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Mild Deglobalization: Foreign Investment Screening and Cross-Border Investment

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Mild Deglobalization: Foreign Investment Screening and Cross-Border Investment

Abstract

Openness to foreign investments is associated with national security risks. To mitigate these risks, many high-income countries have strengthened the control of foreign investments in an increasing number of sectors considered security-sensitive. However, this policy may deter foreign investments and thereby affect the economy negatively. This is the first cross-country panel study to examine how investment screening affects cross-border investments. We combine data on cross-border mergers and acquisitions (M&As) for the period 2007-2022 with information on sectoral investment screening by 43 OECD or EU countries. Using a staggered triple differences design, we estimate that investment screening leads to an average reduction of 12 to 16 percent in the number of M&A deals. The negative impact is driven by minority acquisitions with an acquired stake below 50 percent. The findings call policymakers' attention to weighing the benefits of national security against the unintended economic costs of broad investment screening policies.

JEL-Codes: F210, F520, G340.

Keywords: foreign direct investments, national security, investment screening, geoeconomic fragmentation, deglobalization.

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1 Introduction

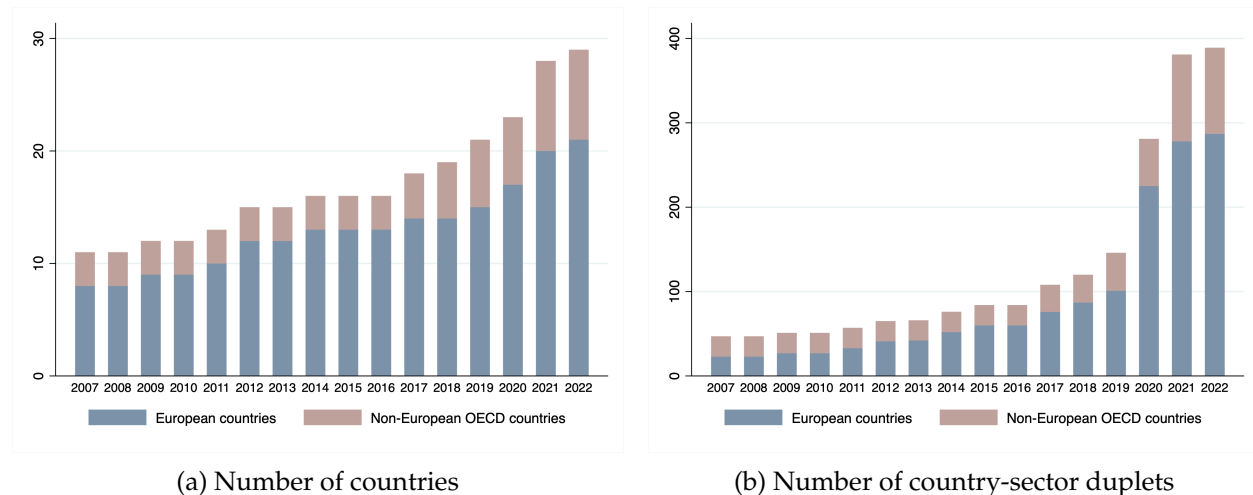
Over the last decades, trade and investment between countries have become important contributors to economic growth. Foreign direct investment (FDI) is associated with positive innovation, technology and know-how spillovers (Phillips and Zhdanov, 2013; Bena and Li, 2014; Stiebale, 2016), promotion of synergies (Wang and Xie, 2009; Sheen, 2014), improved access to foreign capital (Serdar Dinc and Erel, 2013), and productivity growth (Javorcik and Poelhekke, 2017; Fons-Rosen et al., 2021). For these reasons, most countries have developed investment policies aimed at attracting FDI (Alfaro, 2017). However, foreign investment inflows, particularly from certain countries like China with an important role of the government in the economy, have raised concerns about possible threats to national security, especially in the context of rising geopolitical tensions (Bencivelli et al., 2023; Bauerle Danzman and Meunier, 2023b). Of particular concern are investments leading to substantial foreign control over firms in security-related sectors, such as in infrastructure, defense, and advanced dual-use technology sectors.

In response to the perception of increasing geopolitical tensions and foreign investments in sensitive sectors, many countries have introduced investment screening mechanisms (ISMs) to better protect national security (Kuc, 2019).¹ By the end of 2022, 21 European countries and eight non-European members of the Organization for Economic Cooperation and Development (OECD) had introduced new ISM or updated existing ones (see Figure 1a).² ISM require foreign investors to gain approval from national authorities for (partial) acquisitions of firms in sectors defined as security-sensitive. National authorities are empowered to review, and if necessary, condition, prohibit, and unwind foreign acquisitions that may threaten national security or public order. While a handful of countries have reviewed foreign investments for risks to national security for decades, the policy has spread to more countries, and screening processes have been formalized since the mid-2010s, even among traditionally open high-income countries. Moreover, screening

¹In the remainder of the paper, the terms ISM and screening always refer to screening for risks to national security or public order unless noted otherwise. Investments might also be screened for political and economic reasons, such as to protect domestic industries.

²In this paper, we use “European countries” to indicate member states of the European Union (EU) or European Free Trade Association (EFTA) and the United Kingdom, which was an EU member state until 2020. In our analyses based on the European country sample, our main results hold when we exclude the United Kingdom from the sample for the years 2021 and 2022.

has broadened and tightened: many governments have repeatedly expanded the list of sectors considered security-sensitive or lowered the thresholds of acquired shares (or volumes) triggering investment screening (as shown in [Figure 1b](#)).



(a) Number of countries (b) Number of country-sector duplets
Figure 1: Investment screening is adopted in an increasing number of countries and sectors: 2007-2022

Notes: Figures show the (a) number of countries and (b) country-sector duplets with investment screening (out of 1,505 annual combinations) in 43 OECD or European countries for the years 2007-2022. The sample covers 35 broad sectors considered security-sensitive ([Table A.1](#)). European countries include EU and EFTA member states. *Source:* Own data and representation.

While ISMs are designed to mitigate national security risks, stricter investment screening may at the same time have a chilling effect on foreign investments with subsequent negative effects on the economy ([Bena and Li, 2014](#); [Fons-Rosen et al., 2021](#)). Policymakers thus face a tradeoff between security and prosperity. As many countries have introduced an ISM only recently and policies have developed rapidly, the understanding of the economic consequences of ISMs is limited. In this paper, we aim to fill this gap by presenting the first cross-country analysis of the economic effects of ISMs. We focus on their direct impact on mergers and acquisitions (M&As) by foreign investors.³ During our sample period from 2007 to 2022 and among the 43 OECD or EU sample countries, cross-border M&As represented, on average, 43.72 percent of all M&A deals (denominator including both domestic and foreign transactions) and accounted for 61.44 percent of the total investment value. This shows the importance of foreign investments for many

³We focus on M&As because greenfield and portfolio investments tend not to be screened for risks to national security. In the few countries that do, the screening of greenfield investments is often limited to sensitive locations e.g. border proximity.

of the sample countries. A substantial impact of screening on cross-border M&As would imply significant economic consequences for the recipient country of the investment.

We hypothesize that screening of foreign investments reduces cross-border M&As in screened sectors. This would negatively affect the efficiency of global capital allocation (Ioannou et al., 2023). We argue that screening reduces foreign investment due to several channels: (i) the reduction in cross-border deals due to government prohibition, (ii) (security-threatening) deals aborted during the screening process, for instance, due to discouragement of the authorities but possibly also because of long screening procedures, (iii) the intended deterrence effect on security-threatening investments, and (iv) investments never undertaken or diverted to other countries because of increased uncertainty, legal and other transaction costs implied by investment screening.⁴ Our empirical approach estimates the overall effect of these different mechanisms. Their relative importance is unknown but we argue that uncertainty is generally underestimated. As we explain below, there are good reasons and anecdotal evidence suggesting that the number of non-threatening M&A transactions never undertaken due to uncertainty and transaction costs is important. At the same time, the four channels are likely to be of different importance for different investors. Although we cannot disentangle the four mechanisms due to data limitations, we provide the first cross-country estimates of the impact of investment screening on foreign investments. This contributes to improving our understanding of the economic consequences of the newly introduced investment screening policies.

To estimate the average effect of investment screening on foreign M&As, we employ a triple-differences (DDD) estimation approach, leveraging the staggered implementation of screening across countries and across sectors within countries. Our sample covers 43 member states of the OECD and EU for the years 2007-2022. We manually coded information about the introduction of investment screening at the sector level for each country, which we then combined with data on cross-border M&As from Bureau van Dijk's Zephyr database at the NACE four-digit sector level (Bureau van Dijk, 2020).⁵ Based on the matched dataset, we compare cross-border M&As

⁴The publicly available data on screening outcomes is scattered, mostly due to limited reporting by national investment screening authorities, but also due to the reluctance of private companies to publicize their failure to pass the national security review (Westbrook, 2019; Bencivelli et al., 2023).

⁵Our ISM data also includes information about announcement dates. However, the dates of announcement and

activities in the screened sectors in a country before and after the introduction of the ISMs with those in unaffected sectors. To ensure comparable groups, we constrain our sample to “security-sensitive” sectors, defined as those sectors that are screened in at least one of the sample countries. In additional analyses, we further constrain our sample to countries that had an ISM in at least one sector, thus excluding countries that never had any screening during our sample period. We also show that our results are robust to including all sectors and adjusting the sample period by e.g. dropping the years of the COVID-19 pandemic.

The identification of a causal effect of investment screening on cross-border M&As relies on the assumption that the (timing of the) adoption of investment screening is exogenous to the individual investment decision of investors. The literature finds that national decisions to introduce or extend investment screening to more sectors are due to external factors such as the rapid growth in Chinese firm acquisitions in Western countries, public debates about these investments, and EU-level discussions about security-threatening foreign investments.⁶ As the decision to adopt investment screening is made at the country level, ISMs are reasonably exogenous to decisions by individual foreign investors. However, there is a risk of anticipation effects: investors may have adjusted their investment decisions prior to the official introduction of ISMs, potentially leading to a biased overall estimate.

We address endogeneity concerns such as anticipation effects in four different ways. First, we use high-dimensional fixed effects in our empirical model, namely country-year, sector-year, and country-sector fixed effects. In a DDD estimation framework, these fixed effects can effectively account for time-invariant and time-varying differences between countries and sectors such as variations in sector-specific investment climate across countries or country- and sector-

entry into force are usually in the same year. We acknowledge preliminary access to yearly data on investment screening adoption in OECD countries by [Bauerle Danzman and Meunier \(2023a\)](#) which determined our choice of sectors. Compared to the PRISM data, our data extends to all EU and OECD countries and includes 2022.

⁶The literature suggests that the rise of Chinese FDI increased government support for investment screening, especially in high-technology countries ([Chan and Meunier, 2021](#); [Eichenauer et al., 2021](#)). A few high-profile acquisitions were widely discussed in the media ([Lenihan, 2018](#)) and the COVID-19 crisis created further momentum for investment screening ([Bauerle Danzman and Meunier, 2023a](#)), which experienced a first wave of broad interest in the mid-2000s in parallel with the rise of sovereign wealth funds ([Pohl and Rosselot, 2020](#)). Many EU countries adopted or extended investment screening around the adoption of an EU-level framework regulation on investment screening in 2019 with entry into force in 2020, although this regulation did not require the adoption of national investment screening. As the international norm about sectoral openness to foreign investments shifted, this led to a cascading effect of adaption ([Bourlès et al., 2024](#)).

specific business cycles. These fixed effects, however, do not absorb confounding factors at the country-sector-year level. For example, the acquisition of a large company in a sector, which is perceived as sensitive by public opinion or involves an investor from a source country considered a systemic rival by the government, could prompt a government to adopt investment screening. To further account for such potential explanations for the introduction of investment screening, we control for international trade, a well-established correlate of foreign investments, and four pre-determined variables. The pre-determined variables capture differences in the initial likelihood of having foreign investors, especially from China or the US, and of receiving investments from foreign governments or state-owned enterprises (SOEs). These variables are then interacted with sample year dummies to allow for time-variant effects. Finally, we test for parallel pre-trends in an event study to investigate whether countries and sectors that introduced investment screening were systematically different from others before the introduction of screening. We find no evidence for anticipation or selection effects conditional on fixed effects and control variables. We also investigate potential long-term trends that could bias the estimate by artificially moving the adoption of investment screening five years forward. In sum, these analyses provide support for a causal identification of the estimated effect of investment screening on foreign acquisitions.

Applying the DDD design with fixed effects and control variables to the data, our baseline results for different samples suggest that the introduction of screening reduces the average number of cross-border investment deals by between 12 and 16 percent in the screened NACE four-digit sector, i.e., an average annual loss of 20 to 27 deals per country. These estimates measure the total effect of screening which can partly be attributed to the prohibitions of security-threatening deals and the intended deterrence effect and partly to the increased uncertainty and transaction costs which also affect non-threatening investors negatively. We find that the negative impact of adopting ISMs on foreign M&As in the screened sector occurs immediately upon adoption but fades out after two years. Foreign M&As recover to the pre-screening period but there is no evidence of a catch-up effect, suggesting that some M&A deals are never realized in the country that adopted screening. Additional results reveal significant heterogeneities across deal sizes. We find a reduction in cross-border M&As for partial acquisitions (with less than half of

stakes acquired) whereas there is evidence showing an increase in deals where investors acquire 50 percent up to (but not including) 100 percent of shares. However, the overall effect on the number of deals is negative because the number of minority deals in our sample outweighs majority deals. Since the financial value of deals correlates positively with the number of shares acquired, we are not surprised to find that the average transaction value of deals increases as screening is adopted. The opposing effects of lower transaction numbers and higher average deal values result in a neutral effect at the aggregate level: in absolute terms, the adoption of ISMs does not permanently decrease the total value of foreign M&A inflows. Taken together, these results suggest that ISMs change the structure of M&A inflows but not the total value of investment inflows.

There is no evidence that the reduction in cross-border M&As deals is driven by any particular type of investors. We do not find statistically significant stronger effects for investors from autocratic countries or state-controlled entities. There is some indication that ISMs differentially reduced the number of deals with participation of Chinese or US investors. These results are only significant in either the full or the European sample. In contrast, investments between EU member states and members of the EFTA are not reduced by investment screening. This is due to one of the key legal principles of the EU Common Market: the free flow of capital.⁷ The large majority of intra-EU/EFTA investments are not subject to screening. Overall, our results imply that policymakers have to weigh the security benefits of screening against (short-term) economic reductions in cross-border investment deals following the introduction of investment screening.

