DISCUSSION PAPER SERIES

DP15745

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FINANCIAL ECONOMICS

CEPR

ISSN 0265-8003

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Discussion Paper DP15745
Published 01 February 2021
Submitted 15 January 2021

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JEL Classification: D31, D63, G15, G23

Keywords: financial globalization, Income inequality, Delegated portfolio management, Mutual funds

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Si Cheng[*], Massimo Massa[†], Hong Zhang[‡]

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We document a surprising finding that foreign capital inflows delegated through global mutual funds *reduce* the income of the top 1%. To rationalize this observation, we utilize a comprehensive database of worldwide ownership of both private and public firms for 2001-2013, which allows us to trace income inequality to its micro-foundations of sales revenue accrued to rich families. We find that large delegated foreign inflows induce local rich families to sell concentrated yet profitable assets, consistent with a diversification channel for financial globalization to influence income inequality. Alternative mechanisms fail to explain these findings. Our results have important normative implications.

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Disclosure Statement

Si Cheng acknowledges the financial support from CUHK Direct Grant for Research 2018-19. Since the support is purely for independent academic research, it does not create any relevant or financial interests that relate to the research described in this paper.

Massimo Massa has nothing to disclose.

Hong Zhang has nothing to disclose.

Introduction

How income and wealth are allocated within a society and transfer across borders are fundamental questions of the global economy. Recent developments in both directions, however, appear controversial. Vast evidence shows that income inequality has increased in past decades in major countries, with its economic grounds and social implications subject to heated debate (see, e.g., Piketty, 2014, and the debate it provokes—among others, Acemoglu and Robinson, 2015; Blume and Durlauf, 2015; and Krusell and Smith, 2015).[1] Likewise, financial globalization rings alarms related to the propagation of global shocks and crises, despite the benefits it may bring to local economies.[2] The most subtle observation arises when the two trends meet. By reallocating production and incomes across countries, globalization can join forces with known mechanisms or create new ones to affect the distribution of income within a particular country—yet this influence may not be desirable. Indeed, of the two major elements of financial globalization, *foreign direct investment* (FDI) is known to boost income inequality—e.g., due to the outsourcing of jobs—whereas *portfolio investment* appears to play an insignificant role (Milanovic, 2005; IMF, 2007; Jaumotte, Lall, and Papageorgiou, 2013).

A closer look at the above evidence, however, suggests that our knowledge about the relationship between financial globalization and income inequality is far from conclusive. Income inequality, for instance, is measured at the country level (see, e.g., Piketty 2014, and the accompanying World Wealth and Income Database, hereafter WWID), allowing spurious correlation to confound its relation with globalization. Moreover, since foreign *direct* equity investments are known to boost high inequality, one may wonder if foreign *indirect* equity investments—though mostly delegated through institutional investors instead of firms—play a similar role. Yet despite the dominating role of delegated cross-border capital flows in the recent global financial markets, traditional portfolio investment measures, as detailed in Lane and Milesi-Ferretti (2007), lack the power to capture their influence. In brief, we need better identification of both financial globalization and inequality to determine their relationship.

[1] The literature of income equality is growing fast for the U.S. (e.g., Piketty and Saez, 2003; Guvenen, Karahan, Ozkan, and Song, 2016; Saez and Zucman, 2016; Piketty, Saez, and Zucman, 2018; De Nardi, Fella, and Paz-Pardo, 2020) and for other countries (e.g., Piketty, 2003; Moriguchi and Saez, 2008; Alvaredo, Atkinson, Piketty, and Saez, 2013; Piketty and Zucman, 2014). Benhabib and Bisin (2018) provide a recent survey on income and wealth inequality.

[2] The beneficial roles include reduced cost of capital (Bekaert and Harvey, 2000), increased real investment (Henry, 2000), and spurred growth (Bekaert, Harvey, and Lundblad, 2005, 2009). Evidence on financial instability can be found in, among others, Jotikasthira, Lundblad, and Ramadorai (2012) and Hau and Lai (2017).

This paper aims to fill this economic gap. Indeed, when we use the complete sample of global mutual funds to identify the influence of delegated portfolio flows, remarkably different observations arise. In particular, we find a *negative* relation between large waves of delegated portfolio flows and standard measures of inequality (e.g., the income share of the top 1% from WWID). Furthermore, the negative effect is more prominent for flow shocks triggered by fire sales and fire purchases (Coval and Stafford, 2007) of foreign funds, as opposed to those of domestic funds. Since foreign fire sales and fire purchases are largely exogenous to the inequality condition of the investing country, our results suggest that financial globalization in the form of delegated foreign portfolio investment helps to *reduce* inequality.[3] The economic magnitude is substantial: a one-standard-deviation increase in such foreign portfolio flows could lead to a 16% reduction in the top 1% income share (scaled by the standard deviation).

How could foreign portfolio investment help reduce income inequality? Inequality, as observed by the *Economist* in commenting on Piketty (2014), means a small group of rich families holding concentrated wealth and income.[4] If we further enquire how rich families reap their income, it turns out that companies, private and public, play a pivotal role. Rich families own companies that can create economic value by producing and selling products. The new value derived from sales revenue can then be directly distributed back to them as dividends or indirectly benefit them through stock price appreciation. Sales revenue provides a primary source of income to rich families, which differ drastically from workers drawing income from salaries (e.g., Quadrini, 2000; Cagetti and De Nardi, 2006).[5] Indeed, Smith, Yagan, Zidar, and Zwick (2019) show that the majority top income earners in the U.S. are owners of—and therefore receive pass-through income from—private firms. Income inequality observed at the macro level, in this regard, has a micro foundation in the skewed distribution of cash flow rights in sharing companies' sales revenue.

[3] The benefit of focusing on the global mutual fund dataset is threefold. First, it allows us to identify the direction of global capital flows from one country to another. Second, within an investing country, we know which industries receive foreign capital, which will allow us to explore within-country variations. Finally, large flows triggered by the fire sales and fire purchases of individual funds help identify the effect of financial globalization. Recent studies (e.g., Edmans, Goldstein, and Jiang, 2012; Wardlaw, 2020) cast doubt on the initial argument of Coval and Stafford (2007) that fire-sale flows can generate nonfundamental price pressure. Our tests (e.g., the analysis of counterfactual profitability) are not contaminated by this concern, as we use foreign fire sale flows to proxy for the country/industry level liquidity shocks introduced by financial globalization. In one robustness check based on counterfactual returns, we show that our results are unrelated to the potential price pressure of these flows.

[4] See, "Thomas Piketty's "Capital", Summarised In Four Paragraphs", *The Economist*, May 5, 2014.

[5] Cagetti and De Nardi (2006), for instance, show that a model incorporating workers and entrepreneurs can better explain the distribution of wealth as well as its relationship with financial constraints. Heterogeneity in labor skills (e.g., college vs. high school workers) may also lead to income inequality (see, Acemoglu and Autor, 2011 for a recent survey).

To capture the above economic root of inequality, we utilize a recently available database that consists of the most comprehensive worldwide ownership structure in the literature for *both* public and private firms (Aminadav and Papaioannou, 2020).[6] This database allows us to trace the heterogeneity of cash flow rights to the share of companies' sales revenue accrued to rich families for each country and industry for the 2001-2013 period. We refer to this measure as the share of rich families in sales revenue (*RichFam_Sales*) and interpret it as "*cash flow rights inequality*" to highlight both its similarity to and its difference from the measures provided by WWID (denoted as *TopIncome_WWID*). A higher value implies a higher degree of inequality between rich families and the rest of society.

An analysis of the micro foundation of inequality can shed new light on the potential influence of financial globalization on inequality in several ways. First, it can help assess the robustness of our previous findings. Secondly, it allows us to measure inequality and analyze its origins not only at the country level but also at the country-industry level. This improvement is substantial, as we can use within-country cross-industry variations to control for potential spurious correlation introduced by country-specific characteristics and policies known to influence inequality. Indeed, delegated portfolio investment affects cash flow rights inequality at the country-industry level in a way similar to the way it affects the WWID income inequality, even when we explicitly control for the year, country, and industry fixed effects in the former case. This similarity mitigates the concern of spurious correlation.

Perhaps more importantly, the recognition of inequality as a skewed distribution of cash flow rights also paves the way for us to explore the economic mechanisms through which financial globalization can potentially influence inequality. Indeed, the skewed distribution gives rise to not only inequality but also the concentration of many families' cash flow rights in very few industries or firms. To the extent that such concentration is risky and costly (e.g., Shleifer and Vishny, 1986; La Porta, Lopez-de-Silanes, and Shleifer, 1999), these families may have incentives to diversify—i.e., to give up profitable yet concentrated industries in exchange for more diversified asset allocation.[7] Financial globalization can help achieve this goal by reducing rebalancing costs and enhancing the diversification potential. Income inequality will

[6] We are grateful to Gur Aminadav for sharing the data with us and for many of his other helps to our paper.

[7] A famous example is Bill Gates as well as his wealth management company, Cascade Investments LLC. A 2006 *Marketwatch* article explained the main goal of Cascade as "to diversify Gates's wealth away from the technology bias of his large Microsoft stake." Accordingly, Cascade may give up the high return of Microsoft in exchange for a more balanced portfolio. Indeed, anecdotal evidence suggests that Cascade may have achieved an annualized compounded return of 11% from 1995 to 2015 (see, e.g., https://blog.wallstreetsurvivor.com/2016/09/07/bill-gates-investments/), compared to 15.56% for Microsoft.

get reduced when rich families give up profitable industries to achieve diversification in responding to the arrival of delegated foreign capital.

To test this *diversification channel*, we first provide some diagnostic analysis of the motivation of rich families when they reallocate assets in responding to delegated foreign capital flows. More specifically, we consider a list of potential characteristics of assets that may influence the decision by rich families to engage in strategic reallocation. We find that, upon the occurrence of large foreign delegated inflows, the most important decision of rich families is to exit from their *most concentrated* assets. This decision is consistent with the diversification motive of these families.

However, the *diversification channel* implies not only the selling of concentrated assets but also the willingness of rich families to give up future profits in such trades.[8] To explore the latter implication, we construct a new variable to describe the *counterfactual-adjusted profitability* (CP) of a rich family, as the difference between the future profitability of its rebalanced portfolio and that of the counterfactual portfolio had such a reallocation not occurred. If rich families give up profitable assets in exchange for better diversification potential, we should observe negative CP, which reduces the future cash flow rights of rich families and, subsequently, inequality. In this regard, the diversification channel can be tested more formally in a two-stage approach. In the first stage, we ask how delegated foreign capital affects CP. In the second stage, we link inequality to foreign capital-induced CP.

We find that large exogenous inflows of delegated foreign portfolio investment reduce CP in the first stage. A higher projected value of CP is associated with more cash flow rights inequality in the second stage, confirming that if foreign capital reduces CP, it also reduces inequality. In terms of economic magnitude, a one-standard-deviation increase in delegated foreign flow shocks transforms into a 10.61%-standard-deviation reduction in inequality through CP, which accounts for the majority of the influence of delegated flows on income inequality.

Additional tests further suggest that the mitigating effect of financial globalization on inequality comes mostly from domestic rich families as opposed to foreign families, and is economically larger in emerging markets because of the more prominent role of foreign capital

[8] Alternatively, rich families may also use their superior information to trade against delegated foreign capital. Information-motivated trades give rise to the opposite (i.e., positive) profit implication. The null hypothesis is that such trades may be based on grounds unrelated to expected profitability (e.g., purely liquidity needs).

flows. Hence, the mechanism works better when less internationalized families and markets are involved. These results further sharpen the picture of the *diversification channel*.

We finally consider a list of alternative mechanisms. We find that rich families' reallocation decisions are not related to the need for upgrading from manufacturing industries to other industries. Nor do we observe a significant role of corporate governance in our analysis. We also examine country-level policies or characteristics known to influence the distribution of income and wealth. Tax and transfer systems (e.g., Alvaredo, Atkinson, Piketty, and Saez, 2013; Kaymak and Poschke, 2016), for instance, can affect the incentives of workers to generate income. Labor market properties, such as participation and polarization, can affect the distribution of income (e.g., Autor and Dorn, 2013). Technology changes and education may also influence both returns to capital and the distribution of income among different types of workers (e.g., Jaumotte, Lall, and Papageorgiou, 2013). Finally, financial development can lead to more investment and growth (Henry, 2000; Bekaert, Harvey, and Lundblad, 2005, 2009), which may affect inequality through the Kuznets (1955) channel. We find that these channels are unrelated to foreign delegated portfolio investment and unlikely to explain its influence on income inequality.

Instead, our findings are more closely related to Piketty (2014), who points out that income inequality increased in many countries over the last few decades when the rate of return on capital exceeded the rate of economic growth. The relationship between the two rates lays out an intriguing framework to decipher our results. In our view, a properly designed process of financial globalization, at least in principle, can help mitigate inequality precisely because it can both reduce the former rate due to its diversification potential and promote the latter.[9] We show that the first effect has indeed happened and thus is highly relevant to income inequality. In particular, the classical principle of diversification applies to the decisions of wealthy families in responding to financial globalization and, therefore, provides a fundamental mechanism to help mitigate income inequality. Of course, this mechanism has some limits: its power depends on the diversification potential of financial globalization and is subject to the effectiveness and fairness of the process. Nonetheless, it is crucial to take this diversification channel into consideration in assessing both globalization and inequality.

[9] The literature discussed in footnote 2, for instance, provides evidence that financial liberalization associated with globalization can indeed reduce the rate of return and promote economic growth. None of these preceding studies, however, link the two effects to income inequality.

Our findings contribute to the inequality literature in general and to studies of the effect of globalization on income inequality in particular (e.g., Milanovic, 2005, 2015; IMF 2007; Jaumotte, Lall, and Papageorgiou, 2013). To the best of our knowledge, we are the first to analyze how delegated cross-border portfolio investment affects income inequality. Our findings suggest that two of the most powerful components of globalization—foreign direct investment by firms and foreign indirect investment delegated through institutional investors—may have different influences on inequality. Such a difference has critical normative implications. Piketty's policy recommendations related to a global capital tax, for instance, may need a revision based on our new findings.

We also extend the literature on the influence of global mutual funds (e.g., Wahal and Wang, 2011; Lin, Massa, and Zhang, 2014; Cremers, Ferreira, Matos, and Starks, 2016) by demonstrating that delegated portfolio investment could play an important role in mitigating inequality. Indeed, to the extent that rich families sell profitable industries upon the arrival of delegated foreign portfolio flows, delegated portfolio investment provides a market-based transfer system to redistribute income from rich families to retail investors in the global market.

The remainder of the paper is organized as follows. Section II presents our variables and summary statistics. Section III reports the baseline relationship between delegated portfolio flows and income inequality provided by WWID. Section IV examines the relationship between delegated portfolio flows and our new measure of income inequality from sales, as well as its driving force, i.e., the diversification channel. Section V provides additional analysis and robustness checks. Section VI concludes.

II. Data and Definition of Main Variables

We first describe the data sources and the main variables.

A. Ownership Data

The ownership data are the same as Aminadav and Papaioannou (2020). Ownership information comes from the ORBIS database of Bureau van Dijk, which contains data on worldwide private and publicly listed firms. In our sample period 2001─2013, there are 150,343 unique firms, of which 48,461 are unique publicly listed firms from 134 countries, and 101,882 are unique private firms from 190 countries. These firms are held by 535,088 unique ultimate owners. We then manually identify rich families (including single private individuals or a group of individuals with family ties) from these ultimate owners and compute their cash

flow rights. Among all ultimate owners, 212,337 can be identified as families and therefore become the focus of our analysis. We then use the Shapley-Shubik (1954) power index to identify direct owners and penetrate possible pyramid structures of firms to identify ultimate owners. A detailed description of the database and the methodology is provided in Aminadav and Papaioannou (2020) and its Internet Appendix B, based upon which we further refine the sample of firms. Our final sample includes 8,760 unique private or publicly listed firms from 91 countries (41,865 firm-year observations).

We then construct several indexes of income inequality from sales. Our main proxy of inequality is rich families' share in sales revenue at the country-industry level in a given year (*RichFam_Sales*): i.e., $RichFam\_Sales_{i,c,t} = \frac{\sum_u Sale_{u,i,c,t} \times I\{Sale_{u,i,c,t}/IndSale_{i,c,t} > 0.2\}}{IndSale_{i,c,t}}$, where $Sale_{u,i,c,t}$ refers to the dollar value of sales revenue that a rich family u can reap from all firms in industry i, country c, and year t; $IndSale_{i,c,t}$ refers to the total dollar value of the sales revenue from that industry, and $I\{\cdot\}$ is an indicator function that equals 1 if $Sale_{u,i,c,t}/IndSale_{i,c,t}$ is larger than a strategic threshold of 20% cash flow rights and 0 otherwise.[10] *RichFam_Sales* measures the cash flow rights of rich families based on their strategic assets. Our results remain valid using alternative thresholds of strategic holdings.

