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Credits for Exporters: How Firm Characteristics and Loan Frequency Shape Policy Effectiveness

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ABSTRACT

We estimate the impact of Eximbank Hungary's working capital loans on firm exports using matching and panel methods. Loans increase export value by about 20% and export share by 6.5%. The strongest point estimates are associated with first loans. Export gains persist over time, but robust long-run effects are detectable only at the full-sample level, not among firms that receive a single loan. The estimated coefficients decline by initial export share but do not vary by firm size and productivity. Loans raise sales and employment by about 10% but do not affect productivity and profitability.

JEL Classification: F13, F14, G32

1 | Introduction

Around 90 countries have established Export Credit Agencies (ECAs) worldwide [1], to promote exports through targeted loan programmes. Although the terms of these loans vary widely, existing research finds they generally boost exports. However, there is little discussion of loans specifically targeting working capital,¹ or of effect heterogeneity: which firms benefit most and how many loans maximise cost-effectiveness. These questions matter for policy design.

In this article, we analyse loans provided by Exim Hungary between 1996 and 2019 to evaluate their effect on firm-level exports. We focus on the most common loan type, which provides working capital to domestic firms to support and expand their export volumes. First, we estimate the average effect of Exim loans on firm exports. Next, to help policymakers allocate public funds more efficiently, we identify the group of loan recipients that benefit most from these loans. To do so, we rely on several observable firm-level characteristics: pre-loan export share, firm size and productivity. Finally, we

examine the relationship between export outcomes and the number of loans received to assess the level that maximises cost-effectiveness.

To mitigate potential bias from firms self-selecting into credit applications, we follow the established literature and estimate the effect of Exim loans using matching and panel data methods. These approaches compare treated firms with a control group of similar firms—most importantly, with comparable prior export levels and growth—while controlling for time-invariant unobserved firm characteristics. However, bias may still arise if, for example, firms apply for Exim loans after securing a new exporting contract rather than seeking a commercial loan. While we cannot rule out this possibility, we argue that our empirical strategy limits such bias. Our matching procedure ensures that treated firms are compared to control firms with similar export volumes before the loan receipt, implying comparable export experience. Moreover, firms that expand exports in the year of loan receipt are matched to control firms with similar export growth, and likewise for firms with stable or declining exports.

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We find that export volume increases by 20% following loan receipt, and the export share of total sales rises by 6.5% relative to the average export share. The effect is roughly five times larger for firms with initially low export shares. We find no evidence that the effect varies by firm size or productivity. Regarding loan frequency, subsequent loans have smaller effects than the first loan.

Finally, we examine additional firm outcomes and find sizable growth effects but no changes in productivity, suggesting that the loans help firms scale production without inducing fundamental improvements in efficiency.

In Section 2 we present the rationale for export promotion and describe the loan product we study. Section 3 presents the data and our estimation method. Section 4 discusses our findings and the last section concludes.

2 | Export Financing

2.1 | Reasons for Export Financing

Financial market imperfections affect interfirm trade, and their impact is more pronounced when firms export. Exporting entails substantial fixed and variable costs [4]. Entering a new foreign market entails considerable learning costs, and establishing relationships with international partners can be burdensome. Cross-border shipping introduces time lags, requiring one of the contracting parties to finance the transaction during the interim period using working capital [5]. Enforcing contracts across borders can also be challenging, as legal recourse against foreign parties may be limited. These factors increase both uncertainty and the cost of exporting.

While banks can act as intermediaries, their effectiveness depends on having sufficient information about foreign legal and business environments, and the creditworthiness of foreign buyers. Moreover, their specialised knowledge may grant them market power over exporters, resulting in higher financing costs compared to domestic transactions [1]. In cases involving niche markets, specialised products or small trading partners, the cost of acquiring the necessary information often exceeds expected returns, leading banks to decline to finance them. These imperfections cause firms to export below the optimal level that would prevail under perfectly competitive financial markets.

Government intervention can fill financing gaps by supporting underserved firms and lowering export costs. Public export financing can take various forms, including credit guarantees [6], below-market interest rates [7], export subsidies [8], corporate tax incentives [9], and loans to foreign buyers of domestic firms [1, 10]. These studies generally report substantial positive effects on export performance.

The effectiveness of export financing may depend on firm characteristics. Firms with an established export track record are likely to possess greater expertise and stronger reputation in credit markets, making it easier to finance exporting. Indeed, [7] finds that firms already exporting a large share of their output tend to experience smaller gains from subsidised export loans.