This paper is related and contributes to the literature in several ways. First, it is closely related to the literature studying foreign investment regulations. Using the OECD FDI regulatory restrictiveness index, existing studies find that the generally more lenient FDI regulations are associated with FDI growth (Mistura and Roulet, 2019; Albori et al., 2021). The OECD index covers all FDI-related regulations and does not account for recent FDI regulations for national

⁷Capital shall not be restricted between member countries of the European Economic Area (EEA), which includes all EU members as well as Iceland, Liechtenstein, and Norway. Liechtenstein is not in our sample because it is neither a member of the EU nor the OECD (but results are robust to including it). Many EU and EEA countries also do not screen investments from Switzerland which is included in the EU/EFTA group because of its EFTA membership but neither in the EEA nor the EU. Note that screening investments in the most security-sensitive sectors such as defense is allowed even intra-EU/EFTA. The decision by the European Court of Justice on the Xella Magyarország case (C-106/22) clarifies that in all other cases, the EU FDI regimes need to respect the freedom of establishment.

security reasons. Quantitative research on ISMs is still relatively limited and often focuses on individual countries. For instance, [Connell and Huang \(2014\)](#) investigate the effect of prohibiting five acquisitions in the US. They estimate an average of two percent abnormal returns for potential US-owned and domiciled competitors. [Frattaroli \(2020\)](#) finds a negative impact on shareholder value for a French investment screening decree and explains this by a fall in the expected present value of the takeover premium included in the share prices of affected firms. The most closely related work is [Eichenauer et al. \(2024\)](#) who document a negative effect of investment screening on cross-border venture capital into European countries from 2007 to 2022. In this paper, we estimate the economic effects of national security-related investment screening in a cross-country context. The cross-country setting allows us to identify the effects of ISMs beyond a single country and to absorb general trends in geopolitics, business cycles, and cross-border investments.

Our paper also contributes to the literature on cross-border M&As, particularly to the strand that examines the determinants of cross-border M&As (e.g. [Guadalupe et al., 2012](#); [Blonigen et al., 2014](#); [Stiebale, 2016](#); [Todtenhaupt et al., 2020](#); [Fuest et al., 2021](#); [Sun and Xie, 2022](#)). For example, [Todtenhaupt et al. \(2020\)](#) show that the tax rate for corporate capital gains, corporate taxation, inflation, industry regulation, legal and institutional quality, and distance influence the number of foreign acquisitions. Compared to the majority of the M&A literature, which focuses primarily on large-scale investment deals with an acquired share of above 50 percent, our sample includes deals of all sizes, ranging from full acquisitions to equity participations of less than 10 percent. We find that the effect of ISMs depends on the acquired share. This suggests that the sole focus on large-scale investment deals in previous research may have overlooked important dynamics.

Our theoretical argument is influenced by the strand of literature that shows that policy uncertainty (and not just policy decisions *per se*) negatively affects a multitude of macro- and microeconomic outcomes.⁸ Existing studies show that institution quality, political uncertainty, protectionist laws and interventions in corporate transactions can substantially decrease foreign investment inflows ([Lucas, 1990](#); [Daude and Fratzscher, 2008](#); [Papaioannou, 2009](#); [Kesternich and](#)

⁸Uncertainty has been shown to affect trade and capital flows, influence the business cycle, hamper economic recovery ([Handley and Limão, 2017](#); [Baker et al., 2016](#); [Julio and Yook, 2016](#); [Bloom et al., 2018](#)), and influence a firm's stock price ([Pastor and Veronesi, 2012](#)), expenditures for capital ([Gulen and Ion, 2016](#)), research and development ([Atanassov et al., 2024](#)), as well as decisions to raise equity ([Çolak et al., 2017](#)) and hold cash ([Julio and Yook, 2012](#)).

Schnitzer, 2010; Serdar Dinc and Erel, 2013; Julio and Yook, 2016; Bonaime et al., 2018; Godsell et al., 2019). While our research does not show direct evidence that uncertainty around investment screening leads to the reduction in cross-border M&As, we argue that uncertainty is of primary importance in reducing cross-border M&As.

Our paper also contributes to a rapidly growing body of literature exploring the economic consequences of protectionism and decoupling, motivated by rising concerns about national security. Recent advances analyze the impact of the 2018 trade war between China and the U.S. (e.g. Amiti et al., 2019; Fajgelbaum et al., 2020), sanctions (Crozet et al., 2021), and technical barriers (Fontagné and Orefice, 2018) on international trade. Recently, contributions discuss and model the cost of deglobalization through fragmentation and decoupling in trade (Felbermayr et al., 2023; Blanga-Gubbay and Rubínová, 2023; Goldberg and Reed, 2023) and FDI (Witt et al., 2023; IMF, 2023). By examining the unintended economic consequences of one of the recent policies motivated by national security concerns, which has received limited attention in the literature, we address an underexplored facet of deglobalization,

The remainder of the paper is structured as follows. In the next section, we describe the rise of investment screening and the associated bureaucratic process and present our theoretical framework, which motivates our empirical analyses. **Section 3** presents the data on cross-border investments and investment screening policies. **Section 4** discusses our empirical strategy and challenges to identification. **Section 5** shows our results and robustness analyses. **Section 6** concludes.

2 Background and theoretical considerations

2.1 Background

The policy of screening foreign acquisitions aims to limit the risks associated with foreign control of firms in security-sensitive industries (see, e.g. Graham and Krugman, 1995; Navaretti and Venables, 2020). In the past, investment screening was considered a tool for economic and political balancing mostly within the same security community, such as in transactions between

companies from the North Atlantic Treaty Organization (NATO) or EU member states (Lenihan, 2018). Recently, public concerns about the rising number of acquisitions by Chinese investors and other newer investors, such as sovereign wealth funds, have grown and been addressed through investment screening mechanisms. This increased scrutiny of foreign investors and the increased reliance on ISMs can be considered part of a broader strategic geopolitical or geoeconomic competition (Roberts et al., 2019; Otero-Iglesias and Weissenegger, 2020). Chan and Meunier (2021) show that officials in countries with a higher technological level are more favorable towards an EU-wide investment screening framework. Countries with Chinese investments in high-technology sectors also tend to support the EU screening mechanism (Chan and Meunier, 2021) and are more likely to adopt an investment screening policy (Bauerle Danzman and Meunier, 2023a).

Instead of prohibiting investments by certain types or origins of investors altogether, the screening of security-sensitive foreign investments was proposed in 2009 as a less constraining policy by the OECD (2009). In 2017, the EU proposed a framework for EU member states to voluntarily screen foreign investments in the EU, which was adopted in 2019 and entered in force from October 2020. The framework consists of non-binding guidelines and coordination mechanisms. Investment screening allows authorities to assess, investigate, authorize, condition, prohibit, or unwind foreign acquisitions (European Union, 2019) to mitigate threats to national security or public order.⁹ In practice, screening is often a multi-agency process lasting a few weeks to several months. In parallel with this increased attention, the number of countries newly introducing investment screening has witnessed a rapid increase, from merely 11 OECD and EU countries having investment screenings in 2007 to 29 by the end of 2022, as shown in Figure 1a.

By the end of the 20th century, ISMs primarily targeted industries that were intimately tied to national defense, such as the development and production of military equipment (Anwar, 2012; Lenihan, 2018). Many countries nowadays recognize new channels of risk transmission that go beyond the traditional threats from foreign investments in military and infrastructure companies.

⁹Certain foreign investments into Canada have to pass the “net benefit” test while Australia can block foreign acquisitions deemed to be “against the national interest”, a concept that includes national security considerations among other aspects (Pohl and Rosselot, 2020).

New sectors and many more transactions are under scrutiny, including advanced, dual use, and network technology, sensitive (personal) data generation and potential transfers abroad, food security, or media assets. As a consequence, the number of security-sensitive sectors has expanded significantly, as shown in [Figure 1b](#) (see [Figure 3](#) and [Table A.1](#) for a complete sector list).

The design of investment screening policies and sector coverage varies across countries ([Pohl and Rosselot, 2020](#); [Bauerle Danzman and Meunier, 2023a](#)). Generally speaking, ISMs consist of a positive list of sectors for which the authorities have intervention competencies or pay particular attention. Some countries foresee the possibility of cross-sectoral screening, which allows for scrutinizing foreign acquisitions in any sector. Authorities tend to screen investments above a threshold of “control” or “influence”, which has decreased over time in most countries. In many countries, the intervention threshold is based on acquiring a certain percentage, such as 10 percent, 25 percent, or 50 percent, of the target company’s shares ([Kuc, 2019](#)). Recently, Japan lowered the screening threshold from 10 percent to 1 percent of shares for publicly listed target companies. In a few countries, the intervention threshold may be defined using the absolute amount of investment, such as in the UK where investments exceeding one million pounds are covered ([Kuc, 2019](#)). The nationality of a foreign investor is another key determining factor for whether an investment is subject to screening ([Pohl and Rosselot, 2020](#)). In most EU and EFTA member states, the cross-sectoral screening mechanism only targets non-EU/EFTA investors. Still, most EU/EFTA governments retain the right to intervene even in intra-EU/EFTA transactions in particularly security-sensitive sectors, such as defense.

According to the limited official information available, the annual number of M&A transactions screened globally goes in the thousands.¹⁰ For a set of EU member states alone, the [European Commission \(2021\)](#) reports that almost 1,800 investments were submitted to investment screening authorities for approval in 2020¹¹ whereof only 21 percent were formally screened. This implies that in 2020, the majority of cases submitted to EU authorities were not the ones targeted by the investment screening regulation. 79 percent of all submitted cases or more than 1400 deals¹² were

¹⁰[Bencivelli et al. \(2023\)](#) provide an overview of the official statistics related to screening.

¹¹According to [European Commission \(2022\)](#), some EU member states did not report any cases while others also reported “consultations” on the eligibility of the cases. The latter are included in this number.

¹²This and the following absolute case numbers are own calculations based on the percentage shares and the total

submitted for approval by firms that posed no threats to national security but were *in dubio* about whether investment screening applied to their transaction and wanted to ensure legal compliance, thus facing unintended legal costs. These figures suggest a lack of targeted screening regulations, which leaves (intended) discretionary power to national governments but also creates high legal uncertainty for firms.

In comparison to the hundreds of non-threatening deals affected by screening regulations, the number of transactions that seem to have posed some security risks and were thus mitigated in different ways is low: 52 of 1,400 deals (or 78 deals including aborted deals). Only two percent of the above-mentioned 21 percent of formally screened cases, i.e. seven transactions, were prohibited. In addition, 12 percent or 45 investment deals were authorized with conditions, and seven percent or 26 investment deals were aborted voluntarily. While the parties involved in the deals may abort an investment for many reasons, some share of the aborted deals is likely due to authorities signaling to parties of the deal that approval is unlikely or possible only under highly constraining conditions which may make the deal unattractive. [Kuc \(2019\)](#) puts a price label to the failed transactions. He reports that approximately US\$150 billion (11.6 percent of total global foreign direct investment) failed in 2018 following government interventions at the end of investment screening processes.¹³ In 2022, 1,444 approval requests were made to reporting EU member states whereof roughly 55 percent of the cases were formally screened ([European Commission, 2023](#)). This marks a significant increase in the proportion of formally screened cases compared to 2020 and provides some indication about the growing size of the unintended economic effects of investment screening. The total financial and economic impacts are thus quite likely much greater than the dollar estimate in [Kuc \(2019\)](#).

2.2 Theoretical considerations

The rise and expansion of investment screening, primarily driven by national security concerns and shifting geopolitics, have introduced new friction to cross-border investment flows and

number of submitted cases provided in [European Commission \(2021\)](#).

¹³Annex I of [Kuc \(2019\)](#) lists all publicly known foreign takeovers over \$50 million that were blocked or abandoned for national security reasons, 2016-September 2019 (cases for which information is publicly available).

consequently may have unintended negative economic externalities on foreign investments, in contrast to the intended security effects. The large majority of foreign investments are beneficial and productivity-enhancing.

The negative economic effect of investment screening on foreign investments may be due to a number of reasons. We argue that one prominent channel is the uncertainty created by the duration and sometimes outcome of the investment screening process.

A rapidly growing strand of the literature highlights the negative effect of policy uncertainty on economic outcomes. How could policy uncertainty impact investment? Market actors might be uncertain about (1) whether a given policy will change (as in [Handley and Limão 2017](#)), (2) how a new policy will affect them, or (3) the outcome of a bureaucratic decision-making process regarding a specific investment. The key difference between the second and third types of uncertainty is that the former is a general uncertainty faced by all investors and will be largely resolved once the implementation details are clarified. In contrast, the third type of uncertainty is more particularized as it pertains to the outcome of a bureaucratic decision process, such as whether a M&A deal will be approved by the investment screening authority. All these uncertainties can affect investments, but they are often not differentiated in the literature.

In the case of investment screening, we expect that the uncertainty about the introduction and practical implementation decreases over time while case-specific uncertainty remains. The evidence suggests a high level of legal uncertainty: [European Commission \(2021\)](#) reports that 80 percent of investment cases submitted to Member States did not require formal screening because of “evident lack of impact on security/public order or ineligible”. This is most probably due to broad screening criteria which are often simply labeled as “national security”, “national interest”, or “public order”. This uncertainty is further heightened due to evolving coverage. Finally, there is also uncertainty about the outcome of the investment screening process, which remains high due to the limited information about past screening outcomes in the public realm ([Westbrook, 2019](#)).

Besides the increased uncertainty, investment screening affects across-border investments through two direct and two additional indirect channels. The first and foremost direct channel

is prohibition. The number of blocked investments in the EU is in the low single-digit range (five in 2022 according to [Bencivelli et al. \(2023\)](#)).¹⁴ Second, the investment screening authority might impose conditions that lead the acquiring or target company to abandon a deal. These conditions might lower the value of the deal directly by limiting certain business activities or indirectly by signaling the risk of government intervention and monitoring in the future, lowering the current discounted value and the future reselling price.

The first indirect channel relates to the increase in transaction costs, namely the financial and time costs for regulatory compliance. Specialized outside or in-house counsel to navigate the procedures of investment screening policies is expensive, especially if multi-country approval is required.¹⁵ The second indirect channel is about deterrence. One intention of policymakers is that investment screening signals to foreign acquirers with malicious intentions that they cannot acquire security-sensitive companies. These five channels will matter to different extents for different investors.

Last but not least, we expect stronger effects in the short run. This is because policy-induced uncertainties as discussed above are diminishing over time with implementation details and application outcomes becoming better known, although they remain non-transparent. Investors and especially their legal counselors learn the procedures and risks and update their expectations. Indeed, the large majority of submitted deals were approved by authorities. As mentioned earlier, 20 percent of deals were screened in 2020 by seven EU states, among which 91 percent were approved, whereas only two percent were prohibited and seven percent were aborted.

3 Data and measures

We combine two main sources of data to study the economic effect of introducing investment screening on the number and type of foreign M&A deals. We hand-coded data on screening mechanisms for foreign investments at the sectoral level for 43 OECD or EU member countries

¹⁴See Figure 5 in [European Commission \(2021\)](#) and [Bencivelli et al. \(2023\)](#).

¹⁵According to an impact assessment carried out in France in 2018, 90 percent of the acquirers use outside counsel with service fees estimated to be around 3.5 percent to 4 percent of the transaction value ([French Government, 2018](#)). In most countries, screening was taxpayer-funded during the sample period.

from 2007 to 2022. We combine this data on foreign investment screening with deal-level data on cross-border M&As aggregated to the country-sector-year level.