Since the existing literature typically measures income inequality at the country level, we also build a version of our measures at the country level to allow for a direct assessment of cash flow rights inequality at the country level.[11] In addition, we also separate the share of rich families in sales revenue that are reaped by domestic families (*RichFam_Sales_Dom*) from that by foreign owners (*RichFam_Sales_For*). Overall, our measures of share of rich families in sales revenue capture the cash flow rights inequality between rich families and the rest of the economy.

B. Delegated Portfolio Flows

We use the global mutual fund industry to assess the importance of delegated portfolio investment. The data on mutual fund portfolio flows are from the Factset/Lionshares database.

[10] The 20% threshold follows the literature (see, e.g., La Porta, Lopez-de-Silanes, and Shleifer, 1999, for controlling rights and Masulis, Pham, and Zein, 2011, for family ownership).

[11] Mathematically, $RichFam\_Sales_{c,t} = \frac{\sum_u UOSale_{u,c,t} \times I\{UO_{u,c,t} = Rich\ Family\}}{MktSale_{c,t}}$, where $UOSale_{u,c,t}$ refers to the total sales of a family u in country c in year t, the indicator $I\{UO_{u,c,t} = Rich\ Family\} = I\{(\sum_i I\{Sale_{u,i,c,t}/IndSale_{i,c,t} > 0.2\}) > 0\}$ takes the value of 1 if the family u is a rich family that controls more than 20% of cash flow rights in at least one of the industries in country c in year t, $MktSale_{c,t}$ refers to the total sales in country c in year t, and all other variables are defined as in *RichFam_Sales* at the country-industry level. Note that the country-industry level *RichFam_Sales* focuses on the sales revenue generated from rich families' strategic assets (i.e., beyond the 20% threshold), while the country-level measure captures the total cash flow rights of rich families within a certain country.

The Factset/Lionshares holdings data on international funds are sparse before 2001, so our sample is restricted to the 2001–2013 period. We match the database to the Morningstar mutual fund database. From Morningstar, we obtain additional information on monthly fund return and total net assets (TNA). We consolidate multiple share classes into portfolios by combining share class TNA. All values have been converted to U.S. Dollars. For the purpose of examining the influence of financial globalization, our sample includes both active and index funds, although the majority of funds in the global market are active.[12]

In order to capture the exogenous shocks of delegated portfolio investment flows, we explore the fire sales and fire purchases of mutual funds following Coval and Stafford (2007). Roughly speaking, we first identify mutual funds that are under the pressure of fire purchases or fire sales, defined as funds with extreme percentage flows either above the 90th percentile or below the 10th percentile of all fund flows in the same country. We then aggregate the flows of these funds and use their holding information to infer how these fire purchases or fire sales flows are distributed across country-industries. We refer to the difference between the aggregate inflows of fire purchases and the outflows of fire sales into a particular industry i of country c and quarter q as $Flow\_Shock_{i,c,q}$.[13] This variable measures the exogenous capital—or flow shocks—introduced by delegated portfolio investment into a specific country-industry. Similarly, we can also define country-level flow shocks in a given quarter or year.

To highlight the role of delegated portfolio investment associated with financial globalization, we split industry flow shocks into domestic flow shock (*Flow_Shock_Dom*) and foreign flow shock (*Flow_Shock_For*) based on the domicile countries of the funds. To construct these two measures, we aggregate fire sales and fire purchases of domestic and foreign mutual funds, respectively. Following the literature, a mutual fund is classified as domestic (foreign) if its domicile country is the same as (different from) the country of its portfolio investment.

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[12] Cremers, Ferreira, Matos, and Starks (2016) report that active funds outnumber explicit index funds almost eight to one in the global market.

[13] I.e., $Flow\_Shock_{i,c,q} = \frac{\sum_{s\in i,c,f} \max(0, N_{s,f,q}P_{s,q} - N_{s,f,q-4}P_{s,q}) \times I\{Flow_{f,q} > PCT90_q\} - \sum_{s\in i,c,f} \max(0, N_{s,f,q-4}P_{s,q} - N_{s,f,q}P_{s,q}) \times I\{Flow_{f,q} < PCT10_q\}}{\sum_{s\in i,c,f} N_{s,f,q-4}P_{s,q-4}}$.
In the formula, $N_{s,f,q}$ refers to the number of shares of company s held by fund f in quarter q, and $P_{s,q}$ refers to the price of company s in the same quarter, $s \in i,c,f$ represents the set of companies in industry i of country c that are held by fund f, $\max(0, N_{s,f,q}P_{s,q} - N_{s,f,q-4}P_{s,q})$ equals the increase in stock investment if a fund purchases additional shares and 0 otherwise, $\max(0, N_{s,f,q-4}P_{s,q} - N_{s,f,q}P_{s,q})$ equals the decrease in stock investment if the fund sells existing shares and 0 otherwise, $Flow_{f,q}$ refers to the flow of fund f in quarter q, $PCT90_q$ and $PCT10_q$ refer to the 90th percentile and the 10th percentile of fund flow among all funds in the same domicile country as fund f in quarter q. Finally, $I\{Flow_{f,q} > PCT90_q\}$ and $I\{Flow_{f,q} < PCT10_q\}$ are indicators of fire purchases and fire sales, respectively. They take the value of 1 if fund flow is, respectively, above the 90th percentile and below the 10th percentile in the same country, and 0 otherwise.

An alternative way of describing fund flows is simply to aggregate all fund flows at the country-industry level, regardless of whether a fund is experiencing fire sales and fire purchases.[14] We refer to this variable as aggregate flow (denoted as *Agg_Flow*) when there is no confusion.

It is worth noting that the inequality-mitigating effect that we observe from the flow shocks of fire sales and fire purchases also applies to large (e.g., top quintile) values of aggregate flows. However, we use the former flow as our main independent variable due to endogeneity considerations. In particular, aggregate flows may reflect the strategic response of fund managers to their investing country-industries. If all managers expect assets in a country-industry to decline in the near future, for instance, they may withdraw capital from this particular industry and therefore change the investment weights of country-industries in their portfolio. In contrast, funds under fire purchases or fire sales typically purchase and sell assets according to their existing portfolios. Hence, flow shocks from fire sales and fire purchases can help us to better identify the causal influence of financial globalization on cash flow rights inequality.

C. Profitability and Firm-level Data

Data on accounting variables such as sales and total assets come from Bureau van Dijk (especially for the private firms), Datastream/Worldscope, and Compustat. Stock market information is from Datastream/WorldScope, Center for Research in Security Prices (CRSP), and the World Bank.

We measure the profitability of firms by return on assets (ROA). Compared to other related variables (such as stock returns and return on equity), this variable has the benefit of describing the unlevered profitability of assets and of being available to both private and public firms. Hence, later sections mainly use ROA to detect the profit implication (i.e., in calculating the counterfactual-adjusted profitability) of families' reallocation activities. However, we will also provide robustness checks on the profit implication based on stock returns. Note that, to correctly measure the assets and profitability of each individual affiliated firm, we need to ensure that the reported figures are not affected by the equity stakes that a firm holds in other firms. Whenever the reported numbers are consolidated or are subject to the equity method,[15]

[14] More explicitly, $Agg\_Flow_{i,c,q} = \frac{\sum_{s \in i,c,f} N_{s,f,q} P_{s,q} - N_{s,f,q-4} P_{s,q}}{\sum_{s \in i,c,f} N_{s,f,q-4} P_{s,q-4}}$, where all variables are defined as in *Flow_Shock*.

[15] Recording firm A's share of firm B's equity as an asset for firm A, and firm A's share of firm B's profits as a source of non-operating income for firm A.

we use the equity stakes from Bureau van Dijk and the corresponding information of the held firms to adjust these numbers (see Almeida, Park, Subrahmanyam, and Wolfenzon, 2011). A detailed description of all variables is reported in Appendix A.

D. Summary Statistics

We report some descriptive statistics in Table 1. Panel A reports the summary statistics, including the mean, median, standard deviation, and quantile distribution of main and control variables. We also tabulate the distribution of the annual changes in inequality. One interesting comparison is between our measure of rich families' share in sales revenue and the traditional top income measures from the World Wealth and Income Database. At the country level, the median value of the share of rich families in sales revenue is about 11.8%, suggesting that rich families are typically entitled to approximately one-tenth of the cash flow rights at the country level. This number is comparable to, though higher than, the median income of 9.5% received by the top 1% of the population according to WWID. The mean value for the two variables is 15.4% and 10.7%, respectively. Note that the difference between the two variables is larger for their mean values, suggesting that the share of rich families is more skewed in distribution. Nonetheless, both variables exhibit significant variations in the sample.

We further report the summary statistics of our top income measure at the country-industry level. A noticeable feature of the distribution is that rich families do not invest significantly in every industry in a given country. Although the average value of the country-industry cash flow rights of rich families is similar to that at the country level, in most industries, rich families do not have concentrated cash flow rights of more than 20% of the sales revenue. Hence, the cash flow rights of rich families are even more skewed in distribution at the country-industry level, which is likely to motivate rich families to diversify their overly concentrated cash flow rights in response to delegated foreign capital.

Due to this skewed distribution, when we examine the time-series changes in cash flow rights at the country-industry level, we exclude observations that have *zero* cash flow rights in both periods. The variable "Δ*RichFam_Sales*," therefore, contains the remaining valid changes in cash flow rights. Its distribution is also reported in the table.

Panel B reports the correlation between our main dependent and independent variables. We can see that changes in income inequality correlate negatively with delegated flow shocks, especially for portfolio flows from foreign institutions. This observation is, in general, consistent with a beneficial role of delegated financial globalization in mitigating inequality.

Of course, the impact of delegated portfolio flows on inequality needs some further scrutiny. We therefore move on to multivariate regressions to formally establish this key relationship.

III. Delegated Portfolio Flows and WWID Income Inequality

To investigate the general relationship between delegated portfolio flows and income inequality, we start from country-level tests in which we relate standard measures of income inequality to mutual fund flows. More explicitly, we estimate the following panel specification:

$$\Delta TopIncome\_WWID_{c,t} = \alpha + \beta Flow\_Shock_{c,t-1} + \gamma N_{c,t-1} + e_{c,t}, \quad (1)$$

where $\Delta TopIncome\_WWID_{c,t}$ is the change in the top income measures provided by World Wealth and Income Database (WWID) for country c in year t, and $Flow\_Shock_{c,t-1}$ refers to the exogenous shocks in delegated portfolio investment flows attributable to fire sales and fire purchases. The vector *N* stacks all other country control variables, including *Stock Market Turnover*, *Stock Market/GDP*, *Private Bond Market/GDP*, *Common Law*, *Judicial*, *Good Government Index*, *Anti-Self-Dealing Index, Disclosure*, *Property Rights Index*, *Control Premium*, and *Ownership Concentration*. Appendix A provides detailed descriptions of the data. We include year fixed effects and cluster the standard errors at both the country and year level.

We report the results in Table 2. Models (1) to (8) examine the influence of capital flow shocks delegated through the global mutual fund industry on the share of income received by the top 1% of the population, one of the most widely cited income inequality measures in the literature. From Model (1), we can see that exogenous capital flow shocks are negatively related to income inequality. Furthermore, when we identify the geographic origins of these flow shocks, i.e., those attributable to foreign funds and domestic funds as reported respectively in models (2) and (3), we find that the mitigating effect comes mainly from the capital flow shocks of foreign funds. When the two are jointly used as tabulated in Model (4), foreign portfolio flow shocks remain highly significant.

Models (5) to (8) further control for the potential influence of financial globalization, including both aggregate portfolio investment flows and FDI-inferred capital flows. FDI flows are proxied by changes in inward FDI as a percentage of GDP. The coefficients and statistical significance of delegated foreign capital flow shocks remain largely unchanged in these models (compared to models 1 and 4). Therefore, aggregate portfolio flows and FDI play a minor role

in influencing the impact of large flow shocks of delegated foreign portfolio investment on inequality.[16]

From the above results, we can see that the potential influence of delegated portfolio flow shocks is highly robust. The economic effect is also sizable. For instance, a one-standard-deviation increase in overall and foreign mutual fund flow shocks is related to 22.72% (Model 5) and 15.75% (Model 6) lower income inequality for the top 1% income group (scaled by the standard deviation of change in income inequality measure).[17]

Moreover, when we expand the analysis to other top income measures, including the top 10% (models 9 to 10) and the top 0.1% (models 11 to 12), the results are largely the same. A one-standard-deviation increase in overall and foreign mutual fund flow shocks is related to 17.53% (Model 9) and 12.82% (Model 10) lower income inequality for the top 10% income group, and 21.61% (Model 11) and 15.89% (Model 12) lower income inequality for the top 0.1% income group (scaled by the standard deviation of change in income inequality measure).

Given that delegated foreign portfolio flow shocks are largely exogenous to the economic conditions of the investing country, our results suggest that financial globalization in terms of delegated portfolio flows may help reduce inequality. To shed more light on this inference, we need to address the question of why foreign portfolio investment could possibly help reduce inequality. The next section takes on this task by examining our new variable of cash flow rights inequality.

IV. Delegated Portfolios Flows and Share of Rich Families in Sales Revenue

In this section, we investigate why foreign portfolio investment could help reduce inequality. To achieve this goal, we examine income inequality from the perspective of a skewed distribution of cash flow rights in the economy, in which a small number of rich families can reap significant incomes through their direct and indirect block ownership in firms.

A. Baseline Results on Cash Flow Rights Inequality

[16] Unreported results replace flow shocks with large portfolio flows, i.e., those in the top quintile of flows across all countries. We see that large foreign flows are also negatively associated with income inequality after controlling for flows in other quintiles, suggesting that foreign-delegated portfolio flows help reduce income inequality.

[17] The economic magnitude of the income inequality regression $y = \beta \times x$ is computed as $\beta\sigma_x/\sigma_y$, where y and x are the dependent and independent variables, respectively, β is the regression coefficient, and σ_y and σ_x are the standard deviation of y and x, respectively. For instance, the standard deviation of foreign mutual fund flow shocks (*Flow_Shock_For* at country level) is 0.084, the standard deviation of change in top 1% income share (Δ*Top 1% Income*) is 1.048, and the regression coefficient in Model (6) is −1.965. We compute the economic magnitude as $-1.965 \times 0.084/1.048 = -15.75\%$.

We start from the general relationship between delegated portfolio investment flows and cash flow rights inequality by applying the country-level analysis (as reported in Table 2) to *RichFam_Sales*. More explicitly, we replace the dependent variable of top 1% income with *RichFam_Sales*. The results are reported in models (1) to (6) of Table 3. For easy comparison, the layout of the country-level analysis on *RichFam_Sales* is similar to that of Table 2.

We can see that the relationship between delegated portfolio investment and cash flow rights inequality is very similar to that between delegated flows and the WWID inequality measures. There is a general *negative* relation between delegated flows and cash flow rights inequality, which is concentrated on foreign flow shocks. Moreover, the aggregate flow, flow shocks originated from domestic funds, and FDIs do not explain or absorb the above relationship. These results confirm the previous observation that financial globalization—through delegated foreign portfolio investment—may play a unique role in influencing inequality.

One concern of the country-level analysis above is that some missing country characteristics may distort the inference. To mitigate this concern, we exploit the richness of the data by extending the analysis from the country level to the country-industry level as follows:

$$\Delta RichFam\_Sales_{i,c,t} = \alpha + \beta Flow\_Shock_{i,c,t-1} + \gamma_1 M_{i,c,t-1} + \gamma_2 N_{c,t-1} + e_{i,c,t}, \qquad (2)$$

where $\Delta RichFam\_Sales_{i,c,t}$ is the change in the share of rich families in sales revenue of industry i in country c in year t, and $Flow\_Shock_{i,c,t-1}$ is the corresponding delegated flow shocks. Vector *M* stacks all other country-industry control variables, including *Industry Size/GDP* and *Industry Return*, and vector *N* stacks all other country control variables defined as in Equation (1).[18] Importantly, we can now include a combination of year, industry, and country fixed effects and cluster the standard errors at both the country and year level. Such fixed effects help eliminate the influence of persistent country characteristics in affecting inequality.

The results are reported in models (7) to (14) of Table 3. More specifically, models (7) to (10) include year, industry, and country fixed effects, whereas models (11) to (14) replace the country fixed effects with a list of explicit country characteristics. Consistent with country-level analysis, we can see that delegated portfolio shocks in general and foreign delegated

[18] Since FDI data is available only at the country level, we do not directly compare it with the industry-specific portfolio flows in this specification (including county-level FDI does not affect our results).

portfolio shocks in particular are negatively related to cash flow rights inequality. Given the exogenous nature of foreign delegated portfolio shocks, we again interpret this result as a causal influence from foreign delegated portfolio investment on cash flow rights inequality.