A well-established literature on credit constraints shows that smaller firms tend to be more credit constrained than larger ones [11]. These disparities are likely more pronounced in export financing, given the additional risks and complexities. While the export credit literature has not yet addressed this issue directly, related work on export promotion finds that alleviating informational barriers to exporting has diminishing returns as firm size increases [12].

The relationship between export financing and firm productivity is theoretically ambiguous. Less productive firms may face greater credit constraints and thus benefit more from financial support, while more productive firms may use such support more efficiently to scale their exports.²

2.2 | Eximbank Loans

Eximbank Hungary serves as Hungary's designated ECA and provides financial support for international trade. This study focuses on a specific policy instrument among the various loan products offered. We examine loans that (1) finance working capital, (2) aim to expand exports, (3) are provided to domestic exporters or suppliers of exporters,³ and (4) are disbursed through commercial banks.⁴ This loan type is the most common among Eximbank's offerings, accounting for 62% of all loans and 57% of the total loan value in our sample (non-service firms with 5–250 employees).

The financing scheme operates as follows: a commercial bank issues the loan to the firm, while Eximbank acts as the intermediary funder, offering capital at a fixed rate net of potential discounts. The commercial bank is responsible for assessing creditworthiness, selecting borrowers and setting the interest premium within predefined limits, based on its risk evaluation. It also bears the default risk. The commercial bank monitors the implementation of the export-related activities and the loan agreement, while Eximbank retains the right to conduct additional oversight of project execution.

The size of the Exim loan is limited by the anticipated exporting volume of the firm after loan issuance. The loan size cannot exceed 85% of the export value, and the firm needs to provide proof of exports. This means that the loan is not conditional on additional exporting volume or a new international partner. Exports may even decline, and we observe this pattern in the data: 37% of the firms have declining real exports in the year they received the loan. Note that the required proof of export is not limited to new business relationships or incremental export volumes relative to the previous year. Consequently, the loan may also finance the working capital needs related to exports to already established business partners. Furthermore, firms must provide documentation verifying that the exported goods or services include at least 50% domestic value added.

Exim loans offer several advantages over market-based financing. The loan term can be as long as 60 months, and the interest rate remains fixed throughout—features rarely available in commercial banks. Financing is typically provided in foreign currency (USD or EUR), which is often inaccessible to smaller firms via standard bank channels. These loans are available even during periods of credit tightening or rationing. Finally, Eximbank has

a comparative advantage in financing exports to less traditional markets, where it often serves as the sole lender due to the lack of expertise among commercial banks.

Exim loans also involve certain constraints, particularly high fixed costs related to application and compliance.

The application process is complex and paperwork-intensive, typically requiring assistance from a dedicated, knowledgeable bank officer who is not available at all branches, making established relationships with commercial banks essential. The limited availability of trained clerks introduces a degree of randomness to loan access: a firm's chance of obtaining a loan partly depends on whether its representative visits a branch with the necessary expertise. This randomness is partly mitigated by Exim's likely targeting of branches with many exporter clients.

3 | Data and Methodology

3.1 | Data

In this study, we combine two datasets. The first is confidential data on Eximbank loans (maintained by Eximbank Hungary), which includes all loan contracts issued from the bank's inception in 1996 to the onset of the COVID-19 pandemic in 2019.⁵ We retain only the loans described in Section 2.2. Multiple contracts received by the same firm within a single year are treated as a single contract. All disbursements are aggregated and assigned to the year of first disbursement. To ensure clean identification, we exclude firms that also received other types of export loans.

We merge the loan data with administrative firm-level data from the Hungarian National Tax and Customs Administration, which contains detailed financial information, employment, and industry classification. All financial variables are deflated to 2019 levels using 2-digit industry Producer Price Indices. We restrict the sample to firms with at least five employees, as small firms rarely export. We drop very large firms because their loan decisions may reflect idiosyncratic considerations. Most Eximbank loans went to industrial and agricultural firms, while service firms (mainly from trade and transportation sectors) received a much smaller share. Since the theoretical justification for state-backed export loans primarily applies to goods, we exclude service firms and focus on goods exporters. As all treated firms are exporters, we restrict the control group to firms that exported at least once during the sample period.⁶

To assess the effect of loans around treatment, we limit the time window to four years before and five years after the year of first loan receipt yielding a 10 year panel per firm. The final sample includes non-service, ever-exporting firms with average employment between 5 and 250. In this sample, 497 firms received 862 loans during the five years following their first loan, and the number of potential control firms is 16,472. Both the number and total value of loans are pro-cyclical: many loans were issued in the early 2000s, with a sharp decline during the global financial crisis and an increase thereafter (Appendix Figure A1).

