results may also be consistent with a view where sector-specific exposure to globalization is not on its own determinant of policy preferences (Walter 2017). For this reason, along with the limited number of observations,

our preferred estimates are those based on an individual's subjective perceptions of globalization.

Table A23: Actual levels of global integration and support for education reform.

	(1)	(2)	(3)
Exposed Industry	0.0556		0.00246
	(0.0859)		(0.118)
Level of exposure		0.118	0.115
		(0.119)	(0.161)
Constant	0.444***	0.445***	0.444***
	(0.0277)	(0.0269)	(0.0277)
Observations	362	362	362

Each column shows results from separate OLS models restricted to respondents in the control group. Dependent variable is support for education reform. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

To test H2, we interact trade exposure with the GPA Info. treatment.[22] In this case, again we find evidence to support results at odds with our theory: the interaction of the GPA Info. with each of our objective measures of integration variables is negative and significant. This suggests that there is no additional effect of the GPA Info. treatment on support for education reform for those that are more globally-integrated. The main effects of this variable is as expected for the exposure to the GPA Info. treatment: it is positively and significantly associated with more support for education reform.

None of the objective measures of global integration is statistically significant. Results are displayed in Table A24. Given issues with missing observations as well with the relevance of these measures as direct measures of global integration, we report these results but consider our analyses using perceived globalization as our main estimates.

[22] In model 1, we interact the GPA Info. treatment variable with the binary measure of integration, whereas in models 2 and 3 we interact the GPA Info. treatment with the level of integration. In model 3, we additionally include the binary measure of "objective" integration as a main non-interacted variable.

Table A24: GPA Information, actual levels of global integration and support for education reform.

	(1)	(2)	(3)
Exposed Industry	0.0556		-0.0553
	(0.0859)		(0.0858)
Level of exposure		0.118	0.182
		(0.119)	(0.133)
GPA Info.	0.149***	0.143***	0.143***
	(0.0399)	(0.0388)	(0.0388)
Level of exposure X GPA Info.		-0.413**	-0.420***
		(0.160)	(0.156)
Exposed Industry X GPA Info.	-0.249*		
	(0.134)		
Constant	0.444***	0.445***	0.447***
	(0.0277)	(0.0269)	(0.0274)
Observations	682	682	682

Each column shows results from separate OLS models restricted to respondents in the control group and the GPA Info. treatment and observational measures of global integration. Exposed industry is an indicator for whether or not the industry of employment (NAICS 3 digits) had any imports or exports on 2019. Level of exposure is the average of the imports and exports over gross output in 2019 (see text for details).* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A6 ALTERNATIVE MEASURES OF GLOBAL EXPOSURE

One potential concern with our results is that what we are picking through our global perception index is merely global exposure and not the impact of globalization on a respondent's material life. For example, if someone believes that they contribute to globalization, they could perceive foreign travel as a way of contributing to globalization. This would be a separate channel to the one laid out in our theory where we hypothesized that it was exposure to the material effects of globalization that drives demand for school reform.

To test this potential channel, in Tables A25 and A26, we use other potential measures of global exposure, including whether respondents consider themselves to be "citizens of the world," whether the respondent was not born in the United States, whether they work in other states or countries, and whether they have traveled to other countries. We replicate the analyses from Figures 2 and 3 respectively to test H1 and H2 using these other measures. For Table A25, none of these measures except working in other states is significant. These results provide support that it is our hypothesized channel—exposure to the material effects of globalization—that is driving demand for school reform and not a broader definition of global exposure.

Table A25: Alternative measures of global integration and support for education reform.

	Support for Education Reform				
	(1)	(2)	(3)	(4)	(5)
World citizen	0.00592				
	(0.0520)				
Not born USA		-0.0317			
		(0.0650)			
Works in other states			0.105**		
			(0.0531)		
Works in other countries				0.0861	
				(0.0663)	
Has traveled to other countries					-0.0412
					(0.0530)
Constant	0.432***	0.441***	0.411***	0.429***	0.469***
	(0.0457)	(0.0233)	(0.0289)	(0.0265)	(0.0470)
Observations	522	522	418	418	522

Each column shows results from separate OLS models restricted to respondents in the control group. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A26: GPA Info., alternative measures of global integration and support for education reform.

	Support for Education Reform				
	(1)	(2)	(3)	(4)	(5)
GPA Info.	0.0161	0.133***	0.159***	0.141***	0.0527
	(0.0650)	(0.0332)	(0.0415)	(0.0382)	(0.0663)
World citizen	0.00592				
	(0.0520)				
GPA Info. X	0.147**				
World citizen	(0.0741)				
Not born in USA		-0.0317			
		(0.0650)			
GPA Info. X		-0.0521			
Not born in USA		(0.0985)			
Works in other states			0.105**		
			(0.0532)		
GPA Info. X			-0.111		
Works in other states			(0.0797)		
Works in other countries				0.0861	
				(0.0663)	
GPA Info. X				-0.0901	
Works in other countries				(0.103)	
Has traveled to other countries					-0.0412
					(0.0530)
GPA Info. X					0.0981
Has traveled to other countries					(0.0751)
Constant	0.432***	0.441***	0.411***	0.429***	0.469***
	(0.0457)	(0.0233)	(0.0289)	(0.0265)	(0.0470)
Observations	1012	1012	789	789	1012

Each column shows results from separate OLS models restricted to respondents in the control group and the GPA Info. treatment and observational measures of global integration. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$