The economic effect of delegated capital flows remains sizable. For instance, with year, industry, and country fixed effects, a one-standard-deviation increase in overall and foreign flow shocks is associated with a 5.63%-standard-deviation (Model 9) and 5.64%-standard-deviation (Model 10) reduction in cash flow rights inequality (*RichFam_Sales*). Hence, the within-country effect is smaller in magnitude than that of the WWID top 1% share measure. It is reasonable to observe a smaller magnitude, as country fixed effects absorb the effect of time-invariant characteristics. The merit of this test, therefore, lies in its cleaner identification: not only are flow shocks largely exogenous, but we also control for the influence of any persistent country policies and industry characteristics that may spuriously correlate with income inequality.

B. Diversification as a Reallocation Motivation of Rich Families

To understand the economic basis of globalization-induced family diversification, we first provide some diagnostic analysis on the potential motivations for rich families to engage in strategic trades upon the occurrence of large foreign delegated flows. When domestic rich families sell their shares, they might give up their control in a particular industry (i.e., strategic sell) or partially cash out while maintaining control (i.e., marginal sell). Likewise, they may seek control in a new industry (i.e., strategic buy) or acquire a relatively small stake of shares (i.e., marginal buy). We focus on strategic trades in this analysis because such trades reflect the most important decisions of rich families and, therefore, better demonstrate their trading motivations vis-à-vis the diversification channel.

In the diversification channel, rich families want to cash out their most concentrated ownership positions. Of course, diversification is not the only potential motivation. Existing rich families may have more knowledge and experience in the firm and domestic market, and might time their selling to realize more profit, e.g., sell the shares at peak price. Moreover, rich families may take this opportunity to consolidate and restructure their business assets, e.g., upgrade from traditional manufacturing sectors to technology-intensive sectors. To analyze the determinants of their decision, we estimate the following annual panel regression at the family-country-industry level:

$$Strategic_{u,i,c,t} = \alpha + \beta_1 Flow\_Shock_{i,c,t-1} + \beta_2 Flow\_Shock_{i,c,t-1} \times Char_{u,i,c,t-1} + \beta_3 Char_{u,i,c,t-1} + \gamma_1 M_{i,c,t-1} + \gamma_2 N_{c,t-1} + e_{u,i,c,t}, \quad (3)$$

where $Strategic_{u,i,c,t}$ equals 1 (−1) if the family u strategically enters into (exits from) industry i in country c in year t, and 0 otherwise. To be consistent with the *RichFam_Sales* proxy previously defined at the country-industry level, we again apply a 20% threshold in the industry market share to identify strategic trades.[19]

Most importantly, $Char_{u,i,c,t-1}$ refers to a list of characteristics of the industry, which can help reveal the motivations of rich families to engage in strategic asset reallocation. These characteristics include *MostConcentrated*, a dummy variable equal to 1 if the cash flow rights in a particular country-industry are ranked the highest within the family's portfolio, and 0 otherwise; *UOROA*, the value-weighted average of ROA for all firms held by the same family in each country-industry; *UORET*, the value-weighted average of stock returns for all firms held by the same family in each country-industry; and *Manufacturing*, a dummy variable equal to 1 for the consumer nondurables, consumer durables, or manufacturing industry, and 0 otherwise. We include year and industry fixed effects and cluster the standard errors at both the family and year level.

The results are tabulated in Table 4. We first notice that large swings of portfolio inflows and especially foreign portfolio inflows indeed induce existing rich families to sell their shares. Next, and perhaps more importantly, among all the potential characteristics that may influence the incentive of rich families to engage in strategic reallocation, we can see that the characteristic of *MostConcentrated* plays a unique and most significant role (models 2 and 7). In other words, with large inflows of foreign delegated investment, rich families exit from their most concentrated assets. Hence, consistent with the literature on concentrated ownership (e.g., Shleifer and Vishny, 1986; La Porta, Lopez-de-Silanes, and Shleifer, 1999; Lan, Lin, Wang, and Yang, 2019), diversification is the primary motivation of rich families when they reallocate assets.

To better understand the diversification behavior, we further separate the strategic entry and exit and find strategic exit playing a dominant role. We report the results in the Internet

[19] Hence, $Strategic_{u,i,c,t} = 1$ if $\frac{Sale_{u,i,c,t-1}}{IndSale_{i,c,t-1}} < 0.2$ and $\frac{Sale_{u,i,c,t}}{IndSale_{i,c,t}} > 0.2$. It equals −1 if $\frac{Sale_{u,i,c,t-1}}{IndSale_{i,c,t-1}} > 0.2$ and $\frac{Sale_{u,i,c,t}}{IndSale_{i,c,t}} < 0.2$, where $Sale_{u,i,c,t}$ and $IndSale_{i,c,t}$ refer to the sales of family u and the total sales in industry i in country c in year t.

Appendix Table IA1. These results suggest that the asset reallocation of rich families is mostly due to diversification-motivated selling.

C. Testing the Profit Implication of the Diversification Channel

Thus far, we see that a large wave in foreign portfolio investment would induce local rich families to sell their most concentrated assets. However, the selling of concentrated assets alone does not sufficiently prove the diversification channel, as the channel also implies the willingness of rich families to give up future cash flow rights in exchange for diversification potential. It is difficult to observe the outcome of diversification potential directly (e.g., the families may buy non-equity assets in the global market to achieve diversification). But we can examine whether families give up cash flow rights by comparing the profitability of the industries they sell and the industries they hold. If rich families, on average, follow this profit implication of the diversification channel, then income inequality should decline as a consequence. The diversification channel, in this regard, provides a fundamental mechanism to reduce income inequality.

To test this profit implication of the diversification channel, for each rich family invested in a given country-industry, we compute the counterfactual-adjusted profitability in a given year t as follows:

$$CP_{u,i,c,t} = \sum_{s \in i,c}(w_{s,u,t} - w_{s,u,t-1}) \times ROA_{s,t}, \quad (4)$$

where $w_{s,u,t}$ refers to the investment weight of company s held by family u in year t, and $ROA_{s,t}$ measures the profitability of company s in year t in terms of return on assets ($s \in i,c$ represents the set of companies in industry i of country c). The counterfactual-adjusted profitability, $CP_{u,i,c,t}$, is then measured as the difference between the profit that a rich family can reap from its portfolio after asset reallocation (portfolio rebalancing) and that from the counterfactual portfolio if the asset reallocation had not taken place. A positive value of $CP_{u,i,c,t}$ indicates that the rich family benefits from asset reallocation. In contrast, a negative value implies that the family gives up future profitability in making such reallocations.

If the diversification channel prevails, families are willing to accept lower profits; we should observe a negative $CP_{u,i,c,t}$ on delegated-capital-induced asset reallocation. Alternative mechanisms in which rich families use their superior information to trade against delegated portfolio investments will lead to exactly the opposite profit implications and the opposite sign. Of course, as a null hypothesis, delegated capital-induced trades can be based on economic

grounds unrelated to expected future profitability and therefore uncorrelated with $CP_{u,i,c,t}$. The construction of this variable, therefore, allows us to test the profit implication of the diversification channel on delegated-capital-induced asset reallocation vis-à-vis other mechanisms.

Note that we construct $CP_{u,i,c,t}$ at the country-industry level so we can use $CP_{u,i,c,t}$ to extend our baseline analysis described in Equation (2). Unreported tests show that calculating the profitability measure at the country level leads to the same conclusions for all the tests documented in this section. Moreover, to highlight the importance of strategic trades, we decompose $CP_{u,i,c,t}$ into two components: strategic trades ($CP\_Strategic_{u,i,c,t}$) and marginal trades ($CP\_Marginal_{u,i,c,t}$).[20]

To set the stage, we first examine how counterfactual-adjusted profitability is related to the cash flow rights of rich families without financial globalization. Specifically, we estimate the following annual panel specification at the country-industry level:

$$\Delta RichFam\_Sales_{i,c,t} = \alpha + \theta \times CP_{i,c,t} + \gamma_1' M_{i,c,t-1} + \gamma_2' N_{c,t-1} + e_{i,c,t}, \quad (5)$$

where $\Delta RichFam\_Sales_{i,c,t}$ is the change in the share of rich families in sales revenue of industry i in country c in year t, and $CP_{i,c,t}$ is the *average* counterfactual-adjusted profitability of industry i in country c in year t across all rich families. We again include a combination of year, industry, and country fixed effects (depending on model specifications) and cluster the standard errors at both the country and year level.

The results are reported in Table 5. First, Model (1) reports that counterfactual-adjusted profitability is positively associated with cash flow rights inequality. This result is economically appealing. Since higher counterfactual-adjusted profitability indicates that rich families reallocate assets in the direction of reaping more future income, it should result in higher inequality. The economic magnitude is sizable: a one-standard-deviation change in CP is associated with a 72%-standard-deviation change in inequality in the same direction. This observation confirms that CP plays a pivotal role in influencing inequality in an economy: inequality can be reduced when and only when CP gets reduced.

[20] The variables are defined as follows: $CP\_Strategic_{u,i,c,t} = CP_{u,i,c,t} \times Strategic_{u,i,c,t}$, and $CP\_Marginal_{u,i,c,t} = CP_{u,i,c,t} \times Marginal_{u,i,c,t}$, where $Strategic_{u,i,c,t}$ is defined as in Equation (3). $Marginal_{u,i,c,t}$ is a dummy variable equal to 1 if $\frac{Sale_{u,i,c,t-1}}{IndSale_{i,c,t-1}} > 0.2$ and $\frac{Sale_{u,i,c,t}}{IndSale_{i,c,t}} > 0.2$, and 0 otherwise, where $Sale_{u,i,c,t}$ refers to the sales of family u in industry i in country c in year t, and $IndSale_{i,c,t}$ refers to the total sales of industry i in country c in year t.

Models (2) and (3) further split CP based on the types of asset reallocation involved: strategic trades, including strategic buys and sells, and marginal trades, including marginal buys and sells. We find that the positive relationship between CP and inequality is concentrated among strategic trades, confirming the importance of strategic trades in analyzing inequality. Models (4) to (6) further replace country fixed effects with a list of explicit country policies and characteristics, and the main results remain unchanged. Overall, we find that CP plays a critical role in influencing cash flow rights inequality, especially in the strategic trades of rich families.

Next, we formally analyze the profit implication of the diversification channel in the following annual two-stage panel regressions at the country-industry level:

$$1st\ stage: CP_{i,c,t} = a + \beta Flow\_Shock_{i,c,t-1} + \gamma_1 M_{i,c,t-1} + \gamma_2 N_{c,t-1} + e_{i,c,t}, \quad (6A)$$

$$2nd\ stage: \Delta RichFam\_Sales_{i,c,t} = \alpha + \theta \widehat{CP}_{i,c,t} + \gamma_1' M_{i,c,t-1} + \gamma_2' N_{c,t-1} + e_{i,c,t}, \quad (6B)$$

in which we first examine how $CP_{i,c,t}$ in industry i of country c in year t is influenced by delegated flow shocks $Flow\_Shock_{i,c,t-1}$ in the first stage. In the second stage, we then explore how $\widehat{CP}_{i,c,t}$, the projected value of $CP_{i,c,t}$ attributable to $Flow\_Shock_{i,c,t-1}$, induces changes in inequality. We also include various combinations of year, industry, and country fixed effects (specified in each model) and cluster the standard errors at both the country and year level.

In the first stage, the parameter of interest is β. If rich families sacrifice profits in exchange for the diversification potential of financial globalization, large amounts of foreign portfolio inflows should reduce the counterfactual-adjusted profitability of their trades. In this case, we should see a negative value of β. In the second stage, the parameter of interest is θ. If the diversification mechanism reduces inequality through its profit implication of reduced CP, we should see a positive coefficient.

The results are reported in Table 6, Panel A, for all types of flow-shock induced reallocation, and in Panel B for strategic trades. Models (1) to (4) in Panel A focus on the influence of large delegated portfolio flow shocks, whereas in models (5) to (8) we employ those originated from foreign funds in our first stage analysis. From first stage analysis in models (1), (3), (5), and (7), we find that large amounts of portfolio flows in general and foreign portfolio flows in particular can significantly reduce the counterfactual-adjusted profitability. Note that domestic portfolio flow shocks fail to yield a similar result (reported in the Internet Appendix Table IA2).

In the second stage, as tabulated in models (2), (4), (6), and (8), we further document that lower CP (induced by large inflow shocks of portfolio investment and especially foreign portfolio investment) leads to lower cash flow rights inequality. In particular, a one-standard-deviation increase in foreign flow shocks corresponds to a 10.61%-standard-deviation reduction in inequality through the profit implication of the diversification channel (models 7 and 8).[21]

Panel B reports similar statistics when we focus on the profitability of strategic trades. The results are statistically and economically similar. For instance, a one-standard-deviation increase in foreign flow shocks transforms into a 10.64%-standard-deviation reduction in inequality (models 7 and 8). Jointly, results from this two-stage analysis confirm the profit implication of the diversification channel: rich families surrender their profitable assets to delegated foreign portfolio flows, which subsequently reduces cash flow rights inequality.

D. Diversification Needs for Domestic Families and Emerging-market Families

If diversification potential associated with financial globalization is the primary reason for rich families to reallocate assets in a way to reduce inequality, we should observe a more significant inequality-mitigating effect among rich families who initially have less access to global capital or the international market. To examine this intuition, we notice that both domestic and foreign families own significant assets in a typical country in our sample. Of the two types, domestic families are more likely to have higher diversification needs. Hence, we separate domestic and foreign rich families in computing their share in sales revenue and then repeat our main analysis for each type of rich family.

We apply the main specification Table 3 (at the country level) separately to domestic and foreign rich families. The results are tabulated in Table 7. As shown in models (1) to (4), the influence of flow shocks from foreign delegated portfolio investment affects the share of sales revenue attributable to domestic rich families, while the impact on foreign rich families is insignificant. Though not reported in the interest of space, applying the two-stage test of Table 6 separately to domestic and foreign rich families yields similar results. In general, in reaction

[21] The economic magnitude of the two-stage regression is computed as $\beta\sigma_x \times \theta/\sigma_y$, where β and θ are the regression coefficients in the first stage and second stage, respectively, x is the independent variable in the first stage, y is the dependent variable in the second stage, and σ_x and σ_y are the standard deviation of x and y, respectively. For instance, the standard deviation of foreign mutual fund flow shocks (*Flow_Shock_For* at country-industry level) is 0.286, the standard deviation of change in share of rich families in sales revenue (Δ*TopIncome_Sales* at country-industry level) is 10.126, the first stage regression coefficient in Model (7) is −0.112, and the second stage regression coefficient in Model (8) is 33.539. We compute the economic magnitude as $-0.112 \times 0.286 \times (33.539)/10.126 = -10.61\%$.

to the arrival of large delegated foreign portfolio inflows, domestic rich families are the ones who sell their shares in line with the diversification channel.

Next, it is also important to differentiate the role of financial globalization in developed and emerging markets, as the influence of foreign capital could be more prominent in emerging markets. To achieve this goal, we apply the country-level tests in Table 3 to the subsamples of developed markets and emerging markets. As shown in Table 7, models (5) to (8), the negative relationship between delegated portfolio flow shocks and inequality remains highly significant in both developed and emerging markets.

However, the economic magnitude of the impacts differs drastically in the two markets. While the standard deviations of income inequality in the two markets are comparable (4.786 for developed markets and 4.861 for emerging markets), the role played by foreign delegated portfolio management is very different. Because the size of the capital market is small in emerging markets, foreign delegated portfolio flows are relatively more important in these markets. Indeed, the standard deviation of foreign delegated portfolio flow shocks in emerging markets is more than eight times larger than that in developed countries (0.016 for developed markets and 0.134 for emerging markets). In this regard, a one-standard-deviation increase in foreign flow shocks is associated with a 0.96%-standard-deviation (Model 6) reduction in inequality among developed markets and a 3.18%-standard-deviation (Model 8) reduction in inequality among emerging markets. Hence, the mitigation effect of foreign portfolio flows on inequality is more sizable in emerging markets—more than three times larger than the effects in developed countries.

The more prominent influence of delegated foreign capital flows on the income share of domestic and emerging-market rich families provides further evidence to support the diversification channel of financial globalization in mitigating inequality.

V. Additional Analyses: Alternative Channels and Robustness Checks

In this section, we first provide additional analysis by investigating alternative channels regarding income inequality. We then conduct robustness tests on the diversification channel, including its long-term impact and alternative profitability measures and regression specifications. Finally, our results are robust to alternative definitions of inequality measures.