Relative to prior-year sales, the average (median) loan intensity is 0.15 (0.10). About 54% of firms received one loan, 27% two,

TABLE 1 | Descriptive statistics and selection regression.

	(1) Not received loan	(2) Received loan	(3) LPM
Employment	33.7 (53.3)	97.2 (83.1)	0.0018*** (0.0001)
Productivity	32.1 (252.7)	50.3 (453.6)	0.0010*** (0.0001)
Export Share	0.17 (0.31)	0.53 (0.34)	0.0063*** (0.0005)
Number Firms	16,472	497	
N	259,790	1940	242,313

Note: The first two columns present the means (standard deviations) of characteristics of firms that did not receive or received an Exim loan (population: ever exporting non-service firms). The third column presents the estimation results from a linear probability regression with the dependent variable = 1 if the firm received an Exim loan in the subsequent year. The regression controls for 2-digit industry-year effects. Sample: years before the first loan for treated firms, all years for control firms. Mean dependent variable: 0.002. Productivity: total sales/employment. The financial variables are deflated by 2-digit producer price indexes. *** significant at 1%; ** significant at 5%; * significant at 10%.

and 19% three or more.⁷ Total loan intensity (the cumulative loan value relative to pre-loan sales) is 0.14 for firms with one loan, 0.23 for those with two and 0.49 for firms with more than two loans (Appendix Table A1).

Table 1 presents summary statistics for treated and control firms. The descriptive evidence indicates positive selection: firms receiving an Exim loan outperform other exporters. Prior to receiving the loan, these firms employed three times more workers (92 versus 34), had 30% higher labour productivity and an average export share of 53%, compared to 17% among controls (industry distributions are reported in Appendix Table A2).

We also quantify selection by using a linear probability model, where the dependent variable equals 1 in the year preceding the firm's first Exim loan (other firm-years of treated firms are dropped). The explanatory variables include those discussed above, and we control for two-digit industry-year fixed effects. To aid interpretation, we scale the estimated effects relative to the mean of the dependent variable (0.002) and compute the interquartile change in loan probability. This equals 140% for pre-loan employment, 66% for productivity and 56% for export share (Column 3 of Table 1).

3.2 | Methodology

Our objective is to estimate the impact of Exim loans on firm export performance. To ensure comparability between treated and control groups, we construct a control group with propensity score matching. Specifically, we estimate the probability of receiving an Exim loan with a probit regression on pre-treatment firm years, including the following covariates: the logarithm of export volume and sales, employment quintiles, debt ratio, year indicators and two-digit NACE codes (Appendix Table A3). The regression sample consists of the pre-treatment years for treated firms and all years for non-treated firms. The pseudo R^2 equals

0.24, suggesting that the explanatory variables explain a substantial share of selection into the loan. Observations outside the common support of the propensity score are excluded to ensure overlap.

Next, we create groups based on year, 2-digit industry, quartiles of sales and 2 categories of export share and growth (below/above their median value). We also match on a dummy variable indicating the growth of real export value in the year of loan disbursement.⁸ Within these groups we perform propensity score matching with replacement using a caliper of 0.1, allowing maximum 3 controls per treated firm.⁹ Control firms are weighted so that their weights sum up to 1 per treated firm. As with the treated firms, we retain 4 pre-treatment and 5 post-treatment years for each control firm. Each controls are assigned a 'treatment' year corresponding to its match.

This procedure results in 220 treated firms and 545 control firms. Balancing tests confirm standardised mean differences below 0.2, well within the accepted standards (Appendix Table A4).