3.1 Measuring cross-border M&As

Our data source for cross-border M&As is Bureau van Dijk's Zephyr database. The data contains information on worldwide investment deal transactions and has been widely used in the literature to study the allocation and effects of M&As (e.g. [Serdar Dinc and Erel, 2013](#); [Stiebale, 2016](#); [Todtenhaupt et al., 2020](#); [Todtenhaupt and Voget, 2021](#)). The database provides detailed information for each deal, namely the type, status, deal value and the acquired share, completion dates, etc. For each deal, information about the acquiring and target firms is available, including the name, country, and industry. Deals might have investors from multiple countries and/or target firms in one or several countries.¹⁶

In this paper, we consider only cross-border M&As. We exclude deals in which all investors and the target firm are from the same country. We use the information on ultimate ownership to define the origin of the investor(s). Deals with at least one foreign acquirer, either a foreign national or a firm registered abroad, are classified as cross-border deals. Such cross-border investments might still include domestic investors. For example, many US target firms are acquired jointly by foreign and US investors. We constrain our sample to deals where the target firm is located in one of the EU or OECD member states since we focus on investment screening in the EU and OECD.¹⁷ For deals with multiple target firms in different countries, we treat each acquirer–target pair as a separate transaction and consider only those transactions with a target firm in an EU or OECD country. Our final analytical sample is aggregated to the country-sector-year level based on the country and sector of the target firm and the completion year of the deal. We use information about the ownership and the country of the acquiring firm to investigate heterogeneous effects by distinguishing between investments by state-owned

¹⁶Typically, M&A deals involving target firms belonging to the same parent company but located in different countries have to gain approval from the screening authority (and other authorities e.g. the competition authority) in every country with business registration.

¹⁷Our sample includes 43 countries, including the 27 EU member states and 16 non-EU OECD countries (Australia, Canada, Chile, Colombia, Costa Rica, Iceland, Israel, Japan, Mexico, New Zealand, Norway, South Korea, Switzerland, Turkey, United Kingdom, United States).

enterprises or investors from, for instance, autocratic countries, China, or the United States.

We define the sector of a deal based on the primary industry of the target firm as reported at the four-digit NACE (Rev.2) level. Our analytical sample is a panel of the number of cross-border M&As at the country-industry level for the years 2007 to 2022. We use data for the years 2002 to 2006 to examine possible long-run trends.

Table 1 reports the number of cross-border M&As by country for the years 2007 to 2022. Large economies including the United States, the United Kingdom, Germany, France, and Canada top the list in absolute terms with more than 10,000 cross-border deals each over the sample period. Smaller economies such as Iceland and Costa Rica receive less than 150 deals during this period. Less than ten percent of all deals include investors from either autocratic countries, China, or Russia, or with participation by foreign governments or their entities. In comparison, the number of deals with participation of US investors outside of the U.S.A. is relatively high, making up more than 30 percent in major European economies and 63.7 percent of cross-border M&A deals in Canada. In sum, the table shows that the large majority of deals are made between firms from OECD and EU countries.

Figure 2a shows the time trend in the number of cross-border M&As worldwide and for European countries according to the Zephyr data with deals being defined as described above. Since the global financial crisis of 2007/08, cross-border M&As have grown from around 8,000 in 2009 to more than 20,000 in 2019 with a drastic fall after the outbreak of the COVID-19 pandemic. The time trend for European countries is broadly similar to the full sample but the number of cross-border M&As started to drop already in 2019. This might be due to the formal introduction of the investment screening regulation by the EU in 2019. **Figure 2b** shows that most cross-border M&As occur in the service and manufacturing sectors.

3.2 Data on investment screening

Our coding of ISMs was inspired by preliminary access to the PRISM data by [Bauerle Danzman and Meunier \(2023a\)](#) but we ended up generating our own dataset.¹⁸ For our identification

¹⁸One author and a research assistant searched for country-specific information from different sources (incl. legal texts) to code the dates of the dates of interest for investment screening policies. The coding was verified by the other

Table 1: Cross-border M&As in the EU and OECD countries from 2007 to 2022

No.	Country	Total	Avg.	No. of deals with participants from					EU		
		No. (1)	No. (2)	Autoc. (3)	Gov. (4)	CHN (5)	RUS (6)	USA (7)	(+ UK) (8)	OECD (9)	ISM (10)
1	United States	43926	2745	3811	1365	2035	310	11130	0	1	1
2	United Kingdom	23734	1483	2009	972	653	166	9218	1	1	1
3	Germany	20144	1259	778	907	430	101	6819	1	1	1
4	France	12955	810	455	440	199	26	4733	1	1	1
5	Canada	11183	699	632	181	397	23	7176	0	1	1
6	Australia	10176	636	1642	316	815	11	3387	0	1	1
7	Netherlands	10154	635	424	710	120	85	3538	1	1	1
8	Italy	7022	439	328	450	172	32	1577	1	1	1
9	Spain	6322	395	270	262	96	18	1480	1	1	1
10	Sweden	5550	347	151	210	64	9	1267	1	1	1
11	Japan	4879	305	1005	79	423	5	1980	0	1	1
12	Switzerland	4567	285	244	463	97	45	1574	1	1	0
13	Denmark	3500	219	81	50	44	6	856	1	1	1
14	Israel	3471	217	386	61	207	48	2270	0	1	1
15	Belgium	3210	201	94	174	45	10	653	1	1	0
16	Ireland	3144	196	84	101	19	10	1316	1	1	0
17	Poland	2917	182	85	44	27	10	262	1	1	1
18	Finland	2831	177	124	159	58	29	672	1	1	1
19	Korea, Rep.	2807	175	757	104	424	4	1030	0	1	1
20	Norway	2710	169	75	73	24	10	472	1	1	1
21	New Zealand	2115	132	139	28	66	2	443	0	1	1
22	Bulgaria	2090	131	155	35	31	69	121	1	0	0
23	Czechia	1867	117	134	28	30	72	121	1	1	1
24	Austria	1544	96	86	78	24	24	204	1	1	1
25	Mexico	1530	96	66	35	33	1	703	0	1	1
26	Luxembourg	1478	92	112	53	43	20	335	1	1	0
27	Portugal	1363	85	70	89	25	4	201	1	1	1
28	Turkey	1274	80	287	64	14	18	225	0	1	1
29	Romania	1187	74	75	29	15	14	97	1	0	1
30	Cyprus	901	56	266	51	17	200	100	1	0	0
31	Chile	881	55	47	34	34	0	203	0	1	0
32	Colombia	821	51	35	17	13	1	236	0	1	0
33	Hungary	691	43	36	35	9	10	83	1	1	1
34	Estonia	651	41	41	19	10	22	88	1	1	1
35	Latvia	535	33	40	15	1	28	24	1	1	1
36	Lithuania	527	33	28	15	5	11	39	1	1	1
37	Greece	489	31	34	30	5	8	58	1	1	0
38	Slovakia	464	29	10	14	1	5	27	1	1	1
39	Croatia	415	26	33	16	9	8	35	1	0	0
40	Slovenia	340	21	20	11	2	5	23	1	1	1
41	Malta	242	15	34	8	8	3	37	1	0	1
42	Iceland	147	9	7	2	3	0	44	1	1	0
43	Costa Rica	121	8	1	3	1	0	36	0	1	0

Notes: The table shows the number of cross-border M&As in the EU and OECD countries between 2007 and 2022. Countries are ranked by the total number of cross-border M&As (column 1). Column (2) reports the yearly average number of deals for each country. Columns (3) to (7) report the number of cross-border M&As with at least one acquiring firm from autocratic countries, related to foreign government entities, or from China, Russia, or the US. Autocratic countries are defined as in Bjørnskov and Rode (2020). The last column indicates whether a country screened investments in at least one sector and year during 2007-2022. *Source:* Author calculation based on data from the Zephyr and own dataset on investment screening.

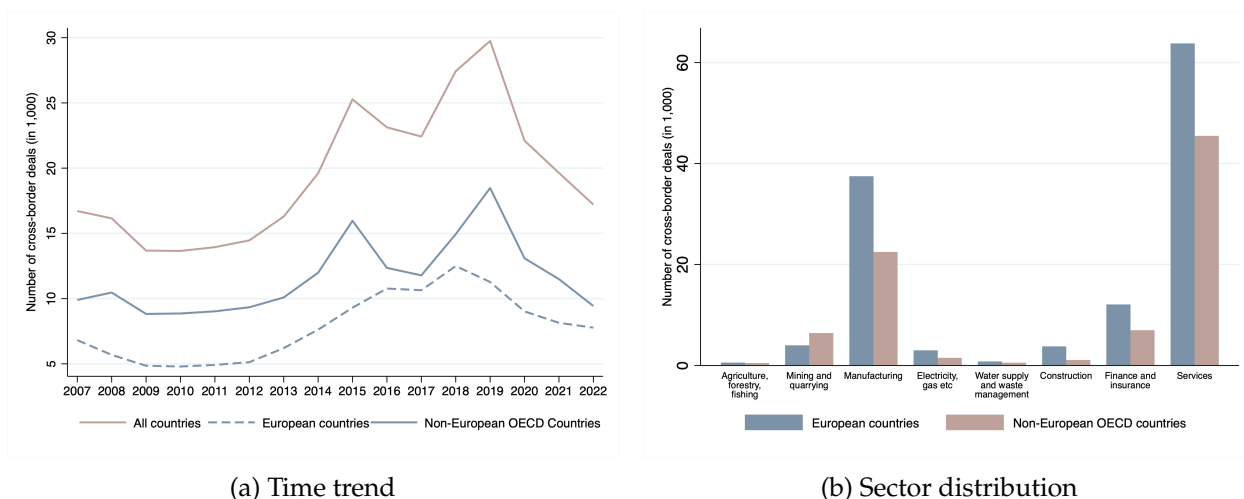


Figure 2: Time trend in the number of cross-border M&As and sectoral distribution: 2007-2022

Notes: Figures show the time trend and the sectoral distribution of the number of cross-border M&As in 43 OECD and EU countries for the years 2007-2022. The service sector in Figure (b) includes all service industries except for financial services. Source: Author calculation based on the Zephyr data.

strategy, we coded details on the adoption of investment screening (the date of decision, official announcement, and implementation) and information on all EU and OECD members.¹⁹ Our coding mostly relies on the list of sectors as identified by [Bauerle Danzman and Meunier \(2023a\)](#).²⁰ Table A.1 in the Appendix lists the sectors, which are screened in at least one country and which are derived from sector specifications in legal texts. The data on investment screening has 24,080 observations covering 35 investment screening sectors, 43 countries, and 16 years.

As we show in [Figure 1](#), only 11 out of 43 sample countries screened foreign investments in 2007. This number increased to 31 countries in 2022 (see also [Table 1](#)). Similarly, the number of country-sectors with investment screening was 46 out of 1,505 in 2007 (excluding cross-sectoral screening for which we account in robustness checks). This number increased to 396 in 2022. The rising trend in the number of countries and country-sectors can be observed in both EU member states and non-European OECD countries.

coauthor.

¹⁹The PRISM data set does not contain information on all of these dates and does not cover non-OECD EU countries. We coded the dates with the goal of conducting subannual analysis and controlling for potential anticipation effects following the announcement of the investment screening policy. However, since the dates of announcement and entry into force are mostly close and almost always in the same year, any potential anticipation effects would be only minimal.

²⁰We do not use the following three sectors in our data because they are too broad to be usefully matched to NACE sectors. They are controlled dual-use, critical supplies, and co-location (i.e. physical location of target firm or one of its plants close to national security operations or national border).

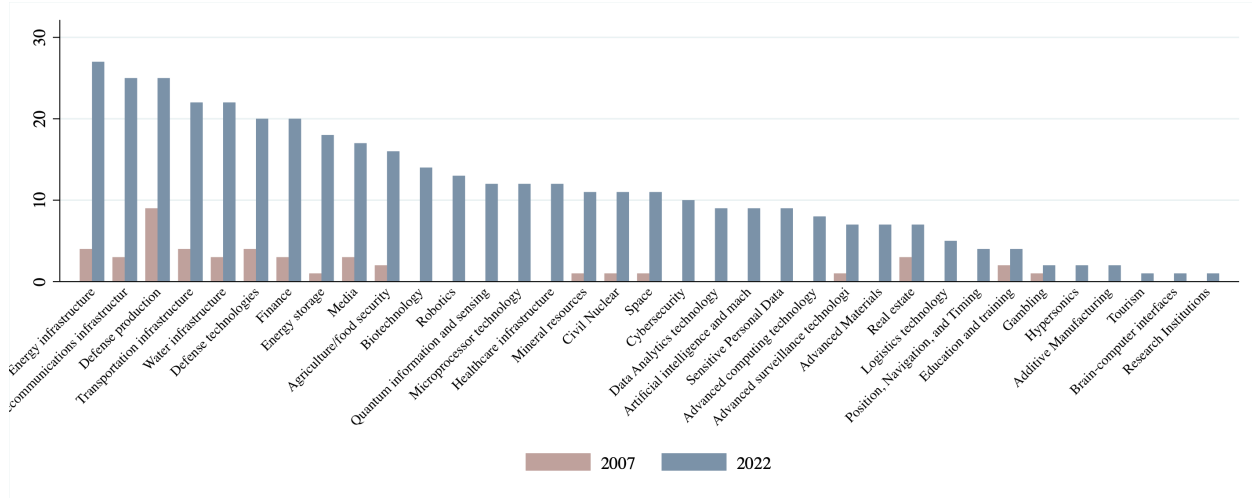


Figure 3: Sectoral coverage of investment screening

Notes: The figure shows the number of countries with an ISM by sector in 2007 and 2022. Sectors are ranked by the number of countries with investment screening in 2022. *Source:* Author calculation based on own dataset on investment screening.

Figure 3 shows the distribution of the number of countries with investment screening by sector for the years 2007 and 2022. Consistent with the patterns in Figure 1, the number of countries with investment screening increased in all sectors. In both years, countries differ substantially in the sectors that they screen. Investments in infrastructure-related sectors (energy, telecommunications, transportation, water) are much more likely to be screened in a given country in 2022 compared to 2007, although infrastructures were already screened in several countries in 2007. The large majority of countries screen foreign investments in sectors closely linked to national security, such as defense production, defense technologies, and civil nuclear technology. In contrast, investments in tourism, brain-computer interfaces, and research institutions have only recently begun to be screened for national security risks, and only in a small number of countries.

3.3 Matching the M&A and investment screening data

To analyze the impacts of investment screening on cross-border investments, we match our own data on ISMs to the Zephyr M&A data. Before describing the matching process in more detail, we note that the process seems to have worked well. Based on our matched sample at the sector level, 275 non-European deals were potentially subject to screening in Germany. According to the

2021 Annual Report on Investment Screening,²¹ German authorities examined 306 national cases whereof 22 were by EU/EFTA investors, resulting in 284 national cases by non-EU/non-EFTA investors. This implies that our matching process captures the actual extent of screening quite well and, as intended, reflects how companies understand the application of the regulation.²²

Because of the different industry classifications in these two datasets, we manually match screened sectors in the ISM data to the four-digit NACE sectors in the M&A data (Table A.1 in the Appendix).²³ A four-digit NACE sector in a country is subject to investment screening if the NACE code can be matched to an investment screening sector. In many cases, one investment screening sector matches several NACE codes. This is similar to what firms would experience when considering whether their company is subject to sector-specific investment screening.