A. Alternative Channels

We first notice that rich families may also take the opportunity of financial globalization to restructure their business assets: for example, to upgrade from traditional manufacturing sectors to technology-intensive sectors. This *industry upgrading channel* allows rich families to upgrade from low-profit industries to high-margin industries, which could enhance income inequality.[22] However, in Table 4 and its accompanying additional analysis tabulated in the Internet Appendix Table IA1, we do not see any difference between the manufacturing sector and other industries. The observation suggests that rich families do not seem to use the opportunity to upgrade their industries.

Next, delegated foreign portfolio investment may also influence inequality through a *governance channel*. Foreign institutional investors often help improve the corporate governance of local firms (e.g., Aggarwal, Erel, Ferreira, and Matos, 2011), which in general benefits the retail investors of local firms. For instance, large shareholders may have incentives to tunnel assets from retail investors. If such agency issues contribute to the income of rich families, then improved corporate governance can help reduce inequality. Similar to the diversification channel, this governance channel can also generate within-country cross-industry effects.

Hence, we relate the change in the share of rich families in sales revenue to delegated foreign portfolio flows via the governance channel. The analytic tool is similar to Table 6, except that we replace counterfactual-adjusted profitability with the alternative channel. We report the results in Table 8. Models (1) to (2) test the governance channel at the country-industry level. Here, we aggregate the firm-specific corporate governance index (constructed from 41 individual attributes as in Aggarwal, Erel, Ferreira, and Matos, 2011) for all firms in each country-industry pair. We find that the governance channel does not explain our previous findings.

It is perhaps not surprising to see the irrelevance of governance for fire sale/purchase-related flow shocks. For governance to work, portfolio flows need to be strategic—i.e., fund managers should carefully manage flows to exert governance influence. Fire sale/purchase flows, on the contrary, are not strategic. In this regard, the somewhat more intriguing finding is that aggregate flows—which should include the endogenous actions of fund managers—fail

[22] Note that we focus on income inequality because of the wider data coverage in WWID. Asset rebalance and the reduction in cash flow rights in principle can also reduce wealth inequality, even though the two types of inequality may otherwise have little relationship (e.g., Benhabib, Bisin, and Luo, 2017, and Benhabib and Bisin, 2018, provide an extensive survey on the possible factors that may influence wealth inequality). The diversification effect can impact wealth inequality because it reduces the return on the remaining wealth for domestic rich families.

to support the governance channel. These observations suggest that governance is perhaps not a mechanism highly relevant to our main findings.

We finally examine a list of country-level policies and characteristics that can influence the way cash flows are generated and distributed in an economy. These policies include tax and transfer systems (e.g., Alvaredo, Atkinson, Piketty, and Saez, 2013; Kaymak and Poschke, 2016), labor market conditions (e.g., Autor and Dorn, 2013), technology changes (e.g., Autor and Dorn, 2013; Jaumotte, Lall, and Papageorgiou, 2013), education (Jaumotte, Lall, and Papageorgiou, 2013), and financial development (Henry, 2000; Bekaert, Harvey, and Lundblad, 2005, 2009). They can provide potential economic grounds for financial globalization to influence income inequality. Hence, we conduct country-level tests to verify whether financial globalization influences inequality through these channels (i.e., by influencing these country characteristics).

Models (3) to (12) of Table 8 test the remaining country-level alternative channels, including tax policies (proxied by corporate tax rates), labor market conditions (proxied by unemployment rates), technology diffusion (proxied by the adoption of computer technology), education (proxied by access to postsecondary education), and financial development (proxied by the ratio of stock market capitalization and GDP).

We find that all these alternative channels fail to link capital flows to reduced inequality. Most intuitively, delegated foreign portfolio flows are unrelated to these country-level policies and characteristics in the first place (i.e., in the first stage). Hence, the influence of delegated foreign portfolio flows on inequality is unlikely to be achieved through tax, labor, technology, education, and financial development channels. Note that we are not saying that these country-level characteristics are not important in terms of inequality. What our tests tell is that they are not the main mechanisms through which delegated foreign portfolio investments affect inequality.

B. Robustness Checks on Counterfactual-adjusted Profitability

Given the pivotal role played by counterfactual-adjusted profitability in our analysis, we next provide three sets of robustness checks to Table 6. We first examine whether the diversification channel is simply a short-term effect, which could reverse over a longer horizon. To achieve this goal, we consider the long-term impact of portfolio flow shocks. Table 6 investigates the counterfactual-adjusted profitability and change in cash flow inequality in the year after the portfolio flow shocks. As a robustness check, we repeat the analysis over a three-year period

because the realization of diversification potential through the strategic sale of concentrated assets might take a long time. The results are reported in Table 9, with Panel A for the counterfactual-adjusted profitability among all trades and Panel B for the counterfactual-adjusted profitability among strategic trades. Our results remain largely unchanged. This observation suggests that the diversification channel is not a temporary effect and is not reversed in just a few years.

Secondly, our main tests control for various combinations of year, industry, and country fixed effects as well as industry and country characteristics. As a further robustness check, we employ country-year and industry-year fixed effects to capture the time-varying country and industry variations. We focus on the counterfactual-adjusted profitability among strategic trades, and report these results in models (1) to (4) of Table 9, Panel C. Our main conclusions remain highly robust.

Finally, one concern about our previous results is that foreign portfolio flow shocks might push up the stock price. If the price increase is large, local rich families may gain when they sell concentrated assets, and therefore increase inequality subsequently. To address this concern, we construct counterfactual-adjusted profitability based on stock returns: $CP\_RET_{u,i,c,t} = \sum_{s \in i,c}(w_{s,u,t} - w_{s,u,t-1}) \times RET_{s,t}$, where $RET_{s,t}$ refers to the stock return of company s in year t, and all other variables are defined as in Equation (4). We also decompose return-based counterfactual-adjusted profitability to two components with respect to strategic and marginal trades.

We focus on the counterfactual-adjusted profitability of strategic trades, and report the results in models (5) to (8) of Table 9, Panel C. Our results show that counterfactual-adjusted profitability constructed from stock prices exhibit the same property as our previous measure. Hence, while our previous tests suggest that rich families give up future profits in pursuing the diversification potential, the current results suggest that they also give up future price appreciation in achieving the same goal. Note that, since only public firms have stock returns, we treat this test as a robustness check to our ROA-based main specification that applies to all firms. Altogether, these additional results confirm that the diversification channel is highly robust as an economic basis to influence inequality.

C. Alternative Definitions of Cash Flow Rights Inequality

We finally conduct robustness checks by using alternative definitions of cash flow rights inequality. In our main analysis, we require the sales of a rich family to account for at least

20% of the total sales in the industry. As a robustness check, we employ an alternative breakpoint of 10%.[23]

We report the results in Table 10, and the layout is the same as in Table 3. Models (1) to (4) report the results at the country level following Equation (1), while the dependent variable is replaced with changes in country-level *RichFam_Sales* based on a 10% breakpoint. Models (5) to (12) expand the analysis to the country-industry level following Equation (2), while the dependent variable is replaced with changes in industry-level *RichFam_Sales* based on a 10% breakpoint. The results confirm that exogenous shocks in portfolio flows reduce the inequality at both country level and country-industry level, and the mitigating effect is concentrated in the capital flow of foreign mutual funds. Unreported tests show similar results when using a 50% breakpoint.

VI. Conclusion

While financial globalization related to foreign direct investment often enhances inequality, we document a surprising finding that large capital flows delegated through the global mutual fund industry can actually reduce the income of the top 1%. To rationalize this observation, we construct a new dataset of worldwide ownership of rich families for both private and publicly listed firms for the 2001─2013 period, which allows us to measure the (gross) income inequality by the fraction of sales accrued to these rich families in each country/industry.

We find that, based on this new database and by resorting inequality to its economic root of a skewed distribution in cash flow rights, a diversification channel could help explain the influence of delegated financial globalization on inequality. In particular, large inflows of foreign capital incentivize local rich families to give up their highly concentrated and often highly profitable industry assets. This process reduces the portion of future income that rich families can reap from the sales revenue of companies and reduces the degree of income inequality. Alternative channels, notably industry upgrading, corporate governance, taxation, labor market conditions, technology shocks, education, and financial development, fail to explain the influence of foreign portfolio flow on inequality.

[23] More explicitly, the share of rich families in sales revenue in specific industry-country-year can be measured as follows: $RichFam\_Sales_{i,c,t}^{P10} = \frac{\sum_u Sale_{u,i,c,t} \times I\{Sale_{u,i,c,t}/IndSale_{i,c,t} > 0.1\}}{IndSale_{i,c,t}}$, where $I\{\cdot\}$ is an indicator function that equals 1 if $Sale_{u,i,c,t}/IndSale_{i,c,t}$ is larger than 0.1 and 0 otherwise, and all other variables are defined as in *RichFam_Sales* at the industry level. Similarly, we also use this alternative threshold to construct the share of rich families in sales revenue in a specific country in any given year.

Our results have important normative implications. Unlike the case of the labor market and foreign direct investment, an effective global financial market in terms of delegated portfolio investment might help mitigate the issue of income inequality. Our findings call for more analysis on the influence of different components of globalization to fully understand the value and risk of globalization.

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Appendix A: Variable Definitions

Variables	Definitions
A. Inequality Measures	
A1. Income Inequality from the World Wealth and Income Database (at the country level)	
Top 1% Income	The share of total pre-tax national income accruing to the top 1% of income holders, as reported by the World Wealth and Income Database.
Top 10% Income	The share of total pre-tax national income accruing to the top 10% of income holders, as reported by the World Wealth and Income Database.
Top 0.1% Income	The share of total pre-tax national income accruing to the top 0.1% of income holders, as reported by the World Wealth and Income Database.
A2. Cash Flow Rights Inequality (main specifications at the country-industry level)	
RichFam_Sales	The share of rich families in sales revenue at industry level in a given year t is computed as follows: $RichFam\_Sales_{i,c,t} = \frac{\sum_u Sale_{u,i,c,t} \times I\{Sale_{u,i,c,t}/IndSale_{i,c,t} > 0.2\}}{IndSale_{i,c,t}}$, where $Sale_{u,i,c,t}$ refers to the sales of family u in industry i in country c in year t, $IndSale_{i,c,t}$ refers to the total sales of industry i in country c in year t, and $I\{\cdot\}$ refers to an indicator function that equals 1 if $Sale_{u,i,c,t}/IndSale_{i,c,t}$ is larger than 0.2 and 0 otherwise.
RichFam_Sales_Dom	The share of rich families in sales revenue among domestic rich families in a given year t is computed as follows: $RichFam\_Sales\_Dom_{i,c,t} = \frac{\sum_{u \in c} Sale_{u,i,c,t} \times I\{Sale_{u,i,c,t}/IndSale_{i,c,t} > 0.2\}}{IndSale_{i,c,t}}$, where $u \in c$ represents the set of rich families domiciled in country c, and all other variables are defined as in *RichFam_Sales* above.
RichFam_Sales_For	The share of rich families in sales revenue among foreign rich families in a given year t is computed as follows: $RichFam\_Sales\_For_{i,c,t} = \frac{\sum_{u \notin c} Sale_{u,i,c,t} \times I\{Sale_{u,i,c,t}/IndSale_{i,c,t} > 0.2\}}{IndSale_{i,c,t}}$, where $u \notin c$ represents the set of rich families not domiciled in country c, and all other variables are defined as in *RichFam_Sales* above.
	Country-level inequality variables are similarly defined.
B. Delegated Portfolio Investment Flow Shocks (main specifications at the country-industry level)	
Agg_Flow	Industry flow in a given quarter q is computed as follows: $Agg\_Flow_{i,c,q} = \frac{\sum_{s \in i,c,f} N_{s,f,q} P_{s,q} - N_{s,f,q-4} P_{s,q}}{\sum_{s \in i,c,f} N_{s,f,q-4} P_{s,q-4}}$, where $N_{s,f,q}$ refers to the number of shares of company s held by fund f in quarter q, and $P_{s,q}$ refers to the price of company s in the same quarter. $s \in i,c,f$ represents the set of companies in industry i of country c that are held by fund f. The annual industry flow is the average of quarterly flows within a year.
Flow_Shock	Industry flow shock in a given quarter q is computed as follows: $Flow\_Shock_{i,c,q} = \frac{\sum_{s \in i,c,f} \max(0, N_{s,f,q} P_{s,q} - N_{s,f,q-4} P_{s,q}) \times I\{Flow_{f,q} > PCT90_q\} - \sum_{s \in i,c,f} \max(0, N_{s,f,q-4} P_{s,q} - N_{s,f,q} P_{s,q}) \times I\{Flow_{f,q} < PCT10_q\}}{\sum_{s \in i,c,f} N_{s,f,q-4} P_{s,q-4}}$, where $\max(0, N_{s,f,q} P_{s,q} - N_{s,f,q-4} P_{s,q})$ refers to the maximum value between 0 and $N_{s,f,q} P_{s,q} - N_{s,f,q-4} P_{s,q}$, $\max(0, N_{s,f,q-4} P_{s,q} - N_{s,f,q} P_{s,q})$ refers to the maximum value between 0 and $N_{s,f,q-4} P_{s,q} - N_{s,f,q} P_{s,q}$, $Flow_{f,q}$ refers to the flow of fund f in quarter q, $PCT90_q$ and $PCT10_q$ refer to 90th percentile and 10th percentile of fund flow among all funds in the same domicile country as fund f in quarter q, $I\{Flow_{f,q} > PCT90_q\}$ refers to an indicator function that equals 1 if fund flow is above the 90th percentile in the same country and 0 otherwise, $I\{Flow_{f,q} < PCT10_q\}$ refers to an indicator function that equals 1 if fund flow is below the 10th percentile in the same country and 0 otherwise, and all other variables are defined as in *Agg_Flow* above. The annual industry flow shock is the average of quarterly flow shocks within a year.
Flow_Shock_Dom	Flow shocks designated to domestic mutual funds.
Flow_Shock_For	Flow shocks designated to foreign mutual funds.
	Country-level flow variables are similarly defined.
C. Profitability of Industry and Counterfactual-adjusted Profitability of Rich Families	
ROA	The total assets-weighted average of return on assets for all firms in the industry in each country. The return on assets in a given quarter q is computed as follows: $ROA_{s,q} = IB_{s,q}/(AT_{s,q} + DPACT_{s,q})$, where $IB_{s,q}$ refers to the income before extraordinary items of stock s in quarter q, $AT_{s,q}$ refers to the total assets, and $DPACT_{s,q}$ refers to the accumulated depreciation.
CP	The equal-weighted average of counterfactual-adjusted profitability for all rich families in the industry in each country. Counterfactual-adjusted profitability in a given year t is computed as follows: $CP_{u,i,c,t} = \sum_{s \in i,c}(w_{s,u,t} - w_{s,u,t-1}) \times ROA_{s,t}$, where $w_{s,u,t}$ refers to the investment weight of company s held by family u in year t, and $ROA_{s,t}$ refers to the return on assets of company s in year t. $s \in i,c$ represents the set of companies in industry i of country c in family u's portfolio, including firms held by the family in either year t or year $t-1$.
CP_Strategic	The equal-weighted average of counterfactual-adjusted profitability induced by strategic trades for all rich families in the industry in each country. $CP\_Strategic_{u,i,c,t} = CP_{u,i,c,t} \times Strategic_{u,i,c,t}$, where $CP_{u,i,c,t}$ refers to the counterfactual-adjusted profitability of family u in industry i of country c in year t. $Strategic_{u,i,c,t}$ is a dummy variable equal to 1 if $\left(\frac{Sale_{u,i,c,t-1}}{IndSale_{i,c,t-1}} - 0.2\right) \times \left(\frac{Sale_{u,i,c,t}}{IndSale_{i,c,t}} - 0.2\right) < 0$, and 0 otherwise, where $Sale_{u,i,c,t}$ refers to the sales of family u in industry i in country c in year t, and $IndSale_{i,c,t}$ refers to the total sales of industry i in country c in year t.
CP_Strategic Sell	Defined similarly to *CP_Strategic* for the strategic selling of assets by rich families.