On the matched sample we run the following regression:

$$\text{EXPORT}_{ijt\tau} = \alpha_i + \gamma \cdot \text{EXIM LOAN}_{it} + \delta_j \times \lambda_t + T_\tau + \varepsilon_{it\tau},$$

where i indexes firms, j indexes industries, t indexes years and τ indexes event time (the years relative to the treatment year), taking the values of $-4 \dots 5$ in our trimmed time series. $\text{EXPORT}_{ijt\tau}$ is the log of the volume of exports, or the share of exports in total sales, respectively.¹⁰ Our variable of interest is $\text{EXIM LOAN}_{ijt\tau}$, which is a dummy variable that equals one in the years after the firm received the first Exim loan. We include firm fixed effects α_i to account for any time-invariant firm characteristics. We add a full set of two-digit industry-year $\delta_j \times \lambda_t$ effects to capture industry-level shocks that may influence product demand or firm inputs. We incorporate a set of event-time dummies T_τ to compare treated and control firms at the same relative time.¹¹

This regression may be subject to endogeneity concerns, predominantly arising from two sources of bias: firms with Exim loans may be systematically stronger performers already on an expanding export path, and firms may have an exporting opportunity that they would complete even in the absence of the Exim loan. Our estimation method mitigates the first concern. We match by previous export levels and export shares in sales, which ensures comparability between treated and control firms (with respect to observable characteristics). The inclusion of firm fixed effects removes any time-invariant source of bias. Indeed, our analysis reveals flat pre-trends, indicating little difference between treated and control groups prior to when the Exim loan was obtained. Regarding the second concern, we mitigate it by matching on export growth in the year of loan receipt, thereby partially controlling for new opportunities.¹² But this is the limit of our estimation method: matching and fixed effects cannot control for events that overlap with the treatment in time and are correlated with both exports and the loans.

If firms use Exim loans as substitutes for commercial bank loans, the direction of the remaining bias depends on the type of exports financed. If Exim loans support sales to longstanding partners, export volumes may remain unchanged, leading to downward

bias. Conversely, if loans finance contracts with new partners or expansions with existing partners, exporting may spike around the loan, leading to upward bias.

4 | Results

Columns 1 and 2 of Table 2 present the baseline results. After receiving an Exim loan, our estimates imply an increase in the export volume by 18 log points (20%), and the export share in total sales by 3.3 percentage points. Relative to the mean export share of 51%, this represents a 6.5% increase.¹³

To compare estimates based on the matched sample and full samples, Appendix Table A7 provides the estimated coefficients for the full sample.¹⁴ In the full data, the estimated coefficients equal 24 log-points (27%) for the export volume and 4.7 percentage points for export share. As many firm-years in the control group record zero exports, we also run a Poisson fixed-effects model and obtain a coefficient of 0.12 (12.7%) for export volume, which is about half the OLS coefficient. This difference reflects the inclusion of years with no exporting in the Poisson estimation: while the OLS estimation takes into account only responses on the intensive margin, the Poisson also captures the extensive margin.

Figure 1 illustrates export dynamics around the first Exim loan. Pre-treatment trends show that before treatment, the volume and share of exports in the control and treated groups have similar trajectories. After the loan, export volume rises by 20 log points (22%) relative to controls within two years and remains at this level for three additional years before slightly declining in the fifth year. The loan is associated with a 5 percentage point increase in the export share in two years and 7 percentage points in 5 years, amounting to an overall increase of 15%.

A lasting export boost can reflect a genuine Exim loan effect, but it may also result from repeated borrowing, as half of the firms receive two loans. To distinguish these possibilities, we rerun the dynamic specification on firms receiving one loan.¹⁵ Appendix Figure A2 shows that their export patterns closely mirror the full sample, but the estimated coefficients are imprecisely

TABLE 2 | Export response of Exim loans.

	(1)	(2)	(3)	(4)
	Export volume	Export share	Export volume	Export share
Exim loan	0.183*** (0.065)	0.033** (0.014)	0.492*** (0.174)	0.110*** (0.029)
Loan × Export share 0.2–0.5			–0.396** (0.184)	–0.086*** (0.033)
Loan × Export share 0.5–1			–0.369** (0.182)	–0.098*** (0.033)
N	5945	6248	5945	6248

Note: The table presents the estimated effect of Exim loans. Mean Export Share = 0.51. The regression controls for industry-year effects, time effects relative to the treatment year, and firm fixed effects. Standard errors clustered at the firm level. *** significant at 1%; ** significant at 5%; * significant at 10%.