It is worthwhile mentioning that there is no public data with information about the deals that were actually screened. We thus cannot measure the direct effect of investment screening on screened deals and compare it to non-screened deals. Defining treatment at the sector level essentially assumes that all firms whose primary four-digit NACE sector is matched are subject to screening. This assumption in our case is very reasonable because in many cases, authorities do not disclose eligibility details, which exposes all firms in a sector to the uncertainty about screening.

Figure 4 shows the approximated annual number of deals that are and are not subject to screening based on the matched sample. While the total number of deals fluctuates over time and even decreases after 2019, the number of deals subject to screening shows a steadily increasing trend. The increasing number (and also share) of screened deals is due to a rising number of countries screening ever more sectors.

In Table A.2 in the Appendix, we present the summary statistics of key variables used for the empirical analyses.

²¹Online, the report has been replaced by more recent reports but is available from the authors upon request.

²²Note that most M&A transactions in Germany are based on voluntary notification. Companies seek to obtain a certificate of compliance (“Unbedenklichkeitsbescheinigung”) and thus have regulatory certainty that the deal will not be screened later on.

²³The cross-walk was separately coded by a research assistant and a co-author. Their respective coding was compared and double-checked by the other co-author.

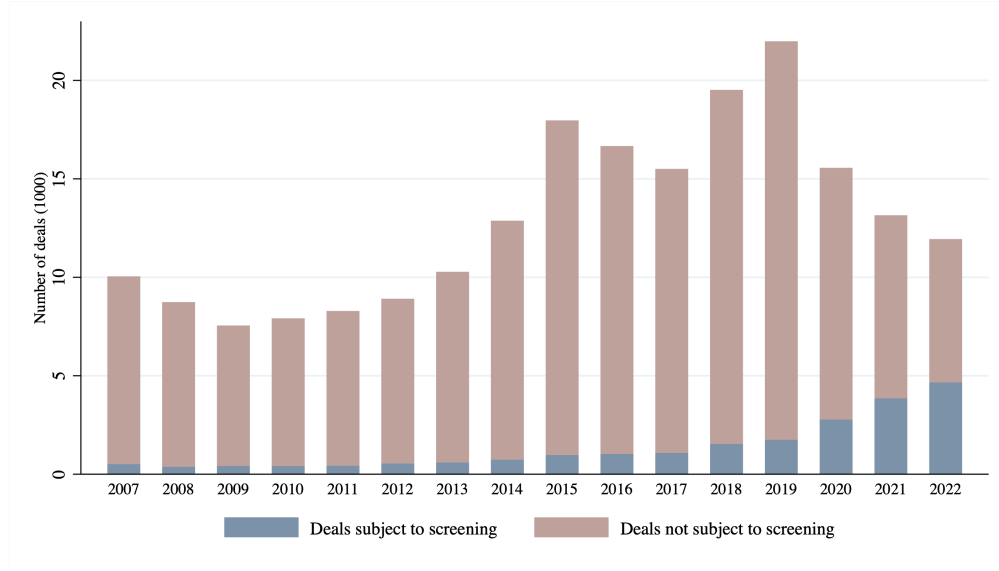


Figure 4: Number of deals subject to screening over time

Notes: Figure shows the number of deals subject to screening over time based on the matched sample. Source: Author calculation.

4 Empirical specification and identification strategy

To examine the effects of ISMs on cross-border M&As, we employ a staggered DDD approach at the country-sector-year level. We exploit variation in the implementation year of investment screening across sectors and countries. Essentially, we thus compare the number of cross-border M&As in a country before and after the introduction of screening of a specific sector to other sectors in the same country and to the same sector in other countries without screening. The causal interpretation of the DDD estimates depends on the exogeneity of the treatment, i.e. that countries and sectors with investment screening would have had a parallel trend in the outcome variable to those without investment screening in the absence of the policy. However, we cannot observe the counterfactual. We test the parallel trend assumption in an event study analysis by exploring the pre-treatment parallel trends, which we discuss in detail below. Because of a high share of zeros in the dependent variable, i.e. no deals in many country-sector-years, we use Poisson Pseudo-Maximum Likelihood (PPML). PPML accounts for heteroskedasticity and is widely used in the (trade) gravity literature as well as in studies in other contexts when the dependent variable has a large share of zeros (e.g. Santos Silva and Tenreyro, 2006; Todtenhaupt et al., 2020).²⁴ The DDD

²⁴Weidner and Zylkin (2021) prove the consistency of the three-way fixed effect estimator under PPML.

specification takes the following form:

$$N_{cst} = \exp(\beta ISM_{cst} + \gamma Trade_{cst} + \zeta \mathbf{X}_{cs}^{pre} \times Year_t + \delta_{ct} + \phi_{st} + \theta_{cs}) \times \varepsilon_{cst} \quad (1)$$

where N_{cst} denotes the total number of cross-border M&As measured at the country c -sector and s level in year t . In our baseline analysis, we use the sample of cross-border M&As where foreign investors may come from any country. In heterogeneity analyses, we utilize information about the source country of acquirers. ISM_{cst} is a binary variable indicating the presence of investment screening policies for national security in country c in sector s in year t . This variable equals zero for the years before the introduction of the ISM and turns one in the year and for the sector when an ISM entered into force. The variable value remains zero for all years for country-sectors without an ISM. We mitigate concerns about potential omitted variable bias by including a set of control variables including international trade ($Trade_{cst}$) and four potential determinants of the ISM adoption which are then interacted with year dummies ($\mathbf{X}_{cs}^{pre} \times Year_t$). We discuss the role of these control variables in more detail below. We also use country-year fixed effects δ_{ct} , sector-year fixed effects ϕ_{st} and country-sector fixed effects θ_{cs} to account for any time-variant factors at the country or sector level and time-invariant factors at the country-sector level. Consequently, the identification of the impact of screening on cross-border M&As stems from variation in each country-sector pair over time. We cluster standard errors ε_{cst} at the four-digit NACE sector level to account for potential correlations within sectors over time.

The identification of a causal effect of investment screening on the number of cross-border M&As relies on the (quasi-)exogenous implementation of the ISMs. One major threat to this assumption is the non-random adoption of an ISM in certain countries and sectors. Sectors with an ISM are deemed critical to national security and are likely to be systematically different from other sectors. Also, not all countries in our sample introduced an ISM and these countries are likely to differ from countries with an ISM also in other policies. Countries with an ISM may, for instance, have more firms in critical sectors or have had more foreign acquisitions of strategic firms in the past and are therefore more concerned about risks from FDI to national security. We note that there is no risk of reverse causality arising from an individual foreign investor or investment. This

is because governments want to preserve investors' trust in the investment environment and its legal predictability. They would thus decide that any new ISMs would apply only to new deals. In other words, the country-level adoption of investment screening can be considered exogenous to the individual firms engaging in M&A deals.

We address possible endogeneity concerns in four ways. First, we aim to ensure that we compare country-sector duplets that are similar in all aspects except for having an ISM. To this end, we first exclude those sectors that are potentially very different as indicated by the fact that no country has (yet) had any security concerns. Empirically, we thus constrain our sample to sectors that were screened in at least one country during our sample period.²⁵ In a similar vein, countries that never screened foreign investments are potentially quite different from countries with an ISM in at least one sector.²⁶ As a further validation, we always show the results based on a constrained sample including only those countries that screened foreign investments in at least one sector during our sample period.

Second, we include a set of strict fixed effects that help absorb confounding factors at the relevant level. Specifically, the inclusion of industry-year fixed effects accounts for time-variant and time-invariant characteristics at the industry level, ensuring that we are comparing cross-border M&As within the same industry and year. The country-year fixed effects capture all time-variant and time-invariant factors that explain variations in cross-border M&As at the country level (over time), including factors at the country level that affect the introduction of investment screening. Finally, the country-sector fixed effects account for time-invariant differences across country-sectors, e.g. differences in the size of industries across countries or different degrees of sectoral openness to foreign investments. While these three types of fixed effects are useful in absorbing possible omitted variables at the respective levels, time-variant characteristics at the country-sector level that are correlated with the introduction of investment screening and foreign investment could still bias our results.

To further address concerns about time-variant confounding factors at the country-sector level,

²⁵200 out of 615 four-digit NACE (Rev.2) sectors were screened in at least one country and year during the sample period. Results are robust to this sample restriction: [Table A.3](#) shows results based on the sample including all NACE sectors.

²⁶15 of the 43 sample countries did not screen any sector during the sample period.

we include a host of control variables in our regressions. Importantly, we allow for a country-sector-specific time-trend in the initial, pre-sample differences in the exposure to different types of foreign investment which might affect the likelihood of adopting an ISM. We hypothesize that concerns about national security were higher in sectors with more foreign investments, especially if they came from Chinese firms and foreign government entities. Such countries and sectors may thus be more likely to introduce investment screening (Eichenauer et al., 2021; Bauerle Danzman and Meunier, 2023a). Controlling for this possibility reduces concerns about the endogeneity of treatment with investment screening. Note that country-sector fixed effects in our estimations can capture the differential exposure to foreign investment. To allow for possible time-variant effects, we thus consider four pre-determined variables which we interact with year dummies: the 2002-2006 country-sector average of the total number of cross-border M&As, and respectively the number of M&As with Chinese, US, or a foreign state-related entity as investors.²⁷ In Table A.4 in the appendix, we show that country-sectors with a higher number of cross-border M&As and with more deals including government entities or SOEs were more likely to introduce investment screening. The number of China- and US-participated deals, however, did not seem to be a primary concern. The lack of significance for China-participated deals could be due to the fact that China's overseas investments were still quite low in the early 2000s. Nevertheless, controlling for the four possible determinants reduces concerns about the endogeneity of treatment with investment screening. In addition, we control for international trade because of the close relationship between trade and FDI (Fontagné, 1999).

Lastly, we perform an event study type of analysis to explicitly examine whether there are differential pre-treatment trends which would threaten the assumptions underlying the difference-in-differences approach. This analysis includes the strict fixed effects and control variables and uses the restricted samples as described above.

²⁷We use the natural logarithm of these values. To account for zero values, we add one before taking the logarithm.

5 Empirical results

5.1 Baseline results

We present our baseline estimates in [Table 2](#). Estimates in columns (1) and (2) are based on the full sample of 43 OECD and European countries while columns (3) to (4) focus on the sample of European countries. Columns (1) and (3) use the sample including all (European) countries and columns (2) and (4) are based on the sample of (European) countries that screened foreign investments in at least one sector and one year during our sample period (the “screening countries”). All specifications include country-year, sector-year, and country-sector fixed effects, and the 2002-2006 average of the total number of cross-border (CB) M&As, the number of cross-border M&As with Chinese, US, and foreign government participation, each interacted with year dummies.

[Table 2](#) displays a negative and statistically significant coefficient estimate for the ISM indicator in all columns. This indicates that the number of sectoral cross-border M&As decreased following the introduction of investment screening. The introduction of an ISM reduced the number of cross-border M&As by 12 to 16 percent on average depending on the estimation sample. Benchmarking the size of the effect on the yearly average number of deals across countries, which is 167, similar to the number in Norway (see [Table 1](#)), we estimate that the introduction of a sector-specific ISM translates into a reduction of 20 to 27 deals in the average sample country. In countries with high levels of cross-border M&As before the ISM, the reduction is likely to be even larger. Could the size of the estimated effect simply reflect prohibition and deterrence effects? This question is important but difficult to answer because the number of deals that are prohibited or deterred by investment screening is unknown. However, we know that the number of blocked deals is low, for instance, only five deals were blocked in the United Kingdom in 2021 and four in Italy in 2022 ([Bencivelli et al., 2023](#)). It is thus likely that a large chunk of the negative effect can be attributed to increased uncertainty and transaction costs following the introduction of investment screening.

The causal interpretation of these estimates depends on the exogeneity of the treatment. Despite the inclusion of strict fixed effects and control variables in our regressions, which help

Table 2: Investment screening and cross-border M&As: Baseline results

Dep. var:	OECD and European countries		European countries	
No. of CB M&A	(1)	(2)	(3)	(4)
	All countries	Screening countries	All countries	Screening countries
ISM	-0.124** (0.056)	-0.132** (0.056)	-0.156*** (0.059)	-0.174*** (0.059)
Trade	Yes	Yes	Yes	Yes
Initial CB M&A \times year	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes
Observations	64,363	49,141	41,850	31,515

Notes: The table shows PPML estimates of Equation (1) based on data for the years 2007-2022. The outcome variable is the annual number of cross-border M&As at the country-sector level. Columns (1) and (3) are based on all four-digit NACE sectors in which investment screening was implemented in at least one country (labeled as “All countries”). Columns (2) and (4) constrain the sample to countries where screening was implemented in at least one sector during our sample period (labeled as “Screening countries”). All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As (2002-2006), each of which is further interacted with year dummies: total number of cross-border M&As, and the number of M&As with Chinese, US, or government participation respectively. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

address possible endogeneity, we do not yet know whether countries and sectors with and without investment screening would follow a parallel trend. To explore this, we follow the literature and examine the pre-treatment trends in an event study, using the following estimation specification:

$$N_{cst} = \exp\left[\sum_{m=-5}^5 \beta_m ISM_{csm} + \gamma Trade_{cst} + \zeta \mathbf{X}_{cs}^{pre} \times Year_t + \delta_{ct} + \phi_{st} + \theta_{cs}\right] \times \varepsilon_{cst} \quad (2)$$

where ISM_{csm} is a dummy variable indicating the number of years m before or after investment screening was introduced in sector s in country c . $ISM_{cs,-5}$ and $ISM_{cs,5}$ indicate five years or more before and after the introduction of investment screening respectively. Following the literature, we use the year before the introduction of the ISM, $t - 1$, as the reference period. The coefficient β_m estimates the average difference in the number of cross-border M&As in countries and sectors with ISMs in year m relative to country-sectors without ISMs in year m compared to the pre-

treatment year. We estimate Equation (2) with the same set of control variables and fixed effects as in Equation (1). If countries and sectors with and without a future introduction of an ISM follow a parallel trend pre-treatment, β_m should not be statistically different from zero for the years before the introduction of the ISM.