CP_Strategic Buy	Defined similarly to *CP_Strategic* for the strategic purchasing of assets by rich families.
CP_Marginal	Counterfactual-adjusted profitability of marginal trades. $CP\_Marginal_{u,i,c,t} = CP_{u,i,c,t} \times Marginal_{u,i,c,t}$, where $Marginal_{u,i,c,t}$ is a dummy variable equal to 1 if $\frac{Sale_{u,i,c,t-1}}{IndSale_{i,c,t-1}} > 0.2$ and $\frac{Sale_{u,i,c,t}}{IndSale_{i,c,t}} > 0.2$, and 0 otherwise. All other variables are defined as in *CP_Strategic* above.
CP_Marginal Sell	Defined similarly to *CP_Marginal* for the strategic selling of assets by rich families.
CP_Marginal Buy	Defined similarly to *CP_Marginal* for the strategic purchasing of assets by rich families.
D. Country Policies and Characteristics	
Inward FDI/GDP	The net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors divided by GDP, as reported by the World Bank. Foreign direct investment is the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor.
Tax	The amount of taxes and mandatory contributions payable by businesses after accounting for allowable deductions and exemptions as a percentage of commercial profits, as reported by the World Bank.
Unemployment	The percentage of the labor force that is without work but available for and seeking employment, as reported by the World Bank.
Computer Adoption	The number of personal computers per 100 people, as reported by the World Bank. Personal computers are self-contained computers designed to be used by a single individual.
Post-Secondary	The percentage of population ages 25 and over that attained or completed post-secondary non-tertiary education, as reported by the World Bank.
Stock Market Turnover	The total value of shares traded during the year divided by the average market capitalization, as reported by the World Bank. Average market capitalization is calculated as the average of the year-end values for current and previous year.
Stock Market/GDP	The end-of-year stock market capitalization divided by nominal GDP, as reported by the World Bank.
Private Bond Market/GDP	The end-of-year domestic credit value to the private sector divided by nominal GDP, as reported by the World Bank. Domestic credit to the private sector refers to financial resources provided to the private sector by financial corporations.
Common Law	A dummy variable equal to 1 if the origin of the commercial law of a country is English Common Law, and 0 otherwise, following La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999).
Judical	The average of the following four variables (each ranging from 0 to 10): the efficiency of the judicial system, rule of law, risk of expropriation, and risk of contract repudiation, following La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998).
Good Government Index	The sum of the following three indices from the International Country Risk Guide (each ranging from 0 to 10): government corruption, the risk of expropriation of private property by the government, and the risk of the government repudiating contracts, following Karolyi, Lee, and van Dijk (2012).
Anti-Self-Dealing Index	The anti-self-dealing index is the average of ex ante and ex post private control of self-dealing, following Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008).
Disclosure	The disclosure intensity is defined on the basis of the prevalence of disclosures concerning research and development (R&D) expenses, capital expenditures, product and geographic segment data, subsidiary information, and accounting methods, from the 1995 International Accounting and Auditing Trends from the Center for Financial Analysis and Research (CIFAR), following Bushman, Piotroski, and Smith (2004).
Property Rights Index	A rating of property rights in each country (ranging from 0 to 15), following Holmes, Johnson, and Kirkpatrick (1997) and La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999).
Control Premium	The difference between the price per share paid for the control block and the exchange price two days after the announcement of the control transaction, divided by the exchange price and multiplied by the ratio of the proportion of cash flow rights represented in the controlling block, following Dyck and Zingales (2004), and Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008).
Ownership Concentration	Average percentage of common shares owned by the top three shareholders in the 10 largest nonfinancial, privately owned domestic firms in a given country, following La Porta, Lopez-de-Silanes, and Shleifer (2006), and Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008).
E. Industry Characteristics	
CorpGov	The equal-weighted average of corporate governance index for all firms in the industry in each country. The corporate governance index is constructed from 41 individual attributes, following Aggarwal, Erel, Ferreira, and Matos (2011).
Industry Size/GDP	The end-of-year stock market capitalization in each industry divided by nominal GDP in each country.
Industry Return	The value-weighted average of return for all firms in the industry in each country.
UOROA	The value-weighted average of return on assets for all firms held by the same family in each country-industry.
UORET	The value-weighted average of stock returns for all firms held by the same family in each country-industry.
Manufacturing	A dummy variable equal to 1 if a given industry belongs to consumer nondurables, consumer durables, or manufacturing industry, and 0 otherwise. The industry classification is based on SIC codes and Fama and French (1997) 48-industry classification, and these 48 industries are further aggregated to 10 main industry groups following Kacperczyk, Sialm, and Zheng (2005).
MostConcentrated	A dummy variable equal to 1 if the sales of a country-industry pair is ranked the highest within the family's portfolio, and 0 otherwise.

Table 1: Summary Statistics

This table presents the summary statistics for the data used in the paper during the 2001–2013 period. Panel A reports the mean, median, standard deviation, and quantile distribution of the level and annual change in the share of rich families in sales revenue at country level and country-industry level, annual market and industry flow, as well as other annual country and industry characteristics. Panel B reports the correlation matrix of the main country-level and country-industry-level dependent and independent variables. Appendix A provides detailed definitions of each variable. Numbers with "*", "**", and "***" are significant at the 10%, 5%, and 1% levels, respectively.

Panel A: Quantile Distribution of Country and Industry Characteristics

	Mean	Std.Dev.	Quantile Distribution				
			10%	25%	Median	75%	90%
Panel A1: Country Characteristics							
Top 1% Income	10.730	3.574	7.300	8.520	9.450	12.910	16.680
ΔTop 1% Income	0.086	1.048	-0.640	-0.190	0.090	0.380	0.960
Top 10% Income	34.947	6.076	27.490	30.690	33.285	39.650	43.530
ΔTop 10% Income	0.201	1.474	-0.760	-0.320	0.175	0.670	1.200
Top 0.1% Income	3.939	1.834	2.200	2.485	3.355	4.835	7.370
ΔTop 0.1% Income	0.025	0.704	-0.380	-0.080	0.050	0.220	0.400
RichFam_Sales	15.417	13.037	2.196	5.161	11.787	21.729	31.900
ΔRichFam_Sales	-0.053	4.808	-4.734	-1.673	0.108	2.041	5.150
Agg_Flow	0.195	0.418	-0.098	-0.023	0.079	0.247	0.566
Agg_Flow_For	0.181	0.423	-0.102	-0.024	0.074	0.214	0.514
Agg_Flow_Dom	0.233	0.836	-0.243	-0.063	0.055	0.250	0.759
Flow_Shock	0.004	0.084	-0.008	-0.001	0.005	0.017	0.036
Flow_Shock_For	0.005	0.084	-0.009	-0.001	0.006	0.018	0.038
Flow_Shock_Dom	0.004	0.017	-0.006	-0.001	0.001	0.009	0.021
ΔInward FDI/GDP	-0.168	6.316	-3.967	-1.189	-0.103	1.046	3.011
Tax	45.524	19.758	25.100	33.500	40.200	51.100	72.600
Unemployment	7.403	4.766	3.400	4.100	6.000	9.200	11.500
Computer Adoption	36.045	25.780	5.378	9.221	37.594	56.317	68.981
Post-Secondary	24.290	10.919	10.974	12.993	24.036	31.697	39.357
Stock Market Turnover	74.915	61.875	11.640	26.987	62.262	105.672	151.711
Stock Market/GDP	105.237	148.338	23.245	37.668	68.630	121.665	190.470
Private Bond Market/GDP	98.839	51.184	23.895	63.839	99.353	138.159	167.353
Common Law	0.383	0.487	0.000	0.000	0.000	1.000	1.000
Judical	7.954	1.707	5.533	6.298	7.993	9.495	9.745
Good Government Index	23.999	4.666	16.832	20.169	24.851	27.888	28.980
Anti-Self-Dealing Index	0.530	0.256	0.213	0.333	0.450	0.757	0.950
Disclosure	83.694	19.269	57.250	70.290	88.410	100.000	100.000
Property Rights Index	4.364	0.743	3.000	4.000	5.000	5.000	5.000
Control Premium	0.112	0.130	0.010	0.020	0.070	0.160	0.280
Ownership Concentration	0.456	0.130	0.230	0.390	0.510	0.560	0.580
Panel A2: Country-industry Characteristics							
RichFam_Sales	23.905	34.372	0.000	0.000	0.000	43.715	89.325
ΔRichFam_Sales	-1.640	10.126	-14.868	-4.911	-0.413	2.757	8.360
Agg_Flow	0.355	1.077	-0.305	-0.095	0.068	0.412	1.176
Agg_Flow_For	0.378	1.125	-0.311	-0.100	0.086	0.431	1.280
Agg_Flow_Dom	0.319	1.114	-0.400	-0.165	0.017	0.380	1.248
Flow_Shock	0.003	0.278	-0.011	-0.003	0.003	0.018	0.050
Flow_Shock_For	0.006	0.286	-0.013	-0.003	0.005	0.023	0.060
Flow_Shock_Dom	0.007	0.027	-0.011	-0.003	0.002	0.011	0.033
Industry Size/GDP	2.559	7.027	0.027	0.113	0.512	2.108	5.690
Industry Return	0.882	3.510	-3.161	-0.792	1.002	2.754	4.700
CP	-0.064	2.628	-1.348	-0.125	0.000	0.101	1.123
CP_Strategic	-0.059	2.543	-0.946	0.000	0.000	0.000	0.785
CorpGov	0.478	0.086	0.369	0.424	0.469	0.517	0.585

Table 1—Continued

Panel B: Correlation Matrix Between the Share of Rich Families in Sales Revenue and Flow	
Panel B1: Correlation at Country Level	
	ΔRichFam_Sales
Agg_Flow	-0.156***
Agg_Flow_For	-0.156***
Agg_Flow_Dom	-0.063
Flow_Shock	-0.164***
Flow_Shock_For	-0.164***
Flow_Shock_Dom	0.015
Panel B2: Correlation at Country-industry Level	
	ΔRichFam_Sales
Agg_Flow	-0.016
Agg_Flow_For	-0.016
Agg_Flow_Dom	0.001
Flow_Shock	-0.043**
Flow_Shock_For	-0.045**
Flow_Shock_Dom	0.059***

Table 2: Income Inequality and Mutual Fund Flows

This table presents the results of the following annual panel regressions with year fixed effects and their corresponding t-statistics with standard errors clustered at both the country and year level,

$$\Delta TopIncome\_WWID_{c,t} = \alpha + \beta Flow\_Shock_{c,t-1} + \gamma N_{c,t-1} + e_{c,t},$$

where $\Delta TopIncome\_WWID_{c,t}$ refers to the change in a list of income inequality proxies in country c in year t, including the income share of the top 1% (models 1 to 8), the top 10% (models 9 to 10), and the top 0.1% (models 11 to 12), respectively. $Flow\_Shock_{c,t-1}$ is the average quarterly exogenous shocks in mutual fund flows attributable to fire sales and fire purchases of country c in year $t-1$. The aggregate mutual fund flow shocks can be further replaced with flow shocks from foreign mutual funds ($Flow\_Shock\_For_{c,t-1}$) and domestic mutual funds ($Flow\_Shock\_Dom_{c,t-1}$). We also consider $Flow_{c,t-1}$, defined as the average quarterly mutual fund flows of country c in year $t-1$; $\Delta FDI_{c,t-1}$ is defined as the change in inward foreign direct investment as a percentage of GDP of country c in year $t-1$. Vector N stacks all other country control variables, including *Stock Market Turnover*, *Stock Market/GDP*, *Private Bond Market/GDP*, *Common Law*, *Judical*, *Good Government Index*, *Anti-Self-Dealing Index*, *Disclosure*, *Property Rights Index*, *Control Premium*, *and Ownership Concentration*. Appendix A provides detailed definitions of each variable. Numbers with "*", "**", and "***" are significant at the 10%, 5%, and 1% levels, respectively.

Table 2—Continued

Out-of-sample Change in Income Inequality (in %) Regressed on Mutual Fund Flows												
	ΔTop 1% Income								ΔTop 10% Income		ΔTop 0.1% Income	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Flow_Shock	-2.834***				-2.834***		-2.840***		-3.076**		-1.811***	
	(-4.23)				(-4.14)		(-4.06)		(-2.36)		(-5.13)	
Flow_Shock_For		-2.006***		-1.966***		-1.965***		-1.960***		-2.250**		-1.332***
		(-4.98)		(-4.98)		(-4.88)		(-4.88)		(-2.86)		(-5.45)
Flow_Shock_Dom			-1.827	-1.425		-1.432		-1.662		3.059		-0.434
			(-0.79)	(-0.61)		(-0.62)		(-0.73)		(0.47)		(-0.22)
Agg_Flow					0.026	0.026	0.025	0.025	-0.009	-0.007	0.018	0.018
					(0.60)	(0.56)	(0.56)	(0.53)	(-0.15)	(-0.14)	(0.64)	(0.61)
ΔInward FDI/GDP							-0.005	-0.006				
							(-0.81)	(-0.96)				
Stock Market Turnover	-0.001	-0.001	-0.001*	-0.001	-0.001	-0.001	-0.001	-0.001	-0.000	-0.000	-0.001	-0.001
	(-1.33)	(-1.52)	(-1.95)	(-1.69)	(-1.65)	(-1.39)	(-1.13)	(-1.06)	(-0.03)	(-0.00)	(-0.81)	(-0.82)
Stock Market/GDP	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001	0.000	0.000
	(0.27)	(0.24)	(0.12)	(0.26)	(0.24)	(0.22)	(0.28)	(0.25)	(0.37)	(0.32)	(0.28)	(0.30)
Private Bond Market/GDP	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001	0.001	0.000	0.001
	(0.21)	(0.27)	(0.28)	(0.27)	(0.30)	(0.30)	(0.27)	(0.31)	(0.23)	(0.26)	(0.36)	(0.33)
Common Law	0.115	0.128	0.088	0.125	0.103	0.112	0.094	0.102	0.046	0.056	0.084	0.091
	(0.51)	(0.66)	(0.47)	(0.57)	(0.45)	(0.50)	(0.40)	(0.44)	(0.18)	(0.19)	(0.58)	(0.66)
Judical	0.061	0.060	0.060	0.053	0.074	0.066	0.085	0.077	-0.209	-0.279	0.041	0.039
	(0.64)	(0.63)	(0.72)	(0.55)	(0.74)	(0.65)	(0.89)	(0.77)	(-0.27)	(-0.36)	(0.52)	(0.51)
Good Government Index	-0.071	-0.069	-0.078	-0.069	-0.078	-0.076	-0.084	-0.082	-0.005	0.032	-0.056	-0.054
	(-0.83)	(-0.79)	(-0.71)	(-0.83)	(-0.86)	(-0.87)	(-0.93)	(-0.96)	(-0.02)	(0.12)	(-1.01)	(-1.30)
Anti-Self-Dealing Index	-0.341	-0.360	-0.315	-0.330	-0.353	-0.342	-0.364	-0.349	0.028	0.089	-0.362	-0.366
	(-0.64)	(-0.77)	(-0.72)	(-0.69)	(-0.66)	(-0.71)	(-0.70)	(-0.74)	(0.02)	(0.06)	(-1.07)	(-1.16)
Disclosure	-0.002	-0.002	-0.000	-0.002	-0.002	-0.001	-0.002	-0.002	0.009	0.011	0.001	0.001
	(-0.26)	(-0.21)	(-0.02)	(-0.23)	(-0.23)	(-0.22)	(-0.26)	(-0.24)	(0.31)	(0.38)	(0.19)	(0.21)
Property Rights Index	0.051	0.042	0.070	0.054	0.056	0.059	0.060	0.065	0.364	0.348	0.079	0.077
	(0.42)	(0.33)	(0.51)	(0.40)	(0.48)	(0.47)	(0.50)	(0.51)	(1.39)	(1.39)	(0.62)	(0.56)
Control Premium	0.454	0.541	0.432	0.438	0.371	0.355	0.332	0.295	2.143	2.750	0.114	0.139
	(0.26)	(0.30)	(0.24)	(0.24)	(0.21)	(0.20)	(0.19)	(0.16)	(0.83)	(0.91)	(0.09)	(0.11)
Ownership Concentration	-0.546***	-0.578***	-0.504***	-0.510**	-0.546***	-0.509**	-0.528***	-0.479**	-0.871	-1.162	-0.302	-0.301
	(-3.97)	(-3.36)	(-3.55)	(-2.80)	(-4.05)	(-2.82)	(-4.45)	(-2.66)	(-0.92)	(-1.14)	(-1.70)	(-1.36)
Adj-Rsq.	0.131	0.129	0.118	0.130	0.132	0.130	0.133	0.132	0.069	0.070	0.151	0.150
Obs	150	150	150	150	150	150	150	150	141	141	127	127
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Table 3: Cash Flow Rights Inequality and Mutual Fund Flows

Models 1 to 6 present the results of the following annual panel regressions with year fixed effects and their corresponding t-statistics with standard errors clustered at both the country and year level,
$\Delta RichFam\_Sales_{c,t} = \alpha + \beta Flow\_Shock_{c,t-1} + \gamma N_{c,t-1} + e_{c,t}$,
where $\Delta RichFam\_Sales_{c,t}$ is the change in the share of rich families in sales revenue of country c in year t, and $Flow\_Shock_{c,t-1}$ is the average quarterly exogenous shocks in mutual fund flows attributable to fire sales and fire purchases of country c in year $t-1$. The aggregate mutual fund flow shocks can be further replaced with flow shocks from foreign mutual funds ($Flow\_Shock\_For_{c,t-1}$) and domestic mutual funds ($Flow\_Shock\_Dom_{c,t-1}$). We also consider $Flow_{c,t-1}$, defined as the average quarterly mutual fund flows of country c in year $t-1$; $\Delta FDI_{c,t-1}$ is defined as the change in inward foreign direct investment as a percentage of GDP of country c in year $t-1$. Vector *N* stacks all other country control variables, including Stock Market Turnover, Stock Market/GDP, Private Bond Market/GDP, Common Law, Judical, Good Government Index, Anti-Self-Dealing Index, Disclosure, Property Rights Index, Control Premium, and Ownership Concentration. Models 7 to 14 present the results of the following annual panel regressions with fixed effects and their corresponding t-statistics with standard errors clustered at both the country and year level,
$\Delta RichFam\_Sales_{i,c,t} = \alpha + \beta Flow\_Shock_{i,c,t-1} + \gamma_1 M_{i,c,t-1} + \gamma_2 N_{c,t-1} + e_{i,c,t}$,
where $\Delta RichFam\_Sales_{i,c,t}$ is the change in the share of rich families in sales revenue of industry i in country c in year t, and $Flow\_Shock_{i,c,t-1}$ is the average quarterly exogenous shocks in mutual fund flows attributable to fire sales and fire purchases of industry i in country c in year $t-1$. The aggregate mutual fund flow shocks can be further replaced with flow shocks from foreign mutual funds ($Flow\_Shock\_For_{i,c,t-1}$) and domestic mutual funds ($Flow\_Shock\_Dom_{i,c,t-1}$). We also consider $Flow_{i,c,t-1}$, defined as the average quarterly mutual fund flows of industry i in country c in year $t-1$. Vector *M* stacks all other country-industry control variables, including Industry Size/GDP and Industry Return, and vector *N* stacks all other country control variables as above. Models 7 to 10 include year, industry and country fixed effects, while models 11 to 14 include year and industry fixed effects. Appendix A provides detailed definitions of each variable. Numbers with "*", "**", and "***" are significant at the 10%, 5%, and 1% levels, respectively.