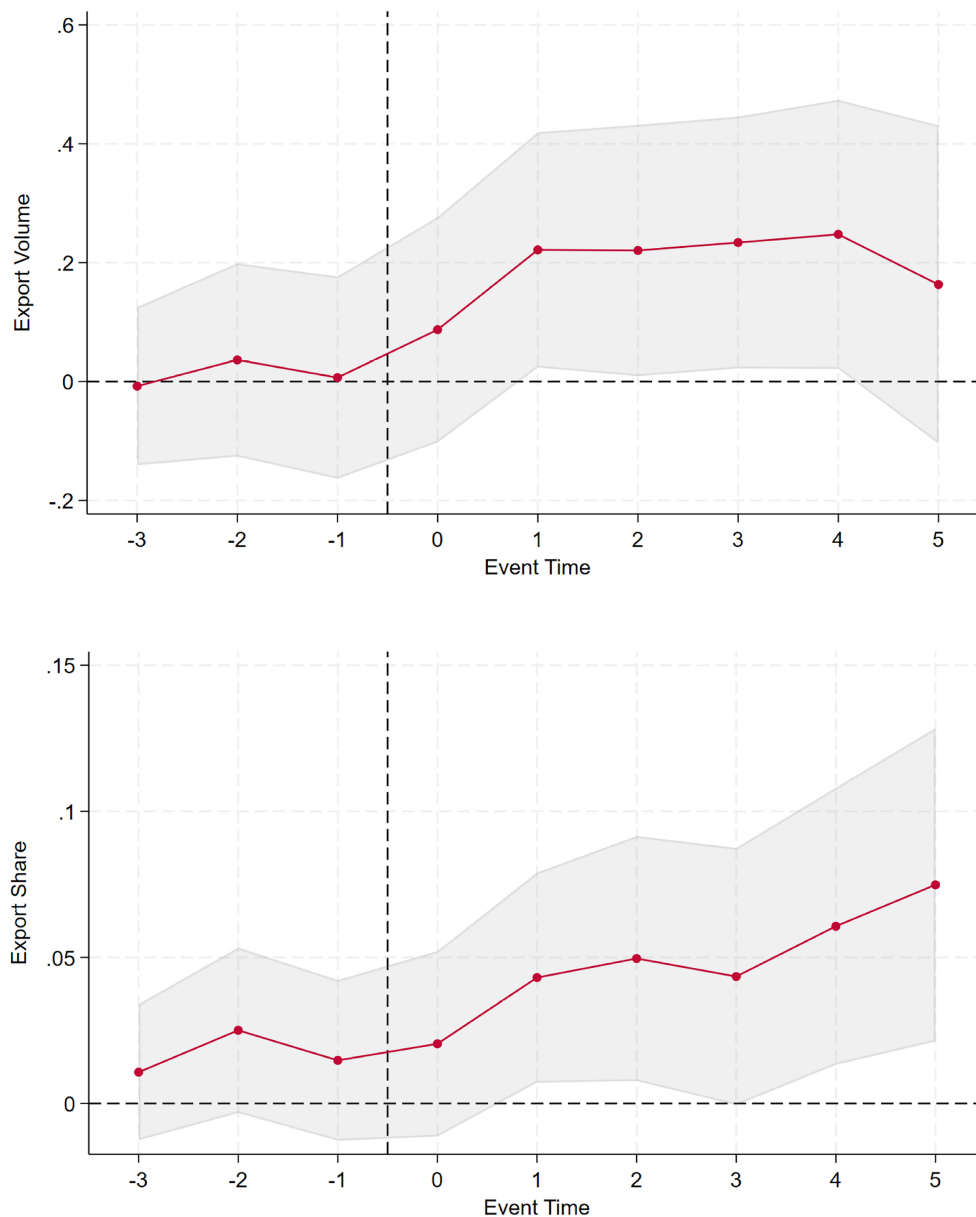


FIGURE 1 | Export response of Exim loans: Event-time estimations. [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/obes.70125)] Notes: $N = 5945$ (Export Volume); 6248 (Export Share). The table presents the estimated event-time effects of Exim loans and the corresponding 95% confidence intervals. Reference year: 4 years before treatment. The regression controls for industry-year effects, time effects relative to the treatment year and firm fixed effects. Standard errors clustered at the firm level.

estimated.¹⁶ Thus, we find weak evidence only that a single loan can generate lasting export growth. One explanation for this may be firm selection into single versus multiple loans, but employment, debt level, export share and loan size are very similar across one-loan and multi-loan firms. Another possibility is that cheaper financing allows firms to search for better partners, leading to persistent relationships (though we cannot test this directly).