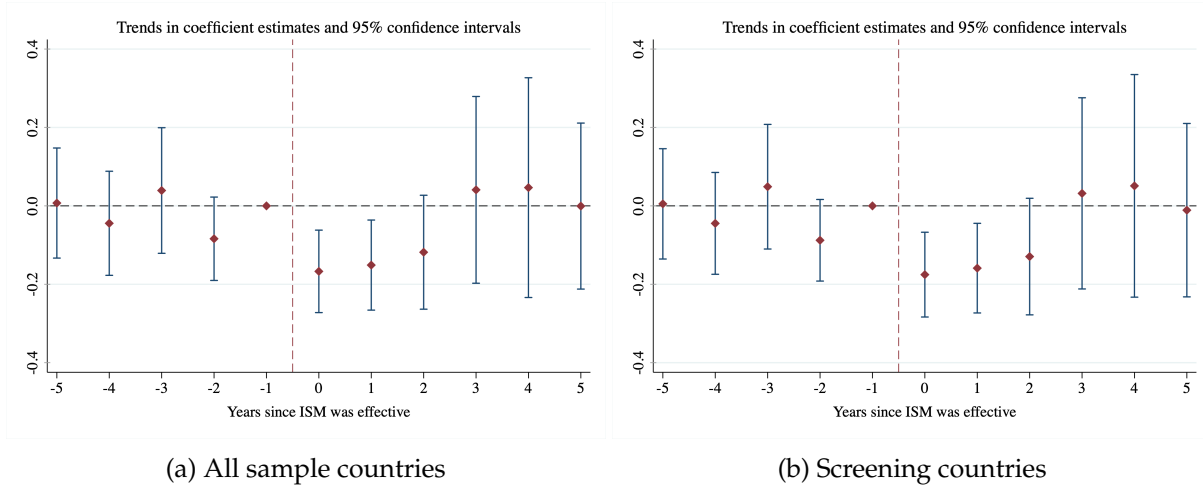


Figure 5: Event study estimates: Investment screening and cross-border M&As

Notes: Event study coefficients and their corresponding 95 percent confidence intervals for triple difference PPML estimations of the number of cross-border M&As in country-sectors with and without ISMs for the period 2007-2022, following Equation (2). The dashed line separates the years before and after treatment. Figure (a) is based on the sample of all OECD and European countries (column 1 in Table 2). Figure (b) is based on the screening countries where at least one sector was screened during the sample period (column 2 in Table 2). All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As, and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Standard errors are clustered at the four-digit NACE sector level.

Figure 5 shows that the difference between treatment and control groups is not statistically significant before the introduction of investment screening, suggesting the absence of a pre-trend. This also implies that there are neither anticipation nor selection effects conditional on the set of covariates, hence conditional exogeneity holds. In both panels, the estimated coefficients are negative and significant in the year of adoption (year 0) and in the first year after adoption (year 1) but turn insignificant thereafter. This suggests an immediate and short-run adverse effect of ISMs on cross-border investments. Possible explanations for this short-lasting effect is that screening details become clearer for lawyers who are better able to advise clients, or investors learn how national authorities implement investment screening in practice, both of which would reduce the initial uncertainty. In addition, firms may have learned that a vast majority of screened M&A are eventually approved (European Commission, 2021). An alternative explanation is due

to imprecise estimates because many countries introduced investment screening in 2020 or later such that the estimates for periods $t + 3$ to $t + 5$ rely on less treated country-sectors. We show in the robustness section that the average effect of investment screening remains negative and significant if we constrain our sample to the years until 2019. The recovery of deal numbers to the pre-treatment level in the period $t + 2$ and onward suggest that there is no catch-up effect, i.e. that the counterfactual deals in t and $t + 1$ are not postponed but permanently canceled (or diverted to another country). Overall, the dynamic patterns shown in [Figure 5](#) indicate that the sharp increase in policy uncertainty shortly after the introduction of investment screening seems to be the primary mechanism through which it negatively affected foreign investment. The effects through alternative channels such as prohibition, deterrence or abortion should be rather time-constant.

To preclude the possibility that our results are confounded by long-term trends, we perform a placebo test by replacing the dependent variable, the number of cross-border M&As, with its lagged value by five years (relative to the adoption of ISMs).²⁸ The estimation results are reported in [Table A.5](#). Across all specifications, none of the estimated coefficients is significant. This suggests that there are no systematically different pre-trends, reassuring us that our results are not confounded by pre-existing differences between sectors and countries treated and untreated, conditional on initial conditions and fixed effects.

5.2 Robustness analyses

This subsection presents various robustness analyses of our main results. We modify the treatment definition, use alternative ways of counting cross-border deals, and change the sample period. We also check the intensive versus extensive margin adjustments and a specification including linear time trends.

We start by redefining how we deal with M&A targets that have multiple affiliates domiciled in different countries. In our baseline analysis, we treated each acquirer-target pair as a separate

²⁸We estimate

$$N_{cs(t-5)} = \exp(\beta ISM_{cst} + \gamma Trade_{cst} + \zeta X_{cs}^{pre} \times Year_t + \delta_{ct} + \phi_{st} + \theta_{cs}) \times \varepsilon_{cst} \quad (3)$$

where $N_{cs(t-5)}$ measures the number of cross-border M&As in year $t - 5$.

transaction and thus counted the same deal separately for all countries with an affiliate of the target company. This is consistent with the fact that national screening authorities in all screening countries with a domiciled affiliate can independently screen this transaction. Each national authority may come to a different result than authorities elsewhere. The approach for our main results ensures that we do not miss any deals and decisions. However, there is a possibility that the same deal is screened in one country but not in other countries, which would introduce measurement errors and bias our estimates downward. In the first robustness check, we thus exclude deals with multiple target firms from the sample and repeat the estimations in [Table 2](#) with results reported in [Table A.6](#) of the Appendix. The size of the estimated coefficients remains almost unchanged, suggesting that our baseline estimates are not driven by multi-country deals. This is not surprising given the small share of such deals in the sample.²⁹

In the second robustness, we change the sample period mainly for two reasons: first, potential COVID-19 effects on the M&A market might not be absorbed by the fixed effects, and second, treatment frequency is higher at the end of the sample period. The temporal distribution of treatment effects matters because the pre- and post-treatment length affect the weighting of treatment effects ([de Chaisemartin and D’Haultfoeuille, 2022](#)). [Figure 1](#) above shows that most countries introduced ISMs after the financial and Euro debt crises (2009-2010). Panel A of [Table 3](#) uses data for the pre-COVID period (2007-2019) and panel B the years 2017-2022 when the European Screening Regulation was discussed, decided, and entered into force. The [European Commission \(2019\)](#) defines rules for existing and new investment screening rules and procedures but does not require member states to introduce investment screening. Nevertheless, it has raised political awareness for the new policy instrument ([OECD, 2022](#)), and the number of countries and sectors introducing the ISMs experienced a rapid increase. Panels A and B continue to show evidence that ISMs have a negative effect on cross-border investments. By limiting the analysis to less than a third of the original sample, we lose some statistical power in Panel B. However, the coefficient values are relatively robust. In panel C, we constrain our sample to the post-financial crisis period (2012-2022), and our main findings are re-confirmed.

²⁹The number of deals with target firms located in different countries is 6,880 during our sample period, which takes 2.25 percent of the total number of cross-border deals.

Table 3: Investment screening and cross-border M&A deals: Robustness to sample periods

Dep. var:	OECD and European countries		European countries	
No. of CB M&A	(1)	(2)	(3)	(4)
	All countries	Screening countries	All countries	Screening countries
Panel A: Sample 2007-2019 (pre-COVID19)				
ISM	-0.172** (0.087)	-0.184** (0.090)	-0.219*** (0.081)	-0.243*** (0.084)
Observations	50,522	38,863	32,923	24,931
Panel B: Sample 2017-2022 (EU investment screening regulation)				
ISM	-0.121 (0.074)	-0.125* (0.073)	-0.169** (0.084)	-0.179** (0.082)
Observations	17,555	13,820	11,393	8,773
Panel C: Sample 2012-2022 (after the financial crisis)				
ISM	-0.132** (0.053)	-0.140*** (0.052)	-0.157*** (0.056)	-0.172*** (0.055)
Observations	40,552	31,122	26,442	19,880
Trade	Yes	Yes	Yes	Yes
Initial CB M&A \times year	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes

Notes: Table shows PPML estimation results based on data of shorter periods: 2007-2019 in Panel A, 2017-2022 in Panel B, and 2012-2022 in Panel C. All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

As an additional robustness check, we confirm that our results are not driven by our coding of cross-sectoral investment screening. We code a country-sector as having screening only if the countries have a regulation that highlights particular sectors as critical. From a statistical point of view, this coding strategy does not invalidate our identification strategy: any possible treatment effects of cross-sector screening that are common to all sectors are absorbed by the country-year fixed effects. One could, however, imagine that the intensity of cross-sector screening may differ across non-explicitly named sectors. In that case, the estimated effects of our regression would

suffer from omitted variable bias. We examine the effect of cross-sector coding in two ways: in columns (1)-(2) of [Table A.7](#), we exclude countries that had cross-sector screening in earlier years and introduced a sector-specific ISM in later years as well as countries that practiced cross-sector screening during the full sample period. In columns (3)-(4), we further exclude countries that started with sector-specific screening and then extended screening to all sectors. Results are robust to these reduced samples: the coefficients for ISMs are negative and statistically significant in all specifications. Coefficient estimates are slightly larger than the baseline results, suggesting that the coding for our main results might have biased the effect downward. Our main results are also robust when we code countries with cross-sector screening as screening all sectors (see [Table A.8](#)). We thus conclude that the coding in the main specification together with the high-dimensional fixed effects captures potential country-level effects of cross-sector screening reasonably well and provides a lower-bound estimate of the effect of investment screening on cross-border M&As.

Finally, we confirm that our results are driven by the intensive rather than extensive margin adjustments in M&As, as shown in [Table A.9](#). The outcome variable for panel A is a dummy variable indicating any deal in sector s country c in year t and is estimated using a linear probability model. The outcome variable for panel B is the number of deals based on the sample of country-sectors with at least one deal throughout the sample period. Finally, we show that our results are not due to a country-sector linear time trend ([Table A.10](#)).

5.3 Heterogeneous effects

The heterogeneity analyses in this section allow us to understand the main drivers of our baseline results and hence shed light on the mechanisms through which investment screening reduces cross-border M&As. We use the detailed information on M&A transactions reported in the Zephyr data to conduct additional analyses, namely regarding the post-acquisition control of the investor over the company (percentage of acquired shares) and the origin and type of investors.

We first analyze whether the effect of ISMs depends on the percentage of stakes that the investor seeks to acquire. We expect that the direct effects of screening, i.e. the intended mechanisms of deterrence and prohibition, are stronger for deals where a large percentage

of shares is acquired as authorities may be more critical of a transaction where the majority shareholder changes. On the other hand, investment screening might have stronger indirect effects, especially regarding transaction costs, for smaller acquisitions. Screening is associated with rather constant transaction costs for investors which might chill investments more when a small percentage of shares and thus less influence over the target company is acquired. Note that a small percentage of acquired shares does not necessarily mean a small deal size in financial terms. However, our deal-level data shows a positive correlation between the percentage of acquired shares and deal value: the average deal value for minority deals, major deals, and full acquisitions is 54,804.3 Euro, 226,004.9 Euro, and 239,598.8 Euro, respectively. Most authorities screen acquisitions only above certain thresholds, often defined by the percentage of shares acquired. The thresholds are often motivated by the influence or control that the investors would gain over the firm. As described above, threshold definitions differ across countries and sometimes additional criteria are used to determine whether a transaction is subject to screening. In [Table 4](#), we classify deals into four groups according to the cumulative share of acquired stakes taking into account previously acquired shares: minority deals with an acquired stake below 50 percent, majority deals with an acquired stake between and including 50 percent and 100 percent but not including the latter, deals with a full ownership change, and deals where the acquired stake is not available in the database.³⁰ [Table 4](#) shows significant and negative effects of investment screening only for minority deals. For majority deals, our results show instead that ISMs have a positive effect and such an effect is only significant for the European country sample (column 6). The estimated coefficients for full acquisitions and deals with unknown acquisition shares are not statistically significant. To test whether these differences are statistically different, we estimate an interaction model by stacking the different data sets and show the coefficients of the relevant interactions in the lower panel of [Table 4](#), as taken from [Table A.11](#). The interactions show that, compared to minority deals, investment screening led to significantly more majority acquisitions. However, the negative impact on minority deals appears to outweigh the positive

³⁰ Authorities screen cross-border investment deals (again) based on the cumulative number of acquired shares by the same investor. We, however, confirm that our results are robust when we use the newly acquired share of stakes to classify deals into the four size categories.

Table 4: Heterogeneity by type of acquisition: minority, majority and full acquisitions

Dep. var:	OECD and European countries				European countries			
No. of CB M&A	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Minor	Major	Full	Unknown	Minor	Major	Full	Unknown
ISM	-0.151*	0.110	-0.003	0.084	-0.236***	0.169**	0.040	-0.077
	(0.083)	(0.072)	(0.047)	(0.187)	(0.088)	(0.080)	(0.050)	(0.224)
For comparison: Coefficients from the interaction regression in Table A.11								
Diff. relative to minor		0.261**	0.148	0.235		0.405***	0.276***	0.160
		(0.108)	(0.091)	(0.203)		(0.122)	(0.102)	(0.240)
Trade	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial CB M&A \times year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	35,766	28,706	53,811	8,639	21,931	18,899	35,135	3,959

Notes: Table shows PPML estimation results of [Equation \(1\)](#) for different samples of M&A deals: Minority deals are those in which less than 50 percent of the target firm's shares are acquired; major deals are those in which 50 percent (inclusive) to 100 per cent of the shares are acquired, full ownership deals are the ones with 100 percent of acquired stakes, and unknown deals are those without information on the share of acquired stakes. All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: the total number of cross-border M&As and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

effect on majority deals, resulting in an overall negative impact, as shown in [Table 2](#). This is perhaps not surprising, given that the magnitude of the negative impact is larger than the positive impact, and the number of minority deals is substantially higher than that of majority deals. In our sample, the yearly average number of minority deals is 4,172, compared to a significantly lower number of majority deals, which is 598. The coefficient estimates in columns (1) and (2) indicate that screening reduced the number of minority deals by 584 ($4,172 \times 14.0\%$) whereas it increased the number of majority deals by 69 ($598 \times 11.6\%$). The net effect is a decrease of 515 deals.

These heterogeneous effects by share of acquired stakes are probably unintended by policy-makers since deals with a high acquired share and thus more control by the new foreign owner

should on average be of greater concern for national security, and therefore are more likely to experience high scrutiny. The intended effects and alternative mechanisms, prohibition and deterrence, should not be the main drivers as we expect them to have homogeneous effects for deals of different sizes or, if anything, stronger impacts on deals with a high acquired share. These results would also be consistent with reallocation effects from minor to major deals due to investment screening.