Table 3—Continued

Out-of-sample Change in Share of Rich Families in Sales Revenue (in %) Regressed on Mutual Fund Flows														
	Country Level						Country-industry Level							
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Flow_Shock	-1.432***		-1.914***		-1.914**		-2.091***		-2.052***		-1.983**		-2.070**	
	(-9.63)		(-3.07)		(-2.97)		(-4.72)		(-3.79)		(-2.95)		(-2.93)	
Flow_Shock_For		-1.427***		-1.830***		-1.827***		-2.040***		-1.996***		-2.004***		-2.107***
		(-9.78)		(-3.64)		(-3.57)		(-4.17)		(-3.44)		(-3.10)		(-3.24)
Flow_Shock_Dom				2.317		1.775				29.617*				31.261*
				(0.33)		(0.25)				(1.93)				(2.07)
Agg_Flow			0.017	0.015	0.017	0.014			-0.001	-0.001			0.002	0.002
			(0.68)	(0.67)	(0.66)	(0.64)			(-0.23)	(-0.27)			(0.81)	(0.88)
ΔInward FDI/GDP					-0.075	-0.074								
					(-0.76)	(-0.72)								
Industry Size/GDP							0.048**	0.048*	0.048	0.046	0.040	0.040	0.040	0.039
							(2.24)	(1.93)	(1.75)	(1.60)	(1.17)	(1.16)	(1.19)	(1.08)
Industry Return							0.144*	0.144**	0.149*	0.150*	0.101	0.101	0.110	0.110
							(1.96)	(2.24)	(1.91)	(2.10)	(0.65)	(0.64)	(0.69)	(0.57)
Stock Market Turnover	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	0.016	0.016	0.015	0.015	0.007	0.007	0.007	0.007
	(-1.18)	(-1.17)	(-1.13)	(-1.15)	(-1.20)	(-1.18)	(0.70)	(0.74)	(0.73)	(0.78)	(0.77)	(0.78)	(0.58)	(0.82)
Stock Market/GDP	0.002	0.002	0.002	0.002	0.002	0.002	0.008*	0.008*	0.008*	0.008*	0.003	0.003	0.003	0.003
	(0.37)	(0.36)	(0.46)	(0.48)	(0.54)	(0.55)	(2.02)	(2.07)	(1.95)	(2.09)	(0.87)	(0.89)	(0.95)	(1.06)
Private Bond Market/GDP	0.001	0.001	0.001	0.001	0.001	0.001	0.029*	0.029*	0.027*	0.030*	-0.004	-0.004	-0.005	-0.006
	(0.13)	(0.12)	(0.13)	(0.11)	(0.16)	(0.15)	(1.98)	(2.04)	(1.81)	(2.06)	(-0.25)	(-0.24)	(-0.32)	(-0.33)
Common Law	-0.432	-0.429	-0.432	-0.446	-0.424	-0.434					-0.605	-0.590	-0.735	-0.562
	(-0.29)	(-0.29)	(-0.30)	(-0.31)	(-0.30)	(-0.30)					(-0.65)	(-0.64)	(-0.79)	(-0.62)
Judical	-0.814	-0.820	-0.811	-0.835	-0.827	-0.847					1.726	1.720	1.588	1.604
	(-0.35)	(-0.35)	(-0.35)	(-0.36)	(-0.35)	(-0.36)					(1.20)	(1.20)	(1.11)	(1.06)
Good Government Index	0.247	0.249	0.246	0.254	0.248	0.255					-0.581	-0.578	-0.527	-0.544
	(0.35)	(0.35)	(0.34)	(0.36)	(0.35)	(0.36)					(-1.05)	(-1.05)	(-0.98)	(-1.00)
Anti-Self-Dealing Index	1.295	1.290	1.279	1.293	1.229	1.239					-1.658	-1.667	-1.527	-1.766
	(0.47)	(0.47)	(0.46)	(0.47)	(0.45)	(0.46)					(-0.71)	(-0.72)	(-0.66)	(-0.78)
Disclosure	0.033	0.033	0.033	0.033	0.033	0.034					0.013	0.013	0.013	0.013
	(0.58)	(0.58)	(0.59)	(0.60)	(0.58)	(0.58)					(0.22)	(0.22)	(0.24)	(0.24)
Property Rights Index	0.940	0.938	0.946	0.924	0.956	0.938					-0.631	-0.637	-0.649	-0.697
	(0.60)	(0.60)	(0.61)	(0.59)	(0.62)	(0.61)					(-0.67)	(-0.67)	(-0.68)	(-0.71)
Control Premium	5.776	5.767	5.620	5.601	5.700	5.688					-1.677	-1.674	-1.796	-1.726
	(0.74)	(0.74)	(0.72)	(0.71)	(0.73)	(0.72)					(-0.34)	(-0.34)	(-0.39)	(-0.38)
Ownership Concentration	-2.379	-2.397	-2.306	-2.476	-2.393	-2.531					-2.432	-2.444	-2.834	-3.243
	(-0.87)	(-0.88)	(-0.87)	(-0.96)	(-0.91)	(-0.98)					(-1.13)	(-1.15)	(-1.25)	(-1.44)
Adj-Rsq.	0.101	0.101	0.102	0.102	0.105	0.105	0.077	0.077	0.078	0.079	0.062	0.062	0.063	0.065
Obs	363	363	363	363	363	363	3,249	3,249	3,232	3,232	2,427	2,427	2,419	2,419
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Country FE	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N

Table 4: Diagnostics on the Motivation of Rich Families

This table presents the results of the following annual panel regressions with year and industry fixed effects and their corresponding t-statistics with standard errors clustered at both the family and year level,

$$Strategic_{u,i,c,t} = \alpha + \beta_1 Flow\_Shock_{i,c,t-1} + \beta_2 Flow\_Shock_{i,c,t-1} \times Char_{u,i,c,t-1} + \beta_3 Char_{u,i,c,t-1} + \gamma_1 M_{i,c,t-1} + \gamma_2 N_{c,t-1} + e_{u,i,c,t},$$

where $Strategic_{u,i,c,t}$ equals 1 (−1) if the family u enters into (exits from) industry i in country c in year t, and 0 otherwise. In particular, $Strategic_{u,i,c,t}$ equals 1 if $\frac{Sale_{u,i,c,t-1}}{IndSale_{i,c,t-1}} < 0.2$ and $\frac{Sale_{u,i,c,t}}{IndSale_{i,c,t}} > 0.2$, and equals −1 if $\frac{Sale_{u,i,c,t-1}}{IndSale_{i,c,t-1}} > 0.2$ and $\frac{Sale_{u,i,c,t}}{IndSale_{i,c,t}} < 0.2$, where $Sale_{u,i,c,t}$ refers to the sales of family u in industry i in country c in year t, and $IndSale_{i,c,t}$ refers to the total sales of industry i in country c in year t. $Flow\_Shock_{i,c,t-1}$ is the average quarterly exogenous shocks in mutual fund flows attributable to fire sales and fire purchases of industry i in country c in year $t-1$. The aggregate mutual fund flow shocks can be further replaced with flow shocks from foreign mutual funds ($Flow\_Shock\_For_{i,c,t-1}$). $Char_{u,i,c,t-1}$ refers to a list of characteristics of family u in industry i in country c in year $t-1$, including *MostConcentrated*, defined as a dummy variable equal to 1 if the sales of a country-industry pair is ranked the highest within the family's portfolio, and 0 otherwise; *UOROA*, defined as the value-weighted average of return on assets for all firms held by the same family in each country-industry; *UORET*, defined as the value-weighted average of stock returns for all firms held by the same family in each country-industry; and *Manufacturing*, defined as a dummy variable equal to 1 for consumer nondurables, consumer durables, or manufacturing industry, and 0 otherwise. Vector *M* stacks all other country-industry control variables, including Industry Size/GDP and Industry Return, and vector *N* stacks all other country control variables, including Stock Market Turnover, Stock Market/GDP, Private Bond Market/GDP, Common Law, Judicial, Good Government Index, Anti-Self-Dealing Index, Disclosure, Property Rights Index, Control Premium, and Ownership Concentration. Appendix A provides detailed definitions of each variable. Only the main variables are tabulated for brevity. Numbers with "*", "**", and "***" are significant at the 10%, 5%, and 1% levels, respectively.

Table 4—Continued

Out-of-sample Family Strategic Trades Regressed on Mutual Fund Flows (Family-country-industry Level)										
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Flow_Shock	-2.178***	-1.150**	-2.333*	-1.365	-0.621					
	(-4.25)	(-2.94)	(-1.81)	(-1.19)	(-1.47)					
Flow_Shock_For						-2.007***	-1.074**	-2.305*	-0.898	-0.332
						(-4.75)	(-2.80)	(-1.77)	(-1.21)	(-0.47)
Flow_Shock × MostConcentrated		-1.841***								
		(-3.52)								
Flow_Shock × UOROA			0.223							
			(0.92)							
Flow_Shock × UORET				-0.010						
				(-0.37)						
Flow_Shock × Manufacturing					-0.703					
					(-1.11)					
Flow_Shock_For × MostConcentrated							-1.677***			
							(-3.31)			
Flow_Shock_For × UOROA								0.241		
								(0.92)		
Flow_Shock_For × UORET									-0.008	
									(-0.29)	
Flow_Shock_For × Manufacturing										-0.901
										(-0.98)
MostConcentrated		-6.964**					-6.955**			
		(-2.69)					(-2.69)			
UOROA			-0.079					-0.080		
			(-0.24)					(-0.24)		
UORET				-0.012					-0.012	
				(-0.30)					(-0.29)	
Manufacturing					-6.832**					-6.834**
					(-2.26)					(-2.25)
Adj-Rsq.	0.152	0.155	0.187	0.189	0.177	0.152	0.154	0.187	0.189	0.177
Obs	2,854	2,854	2,103	2,135	2,197	2,854	2,854	2,103	2,135	2,197
Industry Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Country Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Table 5: Counterfactual-adjusted Profitability and Cash Flow Rights Inequality

This table presents the results of the following annual panel regressions with fixed effects and their corresponding t-statistics with standard errors clustered at both the country and year level,

$\Delta RichFam\_Sales_{i,c,t} = \alpha + \theta CP_{i,c,t} + \gamma_1' M_{i,c,t-1} + \gamma_2' N_{c,t-1} + e_{i,c,t}$,

where $\Delta RichFam\_Sales_{i,c,t}$ is the change in the share of rich families in sales revenue of industry i in country c in year t, and $CP_{i,c,t}$ is the counterfactual-adjusted profitability of industry i in country c in year t. $CP_{i,c,t}$ can be further decomposed to two components with respect to strategic and marginal trades, each including buy and sell. Vector *M* stacks all other country-industry control variables, including Industry Size/GDP and Industry Return, and vector *N* stacks all other country control variables, including Stock Market Turnover, Stock Market/GDP, Private Bond Market/GDP, Common Law, Judical, Good Government Index, Anti-Self-Dealing Index, Disclosure, Property Rights Index, Control Premium, and Ownership Concentration. Models 1 to 3 include year, industry and country fixed effects, while models 4 to 6 include year and industry fixed effects. Appendix A provides detailed definitions of each variable. Numbers with "*", "**", and "***" are significant at the 10%, 5%, and 1% levels, respectively.

Regression of Change in Share of Rich Families in Sales Revenue (in %, Country-industry Level)						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
CP	2.769***			3.352***		
	(4.05)			(4.08)		
CP_Strategic		2.992***			3.653***	
		(3.97)			(3.87)	
CP_Strategic Sell			2.741***			3.134**
			(3.59)			(2.43)
CP_Strategic Buy			3.206***			4.098***
			(3.70)			(4.11)
CP_Marginal		-0.678			-1.129	
		(-0.70)			(-1.01)	
CP_Marginal Sell			-0.939			-1.353
			(-0.86)			(-1.21)
CP_Marginal Buy			-0.354			-0.871
			(-0.28)			(-0.71)
Industry Size/GDP	-0.080	-0.069	-0.074	-0.131	-0.103	-0.108
	(-0.64)	(-0.51)	(-0.50)	(-1.17)	(-0.87)	(-0.93)
Industry Return	0.071	0.042	0.022	0.188	0.163	0.128
	(0.24)	(0.15)	(0.08)	(0.38)	(0.32)	(0.24)
Stock Market Turnover	-0.004	-0.004	-0.003	-0.029	-0.030	-0.028
	(-0.11)	(-0.11)	(-0.06)	(-1.20)	(-1.58)	(-1.30)
Stock Market/GDP	0.009	0.009	0.008	-0.006	-0.005	-0.006
	(0.60)	(0.57)	(0.35)	(-0.48)	(-0.41)	(-0.44)
Private Bond Market/GDP	0.108	0.109	0.110	-0.002	-0.004	-0.006
	(1.57)	(1.45)	(1.59)	(-0.06)	(-0.12)	(-0.18)
Common Law				-4.494	-4.364	-4.231
				(-1.44)	(-1.40)	(-1.37)
Judical				2.533	2.419	2.466
				(1.12)	(1.14)	(1.14)
Good Government Index				-0.623	-0.570	-0.563
				(-0.94)	(-0.95)	(-0.91)
Anti-Self-Dealing Index				9.557***	8.997**	8.749**
				(3.21)	(2.89)	(2.80)
Disclosure				0.048	0.046	0.047
				(0.46)	(0.33)	(0.40)
Property Rights Index				0.321	0.469	0.369
				(0.17)	(0.25)	(0.21)
Control Premium				-3.780	-4.642	-4.573
				(-0.41)	(-0.53)	(-0.51)
Ownership Concentration				13.534***	13.976***	13.935***
				(4.66)	(4.65)	(4.50)
Adj-Rsq.	0.255	0.258	0.259	0.285	0.290	0.291
Obs	3,113	3,113	3,113	2,264	2,264	2,264
Year FE	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y
Country FE	Y	Y	Y	N	N	N

Table 6: A Two-stage Analysis of the Diversification Channel

Panel A presents the results of the following annual two-stage panel regressions with fixed effects and their corresponding t-statistics with standard errors clustered at both the country and year level,

First stage: $CP_{i,c,t} = \alpha + \beta Flow\_Shock_{i,c,t-1} + \gamma_1 M_{i,c,t-1} + \gamma_2 N_{c,t-1} + e_{i,c,t}$,

Second stage: $\Delta RichFam\_Sales_{i,c,t} = \alpha + \theta \widehat{CP}_{i,c,t} + \gamma_1' M_{i,c,t-1} + \gamma_2' N_{c,t-1} + e_{i,c,t}$,

where $CP_{i,c,t}$ is the counterfactual-adjusted profitability of industry i in country c in year t, and $Flow\_Shock_{i,c,t-1}$ is the average quarterly exogenous shocks in mutual fund flows attributable to fire sales and fire purchases of industry i in country c in year $t-1$. $\widehat{CP}_{i,c,t}$ is the projected counterfactual-adjusted profitability attributable to $Flow\_Shock_{i,c,t-1}$. $\Delta RichFam\_Sales_{i,c,t}$ is the change in the share of rich families in sales revenue of industry i in country c in year t. $Flow\_Shock_{i,c,t-1}$ is further replaced with flow shock from foreign mutual funds ($Flow\_Shock\_For_{i,c,t-1}$) in the first stage. Vector *M* stacks all other country-industry control variables, including Industry Size/GDP and Industry Return, and vector *N* stacks all other country control variables, including Stock Market Turnover, Stock Market/GDP, Private Bond Market/GDP, Common Law, Judical, Good Government Index, Anti-Self-Dealing Index, Disclosure, Property Rights Index, Control Premium, and Ownership Concentration. Models 1, 2, 5 and 6 include year, industry and country fixed effects, while models 3, 4, 7 and 8 include year and industry fixed effects. Panel B presents similar statistics of the following annual two-stage panel regressions,

First stage: $CP\_Strategic_{i,c,t} = \alpha + \beta Flow\_Shock_{i,c,t-1} + \gamma_1 M_{i,c,t-1} + \gamma_2 N_{c,t-1} + e_{i,c,t}$,

Second stage: $\Delta RichFam\_Sales_{i,c,t} = \alpha + \theta \widehat{CP\_Strategic}_{i,c,t} + \gamma_1' M_{i,c,t-1} + \gamma_2' N_{c,t-1} + e_{i,c,t}$,

where $CP\_Strategic_{i,c,t}$ is the counterfactual-adjusted profitability induced by strategic trades of industry i in country c in year t, and $\widehat{CP\_Strategic}_{i,c,t}$ is the projected counterfactual-adjusted profitability induced by strategic trades attributable to $Flow\_Shock_{i,c,t-1}$. All other variables are defined as above. Appendix A provides detailed definitions of each variable. Numbers with "*", "**", and "***" are significant at the 10%, 5%, and 1% levels, respectively.