The heterogeneous results by deal size suggest that majority deals are relatively immune to ISMs whereas minority deals are much more sensitive to policy uncertainties and the costs of compliance. Given the positive correlation between financial deal value and the share of stakes acquired, we hypothesize that investment screening has also increased the average deal size in financial value. With a lower overall number of deals but a larger average deal size, the impact on total investments is *ex ante* unclear. We examine these possibilities in [Table 5](#) where we replace the outcome variable with the average deal value measured at the country-industry-year level in Panel A and the total value of all cross-border M&As in Panel B. For deals with missing values, we extrapolate their values by using the median value of all deals within the same two-digit NACE sector in that year, as in [Todtenhaupt et al. \(2020\)](#). However, due to the large number of missing values, we should interpret the results with caution. Both measures of investment size are calculated based on the Zephyr database and are at the four-digit NACE level. The results show that ISMs have a significant positive effect on the average investment size, which is consistent with reallocation from smaller to larger cross-border investments. The impact on the total investment size is positive but only marginally significant in column (4) where the sample is constrained to European countries with ISMs. The largely insignificant impact on the total investment size suggests that the positive effects on majority deals and the negative effects on minority deals may have offset each other in terms of values.

Our second heterogeneity analysis regards the origin country of the foreign investor. We start by distinguishing between M&A investors by regime type of their country of origin. We classify an M&A deal as autocratic if at least one acquiring investor is from an autocratic country and

Table 5: Investment screening and cross-border M&As: Effects on deal values

	OECD and European countries		European countries	
	(1)	(2)	(3)	(4)
	All countries	Screening countries	All countries	Screening countries
Panel B: Dep. var: Average deal value				
ISM	0.328**	0.405***	0.484***	0.654***
	(0.150)	(0.148)	(0.159)	(0.158)
Observations	18,140	15,259	11,765	9,278
Panel A: Dep. var: Total deal value				
ISM	0.080	0.097	0.147	0.199*
	(0.107)	(0.109)	(0.111)	(0.114)
Observations	18,138	15,257	11,765	9,278
Trade	Yes	Yes	Yes	Yes
Initial CB M&A \times year	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes

Notes: Table shows PPML estimation results based on data between 2007 and 2022. The outcome variable is the average value per cross-border investment deal in Panel A and the total value of all cross-border investments in Panel B, both measured at the country-sector-year level. All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

as democratic otherwise.³¹ The classification of country-years by binary regime type is based on Bjørnskov and Rode (2020). We find a negative and mostly significant effect of screening on investments from both democratic and autocratic countries in Panel A of Table 6. The table also shows that the estimated effect of ISMs is not significantly different across regime types, as shown by the coefficient of *Coeff. diff.* which is estimated as the interaction effect in a stacked dataset (see Table A.12).

Recipient countries worry in particular about acquisitions by foreign governments or state-

³¹In our sample, 9.1 or 7.6 percent of deals have at least one acquiring firm from an autocratic country.

related actors because of the high likelihood that the ownership and corresponding influence of a foreign government will be (ab)used for politics (see [Table A.4](#)). Investors owned directly by foreign governments or with close connections to them are often discussed as posing higher risks: they may be politicized or even used for economic coercion by the foreign state. However, some state-related investments from, for example, foreign pension funds, might be welcome. We utilize the information on the ultimate ownership of the acquiring firms and differentiate between deals with and without the participation of government institutions or SOEs. The results in Panel B show that ISMs have reduced the number of deals with the participation of government institutions or SOEs but also have a negative effect on private deals. The magnitude of the coefficients on government or SOE-participated deals is larger than that on private deals. However, our results based on the interaction model show no evidence that the effect of ISMs significantly differs by type of investor. The negative effect on deals involving foreign governments is probably an intended effect of investment screening. However, the strong negative impact on private deals is likely unintended. We obtain similar results when we define deals with government or SOE involvement based on the global ultimate ownership of the acquirer (not shown).³²

The rise of investment screening and the rise in Chinese investments are temporally related. We thus analyze whether ISMs decreased M&A deals with Chinese investors. We hypothesize that ISMs reduce Chinese investments more than investments from other countries because of the increasingly critical view on China in many OECD and EU countries. Note that in our empirical framework, the year-fixed effects control for domestic reasons in China that could have led to a fall in Chinese investments. Panel C shows negative effects of ISMs on Chinese investments, although the coefficient loses statistical significance for the sample of European countries. As the negative effect of ISMs remains significant for the sample of non-Chinese M&As, we conclude that the results are not driven by Chinese investments. The estimated interaction coefficient suggests that the reduction for Chinese investments is significantly larger in the sample of all countries (see also [Table A.12](#)), which is perhaps an intended effect of governments. However, such an impact is

³²Global ultimate ownership refers to the topmost controlling entity in the global structure, regardless of where the entity is based, whereas the ultimate ownership refers to the highest level of ownership of a company within a country.

Table 6: Investment screening and cross-border M&As: Heterogeneity by investor type

Dep. var:	OECD and European countries		European countries	
No. of CB M&A	(1)	(2)	(3)	(4)
Panel A: Regime type	Autocratic	Democratic	Autocratic	Democratic
ISM	-0.123** (0.057)	-0.180* (0.102)	-0.160*** (0.060)	-0.095 (0.124)
Coef. diff. relative to column (1)/(3)		-0.057 (0.108)		0.065 (0.133)
Observations	62,849	16,459	40,914	8,507
Panel B: Government	No	Yes	No	Yes
ISM	-0.114** (0.055)	-0.302* (0.173)	-0.140** (0.058)	-0.391** (0.171)
Coef. diff. relative to column (1)/(3)		-0.188 (0.163)		-0.251 (0.154)
Observations	63,381	11,937	41,091	7,718
Panel C: China	No	Yes	No	Yes
ISM	-0.122** (0.056)	-0.372** (0.145)	-0.157*** (0.060)	-0.053 (0.236)
Coef. diff. relative to column (1)/(3)		-0.249* (0.148)		0.104 (0.247)
Observations	63,962	6,654	41,638	2,475
Panel D: USA	No	Yes	No	Yes
ISM	-0.083 (0.060)	-0.193** (0.078)	-0.084 (0.060)	-0.284*** (0.082)
Coef. diff. relative to column (1)/(3)		-0.110 (0.070)		-0.199*** (0.074)
Observations	58,344	27,947	40,444	16,092
Panel E: Tax haven	w/o tax haven	w/ tax haven	w/o tax haven	w/ tax haven
ISM	-0.107* (0.060)	-0.191** (0.078)	-0.151** (0.063)	-0.151* (0.088)
Coef. diff.		-0.083 (0.087)		0.000 (0.092)
Observations	61,258	29,587	39,690	18,938

Notes: The table shows PPML estimation results of Equation (1) by cross-border M&A type depending on the characteristics of acquiring investors. The outcome variable is the number of cross-border deals. Panel A distinguishes between investors by dichotomous regime type in their country of origin (as defined by Bjørnskov and Rode (2020)). Panel B reports the results for deals with and without government or SOE among acquiring firms. Panels C and D distinguish between deals with and without acquiring firms from China or the US. Panel E reports results for deals that have at least one acquirer from a tax haven country and deals whose investors are from non-tax haven countries. Columns (1) and (2) are for all sample countries and columns (3) and (4) are for European countries. The coefficient difference in column (2) indicates the difference between columns (2) and (1) estimated in a nested model based on a stacked dataset of two types of deals. Similarly, the coefficient difference in column (4) indicates the difference between columns (4) and (3). Results of the nested model are presented in Table A.11 and Table A.12. All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

not present in European countries. In [Table A.13](#) in the Appendix, we test whether deals involving either foreign governments or investors from China or Russia are affected differently than other deals by ISMs. We do not find statistically different effects.³³

The U.S. is both the largest recipient of cross-border M&As and the most important M&A investor abroad (see [Table 1](#)). In Panel D of [Table 6](#), we split the sample by US origin of investment and find that ISMs significantly reduced the number of US deals. The adoption of ISMs reduced the number of U.S. cross-border M&As by 17.6 to 24.7 percent, corresponding to an average reduction of nine to 12 deals in countries implementing ISMs. In contrast, the effect on deals without US investors is not significant on average. Based on the distribution of deals as shown in [Table 1](#), a large share of the sample in columns (2) and (4) of Panel D is made up of European investors. As described above, foreign investors from member states of the EU/EFTA countries are treated differently in many sectors by most other EU/EFTA countries than foreign investors from elsewhere. In the sample of European recipients of US investment, we find that the reduction in the number of US investments is larger than for other deals. This is likely an unintended cooling-off effect with economic costs for the recipient countries. The relatively strong effect could be due to the fact that many US investors are financial investors seeking returns rather than strategic assets and that financial investors respond more strongly to complex regulation than strategic investors which often have no to few alternatives to the target of interest.

Our analyses use information on the ultimate ownership as available in the Zephyr data to define the origin of investors. However, the ultimate owners in many cases are investors residing in tax havens.³⁴ Tax havens are typically used to avoid taxes but possibly also to circumvent regulations such as investment screening. Screening authorities are worried that investors of concern conceal their identity in this way. More generally, tax havens are special because the share of M&As from tax havens is much larger than their share in the world economy. This implies that our previous analyses based on origin-country captures only a part of investments that actually originate from these countries. The results in Panel E, however, show that our main results are not

³³We do not report separate results for deals with and without Russian investors in [Table 6](#) because the number of deals involving Russian investors is too small (see [Table 1](#)) such that our baseline estimation with the full set of fixed effects and control variables does not converge.

³⁴17.0 percent deals have at least one acquirer whose ultimate owner is from a tax haven country.

driven by investments from tax havens. ISMs decreased investments from both tax havens and from other countries, although without a statistically or economically significant difference.

In [Table 7](#), we test our expectation that investment screening on average has no effects on deals with investors solely from the EU/EFTA, which are largely exempted from screening. We define an intra-EU/EFTA deal in the same way as the investment authorities would do: all investors must be from EU/EFTA countries. The results confirm our hypothesis: ISMs did not statistically significantly reduce the number of cross-border M&As within the EU/EFTA. In comparison, the introduction of investment screening reduced the number of deals with participation by non-EU/EFTA investors significantly more. We thus confirm the hypothesis that the indirect and direct effects within Europe are smaller because of the free movement of capital rule within the European Common Market.

Table 7: Investment screening mechanisms and cross-border M&As: Deals within the EU/EFTA or with acquirers from non-EU/EFTA countries

Dep. var: No. of CB M&A	Estimations based on the European country sample	
	Deals within EU/EFTA (1)	Deals with non-EU/EFTA participants (2)
ISM	-0.095 (0.073)	-0.225*** (0.067)
Coef. diff. relative to column (1)		-0.130* (0.070)
Trade	Yes	Yes
Initial CB M&A \times year	Yes	Yes
Country-year FE	Yes	Yes
Sector-year FE	Yes	Yes
Country-sector FE	Yes	Yes
Observations	36,132	25,379

Notes: Table shows PPML estimation results based on data between 2007 and 2022. The outcome variable is the number of cross-border M&As with all investors from EU/EFTA countries (column 1) or at least one acquirer from non-EU/EFTA countries (column 2). The coefficient difference in column (2) indicates the difference between columns (2) and (1) estimated in a nested model based on a stacked dataset of two types of deals. Results of the nested model are presented in [Table A.12](#). All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Robust standard errors clustered at the sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

6 Concluding remarks

In recent years, economic and national security have become of increasing importance in international policy fora. The liberal rules-based international order is on the defense line and a new wave of protectionist policies threatens globalization. There are signs that new investments fragment according to geopolitically aligned blocks (IMF, 2023). Politicians call for diversification of supply chains and tighter controls of international flows of capital and goods. Evidence on the (unintended) economic effects of these new policies starts to emerge. We contribute to this literature by estimating the effect of sectoral screening of inward foreign investments on cross-border M&A activity.

We compile a new dataset about the introduction of investment screening at the sector level in 43 OECD and European countries from 2007 to 2022 and match it to cross-border M&A data. Employing a staggered triple differences estimation approach where we include a host of high-dimensional fixed effects and control variables, we find that investment screening reduces the number of cross-border investments. Our estimates suggest that investment screening has reduced the number of cross-border M&A deals by more than ten percent on average, except for intra-European transactions which are mostly exempted from screening. This implies an average reduction of 20 to 27 deals per country. While some of these deals might have been prohibited or deterred for national security reasons as intended by investment screening, the size of the decrease in deal numbers suggests that there are also unintended economic effects. We propose several channels through which investment screening may affect cross-border M&As: direct ones related to prohibition and burdensome mitigation conditions, and indirect ones related to deterrence, compliance costs, and uncertainty. In this paper, however, we cannot disentangle these channels because of data restrictions. Hence our results should be interpreted as a total effect which is due to one or several of the proposed mechanisms. While the reduction in cross-border M&As is significantly negative only in the short term, we do not find any evidence that the foregone deals are postponed. This suggests that these deals are permanently lost.

In addition to the aggregate reduction in M&A deals, we investigate how investment screening reduces M&A deals from different types and origins of investors. We find that investment

screening reduces the number of deals in which less than a majority of shares are acquired. In contrast, the policy seems to have increased the number of deals with 50 percent or more of acquired shares. The opposing impacts of investment screening on small and large-scale deals respectively suggest that prohibition and deterrence are unlikely to be the main drivers of the estimated negative effect. Rather, increased uncertainty and compliance costs are likely the primary reasons, as smaller-sized investments are more sensitive to these costs. Compliance costs are largely independent of deal size, making them proportionately larger for smaller investments. The combination of a negative impact on small-sized deals and a positive impact on large deals results in an increase in the average deal value. However, we do not find evidence of a reduction in total investment flows. We also find that the number of acquisitions by Chinese and US investors drops as do the investments by government-related institutions and state-owned enterprises. As expected, intra-European deals are not systematically affected by national investment screening policies because most of the intra-European investments are exempted from screening in line with the free circulation of capital in the European Common Market.

How to interpret our findings from a welfare perspective? On the one hand, a decrease in foreign investments that could have hurt national security or public order indicates a successful policy. While these welfare benefits are unknown to the public and cannot be readily estimated, they would correspond to the amount of damage avoided due to screening and consist of the joint effect of deterrence, prohibition, and mitigating conditions. On the other hand, a decrease in those foreign investment deals that do not pose risks to national security generates a welfare loss for the host economy insofar as these investments would have had a positive economic impact on the host economy ([Alfaro, 2017](#)). In the case of diverted non-threatening investments, some countries (without screening) may experience a welfare gain from other countries introducing investment screening. In this paper, we are unable to provide a cost-benefit analysis for investment screening. Evaluating the costs and benefits of investment screening will remain challenging, if not impossible, for future research. This is because the counterfactual – what the realized threats from foreign investments might have been – is unobservable. Additionally, detailed information about the threats posed by blocked or mitigated investments is often security-sensitive and, therefore,

not available in the public realm.

By providing estimates about the effects of ISMs on cross-border investments, our analysis seeks to enrich the debate on security-motivated economic policies and inform policymakers about the (un)intended economic effects. Policymakers should weigh the economic costs of screening against the security benefits. While acknowledging the authorities' need for discretion in assessing risks and for intervention due to national security reasons, investment screening regulations should more specifically target critical sectors and investors of concern. This targeted approach would decrease uncertainty and costs for beneficial foreign investments, thereby enhancing the attractiveness of cross-border investing and the benefits of the investment-receiving country.

References

- Albori, M., F. Corneli, V. Nispi Landi, and A. Schiavone (2021). The impact of restrictions on FDI. Bank of Italy Occasional Paper No. 656, Bank of Italy.
- Alfaro, L. (2017). Gains from foreign direct investment: Macro and micro approaches. *The World Bank Economic Review* 30(Supplement.1), S2–S15.
- Amiti, M., S. Redding, and D. Weinstein (2019). The impact of the 2018 tariffs on prices and welfare. *Journal of Economic Perspectives* 33(4), 187–210.
- Anwar, S. T. (2012). FDI regimes, investment screening process, and institutional frameworks: China versus others in global business. *Journal of World Trade* 46(2), 213–248.
- Atanassov, J., B. Julio, and T. Leng (2024). The bright side of political uncertainty: The case of R&D. *The Review of Financial Studies* 37(10), 2937–2970.
- Baker, S. R., N. Bloom, and S. J. Davis (2016). Measuring economic policy uncertainty. *The Quarterly Journal of Economics* 131(4), 1593–1636.
- Bauerle Danzman, S. and S. Meunier (2023a). Mapping the characteristics of foreign investment screening mechanisms: The new PRISM dataset. *International Studies Quarterly* 67(2), sqad026.
- Bauerle Danzman, S. and S. Meunier (2023b). Naïve no more: Foreign direct investment screening in the European Union. *Global Policy* 14(S3), 40–53.
- Bena, J. and K. Li (2014). Corporate innovations and mergers and acquisitions. *The Journal of Finance* 69(5), 1923–1960.
- Bencivelli, L., V. Faubert, F. L. Gallo, and P. Négrin (2023). Who’s afraid of foreign investment screening? Banque de France Working Paper No. 927, Banque de France.
- Bjørnskov, C. and M. Rode (2020). Regime types and regime change: A new dataset on democracy, coups, and political institutions. *The Review of International Organizations* 15(2), 531–551.

- Blanga-Gubbay, M. and S. Rubínová (2023). Is the global economy fragmenting? WTO Research and Analysis: Working Paper ERSD-2023-10, WTO.
- Blonigen, B. A., L. Fontagné, N. Sly, and F. Toubal (2014). Cherries for sale: The incidence and timing of cross-border M&A. *Journal of International Economics* 94(2), 341–357.
- Bloom, N., M. Floetotto, N. Jaimovich, I. Saporta-Eksten, and S. J. Terry (2018). Really uncertain business cycles. *Econometrica* 86(3), 1031–1065.
- Bonaime, A., H. Gulen, and M. Ion (2018). Does policy uncertainty affect mergers and acquisitions? *Journal of Financial Economics* 129(3), 531–558.
- Bourlès, R., M. T. Dorsch, and V. Z. Eichenauer (2024). The adoption and diffusion of international economic policy: The case of foreign investment screening. Technical report, Unpublished manuscript.
- Bureau van Dijk (2020). Zephyr Database. Available at <https://www.bvdinfo.com/en-us/our-products/data/greenfield-investment-and-ma/zephyr> (accessed July 10, 2020).
- Chan, Z. T. and S. Meunier (2021). Behind the screen: Understanding national support for a foreign investment screening mechanism in the European Union. *Review of International Organizations* 17, 1–29.
- Çolak, G., A. Durnev, and Y. Qian (2017). Political uncertainty and IPO activity: Evidence from US gubernatorial elections. *Journal of Financial and Quantitative Analysis* 52(6), 2523–2564.
- Connell, P. and T. Huang (2014). An empirical analysis of CFIUS: Examining foreign investment regulation in the United States. *The Yale Journal of International Law* 39, 131–163.
- Crozet, M., J. Hinz, A. Stammann, and J. Wanner (2021). Worth the pain? Firms’ exporting behaviour to countries under sanctions. *European Economic Review* 134, 103683.
- Daude, C. and M. Fratzscher (2008). The pecking order of cross-border investment. *Journal of International Economics* 74(1), 94–119.

- de Chaisemartin, C. and X. D'Haultfoeuille (2022). Two-way fixed effects and differences-in-differences with heterogeneous treatment effects: A survey. *The Econometrics Journal* 26(3), C1–C30.
- Eichenauer, V. Z., M. T. Dorsch, and F. Wang (2021). Investment screening mechanisms: The trend to control inward foreign investment. Technical report, CESifo EconPol Policy Report 34.
- Eichenauer, V. Z., S. Köppl, and M. Köppl-Turyna (2024). Investment screening and venture capital. Unpublished manuscript.
- European Commission (2019). Regulation (EU) 2019/452 of the European parliament and of the council of 19 March 2019 establishing a framework for the screening of foreign direct investments into the Union. Available at <https://eur-lex.europa.eu/eli/reg/2019/452/oj> (Accessed August 31, 2021).
- European Commission (2021). First annual report on the screening of foreign direct investments into the Union. Publications Office of the European Union, Available at <https://data.europa.eu/doi/10.2781/000880> (Accessed November 20, 2024).
- European Commission (2022). Second annual report on the screening of foreign direct investments into the Union. Publications Office of the European Union, Available at [https://ec.europa.eu/transparency/documents-register/api/files/COM\(2022\)433?ersIds=090166e5f0bc5f17](https://ec.europa.eu/transparency/documents-register/api/files/COM(2022)433?ersIds=090166e5f0bc5f17) (Accessed November 20, 2024).
- European Commission (2023). Third annual report on the screening of foreign direct investments into the Union. Publications Office of the European Union, Available at <https://circabc.europa.eu/ui/group/be8b568f-73f3-409c-b4a4-30acfec5283/library/dca97cba-7d18-49f0-ad89-90a958191d9b/details> (Accessed November 20, 2024).
- European Union (2019). Regulation (EU) 2019/452 of the European Parliament and of the Council of 19 March 2019 establishing a framework for the screening of foreign direct investments into the Union. Available at <https://eur-lex.europa.eu/eli/reg/2019/452/oj> (Accessed November 20, 2024).

- Fajgelbaum, P. D., P. Goldberg, P. J. Kennedy, and A. Khandelwal (2020). The return to protectionism. *The Quarterly Journal of Economics* 135(1), 1–55.
- Felbermayr, G., H. Mahlkow, and A. Sandkamp (2023). Cutting through the value chain: The long-run effects of decoupling the East from the West. *Empirica* 50(1), 75–108.
- Fons-Rosen, C., S. Kalemli-Ozcan, B. E. Sørensen, C. Villegas-Sanchez, and V. Volosovych (2021). Quantifying productivity gains from foreign investment. *Journal of International Economics* 131, 103456.
- Fontagné, L. (1999). Foreign direct investment and international trade. OECD Science, Technology and Industry Working Papers No. 1999/03, OECD Publishing, Paris.
- Fontagné, L. and G. Orefice (2018). Let's try next door: Technical barriers to trade and multi-destination firms. *European Economic Review* 101, 643–663.
- Fratтарoli, M. (2020). Does protectionist anti-takeover legislation lead to managerial entrenchment? *Journal of Financial Economics* 136(1), 106–136.
- French Government (2018). Fiche d'impact generale. Décret relatif aux investissements étrangers soumis á autorisation préalable. Available at https://www.legifrance.gouv.fr/contenu/Media/Files/autour-de-la-loi/legislatif-et-reglementaire/fiches-d-impact/fiches-d-impact-decrets/2018/fi.ecot1816712d_24_10_2018.pdf.pdf (Accessed August 31, 2021).
- Fuest, C., F. Hugger, S. Sultan, and J. Xing (2021). What drives Chinese overseas M&A investment? Evidence from micro data. *Review of International Economics* 30(1), 1–39.
- Godsell, D., U. Lel, and D. Miller (2019). Financial protectionism, M&A activity, and shareholder wealth. University of Illinois Working Paper.
- Goldberg, P. K. and T. Reed (2023). Is the Global Economy Deglobalizing? And if so, why? And what is next? NBER Working Paper No. 31115, National Bureau of Economic Research.
- Graham, E. M. and P. Krugman (1995). *Foreign Direct Investment in the United States (3rd Edition)*. Peterson Institute for International Economics.

- Guadalupe, M., O. Kuzmina, and C. Thomas (2012). Innovation and foreign ownership. *American Economic Review* 102(7), 3594–3627.
- Gulen, H. and M. Ion (2016). Policy uncertainty and corporate investment. *The Review of Financial Studies* 29(3), 523–564.
- Handley, K. and N. Limão (2017). Policy uncertainty, trade, and welfare: Theory and evidence for China and the United States. *American Economic Review* 107(9), 2731–83.
- IMF (2023). A rocky recovery. World Economic Outlook April 2023. International Monetary Fund. Available at <https://www.imf.org/en/Publications/WEO/Issues/2023/04/11/world-economic-outlook-april-2023> (Accessed November 20, 2024).
- Ioannou, D., J. J. Pérez, H. Geeroms, I. Vansteenkiste, P.-F. Weber, A. M. Almeida, I. Balteanu, I. Kataryniuk, M. G. Attinasi, K. Buysse, et al. (2023). The EU’s open strategic autonomy from a central banking perspective. Challenges to the monetary policy landscape from a changing geopolitical environment. European Central Bank Occasional Paper Series No. 311, European Central Bank.
- Javorcik, B. and S. Poelhekke (2017). Former foreign affiliates: Cast out and outperformed? *Journal of the European Economic Association* 15(3), 501–539.
- Julio, B. and Y. Yook (2012). Political uncertainty and corporate investment cycles. *The Journal of Finance* 67(1), 45–83.
- Julio, B. and Y. Yook (2016). Policy uncertainty, irreversibility, and cross-border flows of capital. *Journal of International Economics* 103, 13–26.
- Kesternich, I. and M. Schnitzer (2010). Who is afraid of political risk? Multinational firms and their choice of capital structure. *Journal of International Economics* 82(2), 208–218.
- Kuc, O. (2019). National security-related screening mechanisms for foreign investment: An analysis of recent policy developments. UNCTAD Investment Policy Monitor.

- Lenihan, A. T. (2018). *Balancing power without weapons: State intervention into cross-border mergers and acquisitions*. Cambridge University Press.
- Lucas, R. (1990). Why doesn't capital flow from rich to poor countries? *American Economic Review* 80(2), 92–96.
- Mistura, F. and C. Roulet (2019). The determinants of foreign direct investment: Do statutory restrictions matter? OECD Working Papers on International Investment No. 2019/01.
- Navaretti, G. B. and A. J. Venables (2020). *Multinational firms in the world economy*. Princeton University Press.
- OECD (2009). Recommendation of the council on guidelines for recipient country investment policies relating to national security. Available at <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0372> (accessed October 08, 2024).
- OECD (2022). Framework for screening foreign direct investment into the EU: Assessing effectiveness and efficiency. Available at <https://www.oecd.org/investment/investment-policy/oecd-eu-fdi-screening-assessment.pdf>.
- Otero-Iglesias, M. and M. Weissenegger (2020). Motivations, security threats and geopolitical implications of Chinese investment in the EU energy sector: The case of CDP Reti. *European Journal of International Relations* 26(2), 594–620.
- Papaioannou, E. (2009). What drives international financial flows? Politics, institutions and other determinants. *Journal of Development Economics* 88(2), 269–281.
- Pastor, L. and P. Veronesi (2012). Uncertainty about government policy and stock prices. *The Journal of Finance* 67(4), 1219–1264.
- Phillips, G. M. and A. Zhdanov (2013). R&D and the incentives from merger and acquisition activity. *The Review of Financial Studies* 26(1), 34–78.
- Pohl, J. and N. Rosselot (2020). Acquisition-and ownership-related policies to safeguard essential security interests—Current and emerging trends, observed designs, and policy practice in 62

- economies. Research note by the OECD Secretariat, available at https://www.oecd.org/en/publications/acquisition-and-ownership-related-policies-to-safeguard-essential-security-interests_61a64a3b-en.html (Accessed November 20, 2024).
- Roberts, A., H. Choer Moraes, and V. Ferguson (2019). Toward a geoeconomic order in international trade and investment. *Journal of International Economic Law* 22(4), 655–676.
- Santos Silva, J. and S. Tenreyro (2006). The log of gravity. *The Review of Economics and Statistics* 88(4), 641–658.
- Serdar Dinc, I. and I. Erel (2013). Economic nationalism in mergers and acquisitions. *The Journal of Finance* 68(6), 2471–2514.
- Sheen, A. (2014). The real product market impact of mergers. *The Journal of Finance* 69(6), 2651–2688.
- Stiebale, J. (2016). Cross-border M&As and innovative activity of acquiring and target firms. *Journal of International Economics* 99, 1–15.
- Sun, W. and D. Xie (2022). Cross-border M&As and the performance of Chinese acquiring firms. *The World Economy* 45(5), 1614–1647.
- Todtenhaupt, M. and J. Voget (2021). International taxation and productivity effects of M&As. *Journal of International Economics* 131, 103438.
- Todtenhaupt, M., J. Voget, L. P. Feld, M. Ruf, and U. Schreiber (2020). Taxing away M&A: Capital gains taxation and acquisition activity. *European Economic Review* 128, 103505.
- Wang, C. and F. Xie (2009). Corporate governance transfer and synergistic gains from mergers and acquisitions. *The Review of Financial Studies* 22(2), 829–858.
- Weidner, M. and T. Zylkin (2021). Bias and consistency in three-way gravity models. *Journal of International Economics* 132, 103513.
- Westbrook, A. D. (2019). Securing the nation or entrenching the board: The evolution of CFIUS review of corporate acquisitions. *Marquette Law Review* 102, 643.

Witt, M. A., A. Y. Lewin, P. P. Li, and A. Gaur (2023). Decoupling in international business: Evidence, drivers, impact, and implications for IB research. *Journal of World Business* 58(1), 101399.

Appendix A: Additional Tables

Table A.1: List of investment screening sectors and corresponding NACE Rev.2 sectors

ISM sector	Description	NACE Rev.2 code
1	Defense Production	3030, 3040
2	Energy Infrastructure	3511, 3512, 3513, 3514, 3521, 3522, 3523, 1910, 1920, 0510, 0520, 0610, 0620, 0910, 4222
3	Water Infrastructure	4221, 4291, 3600, 3700, 4950
4	Transportation Infrastructure	4211, 4212, 4213, 4910 - 5320
5	Telecommunications Infrastructure	4222, 6110, 6120, 6130, 6190, 6399
6	Healthcare Infrastructure	8610, 8621, 8622, 8623, 8690, 8412
7	Education and Training	8510-8560, 8412
8	Agriculture/Food Security	0111-0170, 1011-1092, 7120
9	Finance	6411-6630
10	Media	5813, 5814, 6010, 6020, 6312, 6391, 1811
11	Research Institutions	7211, 7219, 7220
12	Sensitive Personal Data	6311, 6201-6209, 8291
13	Biotechnology	2110, 2120, 7211
14	Artificial Intelligence and Machine Learning	6201, 2899
15	Position, Navigation, and Timing Technology	2651, 2652, 6130
16	Microprocessor Technology	2611
17	Advanced Computing Technology	6201
18	Data Analytics Technology	6201, 6311
19	Quantum Information and Sensing Technology	7219, 6201, 2620
20	Logistics Technology	4910 - 5320, 2822
21	Additive Manufacturing	2841, 2849, 7490
22	Robotics	2822, 2899
23	Brain-computer Interfaces	2660, 6201, 7211, 7219, 7220
24	Hypersonics	3030, 3040
25	Advanced Materials	7211, 7219
26	Advanced Surveillance Technologies	6201, 8010, 8020
27	Cyber Security	6201
28	Defense Technologies	3030, 3040, 7219
29	Energy Storage	2720
30	Civil Nuclear	2446, 2530, 3311
31	Gambling	9200
32	Mineral Resources	0510, 0520, 0610, 0620, 0710, 0721, 0729, 0811, 0812, 0891, 0892, 0893, 0899
33	Tourism	5510, 5520, 5530, 5590, 7911, 7912, 7990
34	Space	3030, 3316, 5122
35	Real Estates	6810, 6820, 6831, 6832

Notes: Table shows the list of investment screening sectors and their corresponding NACE Rev.2 sectors.