Table 6—Continued

Panel A: Two-stage Regression of Change in Share of Rich Families in Sales Revenue (in %, Country-industry Level, Full Sample)								
	1st Stage Model 1	2nd Stage Model 2	1st Stage Model 3	2nd Stage Model 4	1st Stage Model 5	2nd Stage Model 6	1st Stage Model 7	2nd Stage Model 8
CP		39.143***		34.541***		38.674***		33.539***
		(4.52)		(6.03)		(4.06)		(5.20)
Flow_Shock	-0.104***		-0.110***					
	(-3.99)		(-4.48)					
Flow_Shock_For					-0.104***		-0.112***	
					(-3.84)		(-4.10)	
Industry Size/GDP	0.019	-0.745	0.017**	-0.587	0.019	-0.737	0.017**	-0.569
	(1.57)	(-1.17)	(2.30)	(-0.00)	(1.55)	(-1.12)	(2.54)	(-0.00)
Industry Return	0.034	-1.180	0.023	-0.544	0.034	-1.164	0.023	-0.520
	(1.35)	(-0.97)	(0.60)	(-0.58)	(1.35)	(-0.93)	(0.61)	(-0.56)
Stock Market Turnover	-0.001	0.027	-0.001	-0.004	-0.001	0.027	-0.001	-0.005
	(-0.51)	(0.36)	(-0.25)	(-0.14)	(-0.51)	(0.35)	(-0.25)	(-0.15)
Stock Market/GDP	-0.000	0.021**	-0.001	0.033**	-0.000	0.021**	-0.001	0.032***
	(-0.30)	(2.45)	(-0.53)	(2.78)	(-0.31)	(2.45)	(-0.54)	(3.14)
Private Bond Market/GDP	-0.001	0.070	0.001	-0.053	-0.001	0.070	0.001	-0.052
	(-0.30)	(0.41)	(0.21)	(-0.90)	(-0.30)	(0.41)	(0.22)	(-0.92)
Common Law			0.066	-6.391			0.066	-6.339
			(0.52)	(-1.64)			(0.52)	(-1.66)
Judical			0.005	2.737			0.005	2.731
			(0.02)	(0.43)			(0.02)	(0.44)
Good Government Index			-0.024	0.302			-0.024	0.281
			(-0.34)	(0.13)			(-0.34)	(0.12)
Anti-Self-Dealing Index			0.196	2.720			0.197	2.931
			(0.99)	(0.46)			(0.99)	(0.50)
Disclosure			0.003	-0.070			0.003	-0.068
			(0.42)	(-0.68)			(0.43)	(-0.64)
Property Rights Index			-0.023	1.998			-0.024	1.981
			(-0.21)	(0.70)			(-0.21)	(0.70)
Control Premium			0.706**	-23.376			0.706**	-22.703
			(2.63)	(-1.71)			(2.63)	(-1.64)
Ownership Concentration			-0.294	19.685			-0.296	19.435
			(-1.19)	(1.74)			(-1.19)	(1.73)
Obs	2,892	2,892	2,109	2,109	2,892	2,892	2,109	2,109
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y
Country FE	Y	Y	N	N	Y	Y	N	N

Table 6—Continued

Panel B: Two-stage Regression of Change in Share of Rich Families in Sales Revenue (in %, Country-industry Level, Strategic Trades)								
	1st Stage Model 1	2nd Stage Model 2	1st Stage Model 3	2nd Stage Model 4	1st Stage Model 5	2nd Stage Model 6	1st Stage Model 7	2nd Stage Model 8
CP_Strategic		32.600***		29.037***		32.455***		28.974***
		(5.10)		(6.59)		(4.67)		(6.00)
Flow_Shock	-0.125***		-0.130***					
	(-4.55)		(-5.14)					
Flow_Shock_For					-0.124***		-0.130***	
					(-4.40)		(-5.08)	
Industry Size/GDP	0.014	-0.454	0.009	-0.236	0.014	-0.452	0.009	-0.235
	(1.20)	(-0.95)	(1.02)	(-0.00)	(1.17)	(-0.93)	(1.03)	(-0.00)
Industry Return	0.044*	-1.258	0.030	-0.623	0.044*	-1.252	0.030	-0.621
	(1.92)	(-1.27)	(0.87)	(-0.76)	(1.92)	(-1.24)	(0.87)	(-0.75)
Stock Market Turnover	-0.001	0.008	-0.000	-0.014	-0.001	0.008	-0.000	-0.014
	(-0.26)	(0.11)	(-0.16)	(-0.57)	(-0.27)	(0.11)	(-0.15)	(-0.57)
Stock Market/GDP	-0.000	0.017	-0.001	0.028**	-0.000	0.017	-0.001	0.027**
	(-0.21)	(0.94)	(-0.44)	(2.25)	(-0.20)	(0.95)	(-0.43)	(2.41)
Private Bond Market/GDP	-0.002	0.074	0.001	-0.063	-0.002	0.074	0.001	-0.063
	(-0.40)	(0.50)	(0.43)	(-1.46)	(-0.40)	(0.50)	(0.43)	(-1.47)
Common Law			0.031	-4.998**			0.031	-4.997**
			(0.28)	(-2.71)			(0.28)	(-2.73)
Judical			0.028	2.096			0.028	2.097
			(0.13)	(0.47)			(0.13)	(0.47)
Good Government Index			-0.036	0.514			-0.036	0.512
			(-0.47)	(0.31)			(-0.47)	(0.31)
Anti-Self-Dealing Index			0.330*	-0.095			0.331*	-0.073
			(1.90)	(-0.01)			(1.90)	(-0.01)
Disclosure			0.003	-0.065			0.003	-0.065
			(0.39)	(-0.85)			(0.39)	(-0.82)
Property Rights Index			-0.045	2.483			-0.045	2.480
			(-0.41)	(1.18)			(-0.42)	(1.18)
Control Premium			0.836***	-23.280*			0.836***	-23.230*
			(3.07)	(-2.00)			(3.07)	(-2.01)
Ownership Concentration			-0.393	20.923			-0.393	20.901
			(-1.51)	(1.73)			(-1.51)	(1.71)
Obs	2,892	2,892	2,109	2,109	2,892	2,892	2,109	2,109
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y
Country FE	Y	Y	N	N	Y	Y	N	N

Table 7: Additional Evidence on Domestic and Emerging Market Rich Families

Models 1 and 2 present the results of the following annual panel regressions with year fixed effects and their corresponding t-statistics with standard errors clustered at both the country and year level,

$\Delta RichFam\_Sales\_Dom_{c,t} = \alpha + \beta Flow\_Shock_{c,t-1} + \gamma N_{c,t-1} + e_{c,t}$,

where $\Delta RichFam\_Sales\_Dom_{c,t}$ is the change in the share of rich families in sales revenue among domestic rich families of country c in year t, and $Flow\_Shock_{c,t-1}$ is the average quarterly exogenous shocks in mutual fund flows attributable to fire sales and fire purchases of country c in year $t-1$. The aggregate mutual fund flow shocks can be further replaced with flow shocks from foreign mutual funds ($Flow\_Shock\_For_{c,t-1}$). Vector *N* stacks all other country control variables, including Stock Market Turnover, Stock Market/GDP, Private Bond Market/GDP, Common Law, Judicial, Good Government Index, Anti-Self-Dealing Index, Disclosure, Property Rights Index, Control Premium, and Ownership Concentration. Models 3 to 4 and models 5 to 8 replace $\Delta RichFam\_Sales\_Dom_{c,t}$ with the change in the share of rich families in sales revenue among foreign rich families ($\Delta RichFam\_Sales\_For_{c,t}$) and the change in the share of rich families in sales revenue ($\Delta TopIncome\_Sales_{c,t}$), respectively. In particular, models 5 to 6 and models 7 to 8 report results for subsamples of developed markets and emerging markets, respectively. Appendix A provides detailed definitions of each variable. Numbers with "*", "**", and "***" are significant at the 10%, 5%, and 1% levels, respectively.

Out-of-sample Change in the Share of Rich Families in Sales Revenue (in %) Regressed on Mutual Fund Flows (Country Level)								
	Domestic Rich Families		Foreign Rich Families		Developed Market		Emerging Market	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Flow_Shock	-1.489***		0.057		-3.490***		-1.154***	
	(-17.14)		(1.11)		(-3.48)		(-5.62)	
Flow_Shock_For		-1.484***		0.057		-2.868**		-1.154***
		(-19.67)		(1.13)		(-2.77)		(-5.63)
Stock Market Turnover	-0.011	-0.011	0.002	0.002	-0.007	-0.007	-0.027	-0.027
	(-0.77)	(-0.75)	(0.74)	(0.74)	(-0.54)	(-0.52)	(-0.91)	(-0.91)
Stock Market/GDP	0.001	0.001	0.001	0.001	0.002	0.002	-0.002	-0.002
	(0.28)	(0.28)	(0.37)	(0.37)	(0.27)	(0.30)	(-0.02)	(-0.02)
Private Bond Market/GDP	0.005	0.005	-0.004	-0.004	0.005	0.005	-0.062	-0.062
	(0.39)	(0.38)	(-0.50)	(-0.50)	(0.51)	(0.70)	(-0.77)	(-0.77)
Common Law	1.135	1.138	-1.567	-1.567	0.367	0.376	-3.107	-3.105
	(0.78)	(0.78)	(-1.66)	(-1.66)	(0.20)	(0.21)	(-0.78)	(-0.78)
Judical	0.563	0.557	-1.377	-1.377	0.480	0.471	-5.532	-5.535
	(0.88)	(0.87)	(-0.94)	(-0.94)	(0.42)	(0.41)	(-0.84)	(-0.84)
Good Government Index	-0.152	-0.150	0.399	0.399	-0.095	-0.084	2.021	2.021
	(-0.47)	(-0.46)	(0.88)	(0.88)	(-0.18)	(-0.16)	(0.79)	(0.79)
Anti-Self-Dealing Index	-1.764	-1.770	3.060	3.060	-1.759	-1.743	11.276	11.274
	(-1.10)	(-1.11)	(1.20)	(1.20)	(-0.37)	(-0.37)	(1.12)	(1.12)
Disclosure	-0.005	-0.005	0.038	0.038	-0.009	-0.010	0.110	0.110
	(-0.12)	(-0.11)	(1.00)	(1.00)	(-0.15)	(-0.16)	(0.66)	(0.66)
Property Rights Index	0.274	0.273	0.666	0.666	0.257	0.214	4.276***	4.277***
	(0.39)	(0.39)	(0.64)	(0.64)	(0.14)	(0.11)	(4.22)	(4.23)
Control Premium	1.880	1.870	3.896	3.897	0.037	0.044	19.218*	19.225*
	(0.60)	(0.60)	(0.87)	(0.87)	(0.01)	(0.01)	(1.94)	(1.94)
Ownership Concentration	-1.782	-1.800	-0.598	-0.597	-2.984	-3.002	5.309	5.308
	(-0.76)	(-0.77)	(-0.25)	(-0.25)	(-0.81)	(-0.80)	(0.70)	(0.70)
Adj-Rsq.	0.119	0.119	0.073	0.073	0.078	0.077	0.234	0.234
Obs	363	363	363	363	217	217	146	146
Year FE	Y	Y	Y	Y	Y	Y	Y	Y

Table 8: Alternative Channels on Cash Flow Rights Inequality

Models 1 to 2 present the results of the following annual two-stage panel regressions with year and industry fixed effects and their corresponding t-statistics with standard errors clustered at both the country and year level,

First stage: $CorpGov_{i,c,t} = \alpha + \beta Flow\_Shock\_For_{i,c,t-1} + \gamma_1 M_{i,c,t-1} + \gamma_2 N_{c,t-1} + e_{i,c,t}$,

Second stage: $\Delta RichFam\_Sales_{i,c,t} = \alpha + \theta \widehat{CorpGov}_{i,c,t} + \gamma_1' M_{i,c,t-1} + \gamma_2' N_{c,t-1} + e_{i,c,t}$,

where $CorpGov_{i,c,t}$ is the average firm-level governance of industry i in country c in year t, and $Flow\_Shock\_For_{i,c,t-1}$ is the average quarterly exogenous shocks in foreign mutual fund flows attributable to fire sales and fire purchases of industry i in country c in year $t-1$. $\widehat{CorpGov}_{i,c,t}$ is the projected corporate governance attributable to $Flow\_Shock\_For_{i,c,t-1}$. $\Delta RichFam\_Sales_{i,c,t}$ is the change in the share of rich families in sales revenue of industry i in country c in year t. Vector *M* stacks all other country-industry control variables, including Industry Size/GDP and Industry Return, and vector *N* stacks all other country control variables, including Stock Market Turnover, Stock Market/GDP, Private Bond Market/GDP, Common Law, Judical, Good Government Index, Anti-Self-Dealing Index, Disclosure, Property Rights Index, Control Premium, and Ownership Concentration. Models 3 to 4 present the results of the following annual two-stage panel regressions with year fixed effects and their corresponding t-statistics with standard errors clustered at both the country and year level,

First stage: $Tax_{c,t} = \alpha + \beta Flow\_Shock\_For_{c,t-1} + \gamma N_{c,t-1} + e_{c,t}$,

Second stage: $\Delta RichFam\_Sales_{c,t} = \alpha + \theta \widehat{Tax}_{c,t} + \gamma' N_{c,t-1} + e_{c,t}$,

where $Tax_{c,t}$ is the total corporate tax rate of country c in year t, and $Flow\_Shock\_For_{c,t-1}$ is the average quarterly exogenous shocks in foreign mutual fund flows attributable to fire sales and fire purchases of country c in year $t-1$. $\widehat{Tax}_{c,t}$ is the projected tax rate attributable to $Flow\_Shock\_For_{c,t-1}$. $\Delta TopIncome\_Sales_{c,t}$ is the change in the share of rich families in sales revenue of country c in year t. Vector *N* stacks all other country control variables as above. Models 5 to 12 present similar statistics when $Tax_{c,t}$ is replaced with $Unemployment_{c,t}$ (defined as the total unemployment as a percentage of total labor force, models 5 to 6), $Computer\ Adoption_{c,t}$ (defined as the number of personal computers per 100 people, models 7 to 8), $Post\ Secondary_{c,t}$ (defined as the percentage of population ages 25 and over that at least completed post-secondary education, models 9 to 10), and $MktDev_{c,t}$ (defined as the stock market capitalization-to-GDP ratio, models 11 to 12). Appendix A provides detailed definitions of each variable. Only the main variables are tabulated for brevity. Numbers with "*", "**", and "***" are significant at the 10%, 5%, and 1% levels, respectively.