Table A.2: Summary statistics of key variables

	Mean	SD	Min.	Max.
Number of CB M&A deals	0.87	9.12	0.00	1060.00
Number of deals with one target	0.83	8.95	0.00	1038.00
Lagged deal number by 5 years	0.67	5.98	0.00	755.00
Number of minority deals	0.51	7.16	0.00	887.00
Number of majority deals	0.06	0.34	0.00	17.00
Number of full deals	0.27	2.12	0.00	218.00
Number of deals with unknown share	0.04	0.43	0.00	30.00
Deal number with autocratic acquirors	0.07	1.12	0.00	156.00
Deal number without autocratic acquirors	0.81	8.20	0.00	925.00
Deal number with government entity acquirors	0.04	0.48	0.00	40.00
Deal number without government entity acquirors	0.84	8.80	0.00	1020.00
Deal number with Chinese acquirors	0.03	0.53	0.00	63.00
Deal number without Chinese acquirors	0.85	8.71	0.00	997.00
Deal number with US acquirors	0.29	4.64	0.00	698.00
Deal number without US acquirors	0.58	5.20	0.00	614.00
Number of deals within EU/EFTA	0.25	1.90	0.00	106.00
Number of deals with non-EU/EFTA acquirors	0.25	3.20	0.00	404.00
Number of deals with tax haven acquirors	0.15	1.93	0.00	268.00
Number of deals without tax haven acquirors	0.73	7.45	0.00	835.00
Average deal value (in Euro)	116759.20	614799.89	0.00	30955894.00
Total deal value (in Euro)	504075.09	2277016.41	0.22	1.14e+08
Any deal (=1)	0.17	0.37	0.00	1.00
ISM (=1)	0.14	0.35	0.00	1.00
ln total deal number (2002-2006)	0.47	0.87	0.00	7.09
ln deal number with foreign gov. participation (2002-2006)	0.04	0.21	0.00	2.83
ln deal number with Chinese acquirors (2002-2006)	0.01	0.12	0.00	3.22
ln deal number with US acquirors (2002-2006)	0.17	0.54	0.00	6.30
ln trade	5.25	6.17	0.00	19.20

Notes: Table shows the summary statistics of variables measured at the country-sector-year level for the period between 2007 and 2022. The sample size is 137,600 with 0 values.

Table A.3: Investment screening and cross-border M&A deals: Including all sectors

Dep. var: No. of CB M&A	OECD and European countries		European countries	
	(1)	(2)	(3)	(4)
	All countries	Screening countries	All countries	Screening countries
ISM	-0.117** (0.052)	-0.132** (0.053)	-0.143** (0.061)	-0.174*** (0.062)
Trade	Yes	Yes	Yes	Yes
Initial CB M&A \times year	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes
Observations	172,966	135,932	111,384	86,445

Notes: The table shows PPML estimation results of Equation (1) based on data for 2007-2022 including all four-digit NACE sectors. The outcome variable is the number of cross-border M&As. Columns (2) and (4) constrain the sample to countries where investment screening was implemented in at least one sector. All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Robust standard errors clustered at the four-digit NACE sector level in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.4: Determinants of introducing investment screening mechanisms

Dep. var: Having ISM (=1)	Logit model				Probit model			
	All countries		European countries		All countries		European countries	
	All countries	Screening countries	All countries	Screening countries	All countries	Screening countries	All countries	Screening countries
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Number of deals 2002-2006 (ln)	0.221*** (0.064)	0.102 (0.075)	0.141* (0.072)	0.061 (0.088)	0.136*** (0.040)	0.064 (0.047)	0.087* (0.045)	0.038 (0.055)
Number of Chinese deals 2002-2006 (ln)	0.292 (0.205)	0.256 (0.214)	-0.209 (0.341)	-0.288 (0.354)	0.184 (0.127)	0.162 (0.133)	-0.129 (0.209)	-0.179 (0.219)
Number of government & SOE deals 2002-2006 (ln)	0.436*** (0.151)	0.574*** (0.162)	0.455*** (0.162)	0.572*** (0.188)	0.271*** (0.093)	0.358*** (0.100)	0.284*** (0.101)	0.357*** (0.117)
Number of US deals 2002-2006 (ln)	-0.089 (0.080)	-0.154 (0.095)	-0.087 (0.093)	-0.146 (0.113)	-0.055 (0.049)	-0.097 (0.059)	-0.054 (0.058)	-0.092 (0.070)
Observations	8,600	6,200	5,838	4,302	8,600	6,200	5,838	4,302

Notes: The table reports the estimation results of the determinants of introducing the ISMs based on a cross-sectional dataset of 8,600 country-four-digit NACE sectors. The outcome variable is a dummy variable indicating whether the ISMs were introduced in each sector in a country between 2007 and 2022. The explanatory variables include the total number of cross-border M&A deals, the number of cross-border M&As deals participated by Chinese firms, the number of cross-border M&A deals participated by government entities or state-owned enterprises, and the number of cross-border M&A deals participated by US firms. All deal numbers are measured as the total number between 2002 and 2006 at the country-sector level. Columns labeled “All countries” include all 43 OECD and EU member states and columns labeled “Screening countries” include countries that introduced the ISMs in at least one industry between 2007 and 2022. Columns (1)-(4) correspond to the Logit estimation results and (5)-(8) the Probit estimation results. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.5: Placebo test with lagged number of cross-border M&A deals by 5 years as the dependent variable

Dep. var:	OECD and European countries		European countries	
No. of CB M&A lagged 5 years	(1)	(2)	(3)	(4)
	All countries	Screening countries	All countries	Screening countries
ISM	0.057 (0.053)	0.047 (0.051)	0.001 (0.065)	-0.016 (0.064)
Trade	Yes	Yes	Yes	Yes
Initial CB M&A \times year	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes
Observations	64,023	49,025	41,568	31,602

Notes: The table shows PPML estimation results of Equation (1) based on data between 2007 and 2022. The dependent variable is the number of cross-border M&As lagged by 5 years. All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.6: Investment screening and cross-border M&A deals with one target firm

Dep. var:	OECD and European countries		European countries	
No. of CB M&A	(1)	(2)	(3)	(4)
	All countries	Screening countries	All countries	Screening countries
ISM	-0.133** (0.058)	-0.141** (0.059)	-0.167*** (0.063)	-0.184*** (0.063)
Trade	Yes	Yes	Yes	Yes
Initial CB M&A \times year	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes
Observations	61,896	47,423	40,117	30,206

Notes: The table shows PPML estimation results of Equation (1) based on data for 2007-2022. The outcome variable is the number of cross-border M&As with only one target firm. The sample excludes M&As with multiple target firms from the sample. Columns (1) and (3) are based on all four-digit NACE sectors where investment screening was implemented in at least one country. Columns (2) and (4) further constrain the sample to countries where investment screening was implemented in at least one sector. All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.7: Investment screening and cross-border M&As: Excluding countries with cross-sector screening

Dep. var:	Drop cross-sector screening		Sector-specific screening only	
No. of CB M&A	(1)	(2)	(3)	(4)
	All countries	Screening countries	All countries	Screening countries
ISM	-0.149** (0.060)	-0.162*** (0.060)	-0.166*** (0.057)	-0.184*** (0.056)
Trade	Yes	Yes	Yes	Yes
Initial CB M&A \times year	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes
Observations	55,807	40,615	51,133	35,966

Notes: Table shows PPML estimation results excluding countries with cross-sector screening. In columns (1)-(2), countries switching from cross-sector screening to sector-specific screening and those always with cross-sector screening are excluded. In columns (3)-(4), countries that extended sector-specific screening to cross-sector screening are also excluded. All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.8: Investment screening and cross-border M&A deals: Assuming all sectors affected when cross-sector screening is present

Dep. var: No. of CB M&A	OECD and European countries		European countries	
	(1)	(2)	(3)	(4)
	All countries	Screening countries	All Countries	Screening countries
ISM	-0.135** (0.055)	-0.145*** (0.055)	-0.168*** (0.058)	-0.188*** (0.057)
Initial CBIDs× year	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes
Observations	64,363	49,141	41,850	31,515

Notes: The table shows PPML estimation results of Equation (1) based on data for 2007-2022 where we code all sectors to be affected when cross-sector screening is present. The outcome variable is the number of cross-border M&As. Columns (2) and (4) constrain the sample to countries where investment screening was implemented in at least one sector. All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As and the number of M&As with Chinese, U.S., or government participation between 2002 and 2006. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.9: Investment screening and cross-border M&As: Extensive and intensive margin effects

	OECD and European countries		European countries	
	(1)	(2)	(3)	(4)
	All countries	Screening countries	All countries	Screening countries
Panel A: Dep. var: Any deal (=1), OLS				
ISM	0.002	0.003	-0.001	-0.001
	(0.006)	(0.006)	(0.007)	(0.007)
Observations	137,600	99,200	90,772	67,691
Panel B: Dep. var: No. of CB M&A, PPML				
ISM	-0.113**	-0.122**	-0.145***	-0.162***
	(0.053)	(0.053)	(0.056)	(0.056)
Observations	21,546	17,880	14,560	11,437
Trade	Yes	Yes	Yes	Yes
Initial CB M&A \times year	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes

Notes: Table shows estimation results based on data between 2007 and 2022. The outcome variable for panel A is a dummy variable indicating whether there was at least one deal in sector s country c in year t . The outcome variable for panel B is the number of deals. Panel A is estimated using a linear probability model based on the full sample. Panel B is estimated using a PPML model based on country-sector dyads having at least one deal throughout the sample period. All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.10: Investment screening and cross-border M&As: Controlling for linear time trends

Dep. var: No. of CB M&A	OECD and European countries		European countries	
	(1)	(2)	(3)	(4)
	All countries	Screening countries	All countries	Screening countries
ISM	-0.143*** (0.053)	-0.149*** (0.052)	-0.193*** (0.064)	-0.203*** (0.062)
Trade	Yes	Yes	Yes	Yes
Initial CB M&A \times year	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes
Observations	64,363	49,141	41,850	31,515

Notes: Table shows estimation results controlling for country-sector linear time trend. All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.11: Investment screening and cross-border M&As: Heterogeneity results by acquisition size based on interaction models

Dep. var: No. of CB M&A	OECD and European countries	European countries
	(1)	(2)
ISM (ref. group: minority share)	-0.151* (0.083)	-0.236*** (0.088)
ISM× Majority share (=1)	0.261** (0.108)	0.405*** (0.122)
ISM× Full acquisition (=1)	0.148 (0.091)	0.276*** (0.102)
ISM× Unknown share (=1)	0.235 (0.203)	0.160 (0.240)
Trade	Yes	Yes
Initial CBIDs× year	Yes	Yes
Country-year FE	Yes	Yes
Sector-year FE	Yes	Yes
Country-sector FE	Yes	Yes
Observations	126,922	79,924

Notes: The table shows PPML estimation results based on a stacked dataset including four types of cross-border M&A deals by the number of cumulatively acquired shares using data between 2007 and 2022. Majority share, full acquisition, and unknown share are dummy variables indicating the deal type with a majority share, full acquisition, and unknown share, respectively. All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.12: Investment screening and cross-border M&As: Heterogeneity results by acquirer type based on interaction models

Dep. var: No. of CB M&A	OECD and European countries	European countries
	(1)	(2)
Panel A: Investors from autocratic countries		
ISM (ref. group: Autocratic)	-0.123** (0.057)	-0.160*** (0.060)
ISM× Democratic (=1)	-0.057 (0.108)	0.065 (0.133)
Panel B: Foreign government among investors		
ISM (ref. group: No foreign government)	-0.114** (0.055)	-0.140** (0.058)
ISM× Foreign government (=1)	-0.188 (0.163)	-0.251 (0.154)
Panel C: Investors from China		
ISM (ref. group: No China)	-0.122** (0.056)	-0.157*** (0.060)
ISM× China (=1)	-0.249* (0.148)	0.104 (0.247)
Panel D: Investors from the US		
ISM (ref. group: No US)	-0.083 (0.060)	-0.084 (0.060)
ISM× US (=1)	-0.110 (0.070)	-0.199*** (0.074)
Panel E: Investors from tax haven countries		
ISM (ref. group: No tax haven)	-0.107* (0.060)	-0.151** (0.063)
ISM× Tax haven (=1)	-0.083 (0.087)	0.000 (0.092)
Panel F: Investments within the EU/EFTA		
ISM (ref. group: Within EU/EFTA)		-0.095 (0.073)
ISM× Non-EU/EFTA (=1)		-0.130* (0.070)
Trade	Yes	Yes
Initial CB M&A× year	Yes	Yes
Country-year FE	Yes	Yes
Sector-year FE	Yes	Yes
Country-sector FE	Yes	Yes

Notes: The table shows PPML estimation results based on a stacked dataset including two types of cross-border M&A deals by acquirer type using data between 2007 and 2022. All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.13: Investment screening and cross-border M&As: Deals participated by China, Russia, or foreign governments

Dep. var: No. of CB M&A	OECD and European	European countries
	countries	
	(1)	(2)
ISM (ref. group: no China/Russia/Foreign gov.)	-0.112** (0.055)	-0.139** (0.058)
ISM × China/Russia/Foreign gov. (=1)	-0.136 (0.124)	-0.174 (0.135)
Trade	Yes	Yes
Initial CB M&A × year	Yes	Yes
Country-year FE	Yes	Yes
Sector-year FE	Yes	Yes
Country-sector FE	Yes	Yes
Observations	80,731	51,388

Notes: The table shows PPML estimation results based on a stacked dataset including two types of cross-border M&A deals by acquirer type using data between 2007 and 2022. China/Russia/Foreign gov. (=1) indicates a deal involving foreign governments or investors from China or Russia. All regressions control for country-time, sector-time, and country-sector fixed effects, international trade (in logarithmic form), and the number of four different types of initial cross-border M&As, each of which is further interacted with year dummies: total number of cross-border M&As and the number of M&As with Chinese, US, or government participation between 2002 and 2006. Robust standard errors clustered at the four-digit NACE sector level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.