Table 8—Continued

Two-stage Regression of Change in Share of Rich Families in Sales Revenue (in %)												
	Country-industry Level						Country Level					
	1st Stage Model 1	2nd Stage Model 2	1st Stage Model 3	2nd Stage Model 4	1st Stage Model 5	2nd Stage Model 6	1st Stage Model 7	2nd Stage Model 8	1st Stage Model 9	2nd Stage Model 10	1st Stage Model 11	2nd Stage Model 12
CorpGov		0.311										
		(0.05)										
Tax				-31.615								
				(-0.15)								
Unemployment						15.339						
						(0.86)						
Computer Adoption								-3.077				
								(-1.75)				
Post-Secondary										-2.338*		
										(-1.83)		
MktDev												-6.322
												(-0.11)
Flow_Shock_For	1.286		0.043		-0.093		0.494		1.430*		0.225	
	(0.56)		(0.15)		(-0.83)		(1.64)		(1.99)		(0.11)	
Obs	1,529	1,529	210	210	357	357	166	166	130	130	357	357
Industry Controls	Y	Y	N	N	N	N	N	N	N	N	N	N
Country Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	N	N	N	N	N	N	N	N	N	N

Table 9: Robustness Checks on Counterfactual-adjusted Profitability

Panel A presents the results of the following annual two-stage panel regressions with fixed effects and their corresponding t-statistics with standard errors clustered at both the country and year level,
First stage: $CP_{i,c,t:t+2} = \alpha + \beta Flow\_Shock_{i,c,t-1} + \gamma_1 M_{i,c,t-1} + \gamma_2 N_{c,t-1} + e_{i,c,t}$,
Second stage: $\Delta RichFam\_Sales_{i,c,t:t+2} = \alpha + \theta \widehat{AE}_{i,c,t:t+2} + \gamma_1' M_{i,c,t-1} + \gamma_2' N_{c,t-1} + e_{i,c,t}$,
where $CP_{i,c,t:t+2}$ is the average counterfactual-adjusted profitability of industry i in country c from year t to $t+2$, and $Flow\_Shock_{i,c,t-1}$ is the average quarterly exogenous shocks in mutual fund flows attributable to fire sales and fire purchases of industry i in country c in year $t-1$. $\widehat{CP}_{i,c,t:t+2}$ is the projected counterfactual-adjusted profitability attributable to $Flow\_Shock_{i,c,t-1}$. $\Delta RichFam\_Sales_{i,c,t:t+2}$ is the average change in the share of rich families in sales revenue of industry i in country c from year t to $t+2$. $Flow\_Shock_{i,c,t-1}$ is further replaced with flow shock from foreign mutual funds ($Flow\_Shock\_For_{i,c,t-1}$) in the first stage. Vector *M* stacks all other country-industry control variables, including Industry Size/GDP and Industry Return, and vector *N* stacks all other country control variables, including Stock Market Turnover, Stock Market/GDP, Private Bond Market/GDP, Common Law, Judical, Good Government Index, Anti-Self-Dealing Index, Disclosure, Property Rights Index, Control Premium, and Ownership Concentration. Models 1, 2, 5 and 6 include year, industry and country fixed effects, while models 3, 4, 7 and 8 include year and industry fixed effects. Panel B presents similar statistics of the following annual two-stage panel regressions,
First stage: $CP\_Strategic_{i,c,t:t+2} = \alpha + \beta Flow\_Shock_{i,c,t-1} + \gamma_1 M_{i,c,t-1} + \gamma_2 N_{c,t-1} + e_{i,c,t}$,
Second stage: $\Delta RichFam\_Sales_{i,c,t:t+2} = \alpha + \theta \widehat{CP\_Strategic}_{i,c,t:t+2} + \gamma_1' M_{i,c,t-1} + \gamma_2' N_{c,t-1} + e_{i,c,t}$,
where $CP\_Strategic_{i,c,t:t+2}$ is the counterfactual-adjusted profitability induced by strategic trades of industry i in country c from year t to $t+2$, and $\widehat{CP\_Strategic}_{i,c,t:t+2}$ is the projected counterfactual-adjusted profitability induced by strategic trades attributable to $Flow\_Shock_{i,c,t-1}$. All other variables are defined as above.
In Panel C, models 1 to 4 present the results of the following annual two-stage panel regressions with country-year and industry-year fixed effects and their corresponding t-statistics with standard errors clustered at both the country and year level,
First stage: $CP\_Strategic_{i,c,t} = \alpha + \beta Flow\_Shock_{i,c,t-1} + \gamma_1 M_{i,c,t-1} + \gamma_2 N_{c,t-1} + e_{i,c,t}$,
Second stage: $\Delta RichFam\_Sales_{i,c,t} = \alpha + \theta \widehat{CP\_Strategic}_{i,c,t} + \gamma_1' M_{i,c,t-1} + \gamma_2' N_{c,t-1} + e_{i,c,t}$,
where $CP\_Strategic_{i,c,t}$ is the counterfactual-adjusted profitability induced by strategic trades of industry i in country c in year t, and $\widehat{CP\_Strategic}_{i,c,t}$ is the projected counterfactual-adjusted profitability induced by strategic trades attributable to $Flow\_Shock_{i,c,t-1}$. $\Delta RichFam\_Sales_{i,c,t}$ is the change in the share of rich families in sales revenue of industry i in country c in year t. Vector *M* stacks all other country-industry control variables, including Industry Size/GDP and Industry Return. All other variables are defined as above. Models 5 to 8 further replace $CP\_Strategic_{i,c,t}$ with $CP\_Strategic\_RET_{i,c,t}$, i.e., an alternative counterfactual-adjusted profitability measure based on stock return instead of ROA. Appendix A provides detailed definitions of each variable. Only the main variables are tabulated for brevity. Numbers with "*", "**", and "***" are significant at the 10%, 5%, and 1% levels, respectively.

Table 9—Continued

Panel A: Two-stage Regression of Change in Share of Rich Families in Sales Revenue (in %, Country-industry Level, Full Sample)								
	1st Stage Model 1	2nd Stage Model 2	1st Stage Model 3	2nd Stage Model 4	1st Stage Model 5	2nd Stage Model 6	1st Stage Model 7	2nd Stage Model 8
CP		23.217**		24.555***		21.773**		23.865**
		(2.97)		(3.22)		(2.77)		(2.96)
Flow_Shock	-0.056**		-0.040**					
	(-2.56)		(-2.49)					
Flow_Shock_For					-0.058**		-0.042**	
					(-2.48)		(-2.40)	
Obs	3,001	3,001	2,183	2,183	3,001	3,001	2,183	2,183
Industry Controls	Y	Y	Y	Y	Y	Y	Y	Y
Country Controls	N	N	Y	Y	N	N	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y
Country FE	Y	Y	N	N	Y	Y	N	N
Panel B: Two-stage Regression of Change in Share of Rich Families in Sales Revenue (in %, Country-industry Level, Strategic Trades)								
	1st Stage Model 1	2nd Stage Model 2	1st Stage Model 3	2nd Stage Model 4	1st Stage Model 5	2nd Stage Model 6	1st Stage Model 7	2nd Stage Model 8
CP_Strategic		25.190**		26.378***		22.364**		25.005***
		(2.64)		(3.39)		(2.43)		(3.09)
Flow_Shock	-0.052**		-0.037**					
	(-2.31)		(-2.33)					
Flow_Shock_For					-0.057**		-0.040**	
					(-2.20)		(-2.33)	
Obs	3,001	3,001	2,183	2,183	3,001	3,001	2,183	2,183
Industry Controls	Y	Y	Y	Y	Y	Y	Y	Y
Country Controls	N	N	Y	Y	N	N	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y
Country FE	Y	Y	N	N	Y	Y	N	N
Panel C: Two-stage Regression of Change in Share of Rich Families in Sales Revenue (in %, Country-industry Level, Strategic Trades)								
	1st Stage Model 1	2nd Stage Model 2	1st Stage Model 3	2nd Stage Model 4	1st Stage Model 5	2nd Stage Model 6	1st Stage Model 7	2nd Stage Model 8
CP_Strategic		11.838**		13.159**				
		(2.67)		(2.20)				
CP_Strategic_RET						0.996***		1.341***
						(3.19)		(5.34)
Flow_Shock	-0.081***				-0.782***			
	(-4.40)				(-22.91)			
Flow_Shock_For			-0.077***				-0.661***	
			(-3.76)				(-6.77)	
Industry Size/GDP	0.029*	-0.240	0.029*	-0.278	-0.042	0.162	-0.042	0.176
	(1.81)	(-0.68)	(1.81)	(-0.64)	(-0.55)	(1.05)	(-0.55)	(1.22)
Industry Return	0.054	-0.156	0.054	-0.227	-0.114	0.527	-0.114	0.568
	(1.28)	(-0.30)	(1.28)	(-0.34)	(-0.37)	(1.12)	(-0.38)	(1.16)
Obs	3,012	3,012	3,012	3,012	3,168	3,168	3,168	3,168
Industry-Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Country-Year FE	Y	Y	Y	Y	Y	Y	Y	Y

Table 10: Alternative Definition of Cash Flow Rights Inequality

Models 1 to 4 present the results of the following annual panel regressions with year fixed effects and their corresponding t-statistics with standard errors clustered at both the country and year level,

$$\Delta RichFam\_Sales_{c,t}^{P10} = \alpha + \beta Flow\_Shock_{c,t-1} + \gamma N_{c,t-1} + e_{c,t},$$

where $\Delta RichFam\_Sales_{c,t}^{P10}$ is the change in the share of rich families in sales revenue of country c in year t, and $Flow\_Shock_{c,t-1}$ is the average quarterly exogenous shocks in mutual fund flows attributable to fire sales and fire purchases of country c in year $t-1$. The aggregate mutual fund flow shocks can be further replaced with flow shocks from foreign mutual funds ($Flow\_Shock\_For_{c,t-1}$) and domestic mutual funds ($Flow\_Shock\_Dom_{c,t-1}$). We also consider $Flow_{c,t-1}$, defined as the average quarterly mutual fund flows of country c in year $t-1$. Vector *N* stacks all other country control variables, including Stock Market Turnover, Stock Market/GDP, Private Bond Market/GDP, Common Law, Judicial, Good Government Index, Anti-Self-Dealing Index, Disclosure, Property Rights Index, Control Premium, and Ownership Concentration. Models 5 to 12 present the results of the following annual panel regressions with fixed effects and their corresponding t-statistics with standard errors clustered at both the country and year level,

$$\Delta RichFam\_Sales_{i,c,t}^{P10} = \alpha + \beta Flow\_Shock_{i,c,t-1} + \gamma_1 M_{i,c,t-1} + \gamma_2 N_{c,t-1} + e_{i,c,t},$$

where $\Delta RichFam\_Sales_{i,c,t}^{P10}$ is the change in the share of rich families in sales revenue of industry i in country c in year t, and $Flow\_Shock_{i,c,t-1}$ is the average quarterly exogenous shocks in mutual fund flows attributable to fire sales and fire purchases of industry i in country c in year $t-1$. The aggregate mutual fund flow shocks can be further replaced with flow shocks from foreign mutual funds ($Flow\_Shock\_For_{i,c,t-1}$) and domestic mutual funds ($Flow\_Shock\_Dom_{i,c,t-1}$). We also consider $Flow_{i,c,t-1}$, defined as the average quarterly mutual fund flows of industry i in country c in year $t-1$. Vector *M* stacks all other country-industry control variables, including Industry Size/GDP and Industry Return, and vector *N* stacks all other country control variables as above. Models 5 to 8 include year, industry and country fixed effects, while models 9 to 12 include year and industry fixed effects. Appendix A provides detailed definitions of each variable. Numbers with "*", "**", and "***" are significant at the 10%, 5%, and 1% levels, respectively.

Table 10—Continued

Out-of-sample Change in Share of Rich Families in Sales Revenue (in %) Regressed on Mutual Fund Flows												
	Country Level				Country-industry Level							
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Flow_Shock	-1.345***		-2.338***		-1.843***		-2.474***		-1.679***		-2.273***	
	(-7.27)		(-3.96)		(-10.81)		(-11.79)		(-5.74)		(-6.37)	
Flow_Shock_For		-1.343***		-2.254***		-1.865***		-2.504***		-1.722***		-2.341***
		(-7.39)		(-4.53)		(-9.09)		(-9.70)		(-5.71)		(-6.18)
Flow_Shock_Dom				3.716				12.591				10.778
				(0.46)				(0.86)				(0.81)
Agg_Flow			0.036	0.033			0.009**	0.009**			0.008***	0.009**
			(1.52)	(1.60)			(3.00)	(2.87)			(3.27)	(2.47)
Industry Size/GDP					0.054*	0.054*	0.055*	0.055	0.052	0.052	0.052	0.052
					(1.89)	(1.95)	(1.95)	(1.56)	(0.91)	(0.90)	(0.93)	(1.26)
Industry Return					0.073	0.073	0.081	0.082	0.044	0.044	0.053	0.054
					(0.71)	(0.71)	(0.72)	(0.78)	(0.31)	(0.31)	(0.28)	(0.29)
Stock Market Turnover	-0.008	-0.008	-0.007	-0.008	0.004	0.004	0.003	0.003	0.002	0.002	0.002	0.002
	(-1.09)	(-1.09)	(-1.07)	(-1.09)	(0.27)	(0.41)	(0.16)	(0.20)	(0.23)	(0.24)	(0.23)	(0.29)
Stock Market/GDP	0.002	0.002	0.002	0.002	0.009**	0.009**	0.009**	0.009**	0.004	0.004	0.004	0.004
	(0.40)	(0.40)	(0.53)	(0.55)	(2.71)	(2.96)	(2.44)	(2.20)	(1.37)	(1.37)	(1.38)	(1.42)
Private Bond Market/GDP	0.001	0.000	0.000	-0.000	-0.015	-0.015	-0.015	-0.013	-0.011	-0.011	-0.013	-0.013
	(0.06)	(0.05)	(0.03)	(-0.00)	(-0.58)	(-0.58)	(-0.54)	(-0.50)	(-0.59)	(-0.59)	(-0.66)	(-0.57)
Common Law	-0.418	-0.415	-0.420	-0.443					0.072	0.090	0.039	0.108
	(-0.29)	(-0.29)	(-0.29)	(-0.30)					(0.06)	(0.08)	(0.03)	(0.06)
Judical	-1.033	-1.038	-1.029	-1.064					1.665**	1.667**	1.640**	1.650**
	(-0.48)	(-0.48)	(-0.47)	(-0.49)					(2.85)	(2.86)	(2.68)	(2.90)
Good Government Index	0.355	0.357	0.353	0.364					-0.516*	-0.516*	-0.501*	-0.510
	(0.52)	(0.52)	(0.51)	(0.53)					(-2.05)	(-2.05)	(-1.98)	(-1.69)
Anti-Self-Dealing Index	1.344	1.339	1.311	1.335					-1.316	-1.323	-1.263	-1.320
	(0.47)	(0.47)	(0.45)	(0.46)					(-0.62)	(-0.62)	(-0.60)	(-0.60)
Disclosure	0.029	0.029	0.028	0.029					0.027	0.027	0.026	0.026
	(0.52)	(0.53)	(0.52)	(0.52)					(0.75)	(0.75)	(0.75)	(0.53)
Property Rights Index	0.954	0.952	0.966	0.933					-0.696	-0.702	-0.798	-0.830
	(0.66)	(0.66)	(0.67)	(0.64)					(-1.02)	(-1.03)	(-1.16)	(-1.47)
Control Premium	6.593	6.583	6.270	6.227					-1.705	-1.693	-2.285	-2.246
	(0.86)	(0.86)	(0.82)	(0.81)					(-0.33)	(-0.33)	(-0.45)	(-0.43)
Ownership Concentration	-3.130	-3.146	-2.978	-3.233					-3.531	-3.564	-3.683	-3.901
	(-1.01)	(-1.01)	(-1.02)	(-1.13)					(-1.20)	(-1.22)	(-1.27)	(-1.32)
Adj-Rsq.	0.099	0.099	0.101	0.101	0.050	0.050	0.051	0.051	0.045	0.045	0.046	0.046
Obs	366	366	366	366	4,906	4,906	4,880	4,880	3,647	3,647	3,634	3,634
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Country FE	N	N	N	N	Y	Y	Y	Y	N	N	N	N