While the average effect of the Exim loan demonstrates policy effectiveness, it does not reveal which firms benefit most. Guided by prior literature, we study heterogeneity by pre-treatment export share, firm size, and productivity (see Section 2). To test the variation in the estimated effect by initial export share, we augment the baseline specification with two interaction

terms between the treatment variable and indicators for medium (0.2–0.5) and high (> 0.5) export share. As Columns 3 and 4 of Table 2 indicate, firms with a small initial export share are associated with the largest export growth: if the initial share is under 20%, export volume grows by 49 log points (63%) while in firms with a higher pre-treatment share the effect is only 10 log points (11%). Thus, low export firms gain about 5 times more.¹⁷

One concern in heterogeneity analysis is the arbitrary choice of cutoffs. As a robustness check, we estimate a regression augmenting the baseline specification with interactions between the treatment and linear, squared and cubic export share (this specification eliminates cutoffs, but its disadvantage is that it imposes a functional form). Appendix Figure A3 shows a declining

TABLE 3 | Export response of Exim loans by loan frequency.

	(1) Export volume	(2) Export share
One Exim loan	0.148* (0.085)	0.029 (0.020)
First Exim loan	0.236*** (0.089)	0.055*** (0.020)
Second+ Exim loan	−0.038 (0.131)	−0.031 (0.026)
N	5945	6248

Note: The table presents three coefficients from a single regression, where the treatment dummy is interacted with indicators for loan frequency. One Loan: indicator equal to one if the firm received only one Exim loan; First Loan: indicator equal to one for the first loan of firms that received more than one loan; Second+ Loan: indicator equal to one after the firm received its second loan, capturing the incremental effect relative to the first loan. The regression controls for industry-year effects, time effects relative to the treatment year and firm fixed effects. Standard errors clustered at the firm level. *** significant at 1%; ** significant at 5%; * significant at 10%.

response to Exim loans as pre-treatment export share increases, with a slight rise at very high shares.

Next, we analyse heterogeneity by firm size and productivity. We augment the baseline specification with interaction terms between the treatment and indicators for large firms and high-productivity firms (defined as employment/productivity above the median pre-treatment value). We find no evidence for heterogeneity in either dimension (Appendix Table A9): the interaction terms have large standard errors, preventing meaningful conclusions (with other cutoffs we obtained similar results).

Another key policy question, apart from targeting, is the appropriate loan amount. Given the total amount of funds allocated to the policy, should Eximbank provide one loan per firm or multiple loans? This choice directly impacts the policy's cost-effectiveness.¹⁸

To analyse differences by loan frequency, we define three variables: *One Loan* (= 1 if a firm received only one loan, 56% of the sample), *First Loan* (= 1 for the first loan of firms with multiple loans, 44% of the sample) and *Second+ Loan* (= 1 after the firm received its second loan, 25% of the sample). We run a single regression where we interact these variables with the treatment dummy. Since *First Loan* and *Second+ Loan* are nested, the coefficient on *Second+ Loan* captures the incremental effect relative to the first loan.¹⁹ As Table 3 shows, the first loan has positive and significant coefficients while the second loans' coefficient is essentially zero. The largest coefficients are observed for firms which obtain multiple loans (24 log points for the export volume and 5.5 percentage points for the export share), likely reflecting selection: firms experiencing strong post-loan growth are more likely to reapply.

Finally, we examine effects on sales, employment, labour productivity and return on assets. As Table 4 presents, Exim loans raise both sales and employment by 10 log points, but have no effect on firm productivity.²⁰

TABLE 4 | The effect of Exim loans on firm growth and productivity.

	(1) Sales	(2) Employment	(3) Productivity	(4) ROA
Exim Loan	0.106** (0.042)	0.099** (0.039)	0.007 (0.030)	0.010 (0.020)
N	6208	6208	6208	6189

Note: The table presents the estimated effect of Exim loans. Productivity = sales per worker; ROA = return on assets. Sales, employment and productivity are logged. The regression controls for industry-year effects, time effects relative to the treatment year and firm fixed effects. Standard errors clustered at the firm level. *** significant at 1%; ** significant at 5%; * significant at 10%.

5 | Conclusions

In this article, we examined the impact of Eximbank Hungary's working capital loans on firm exports. We find that these loans significantly increase export value and export share, with particularly strong point estimates for first loans. While export gains persist over time, robust long-run effects are evident only at the full-sample level and cannot be precisely identified for firms that receive a single loan. The effects are heterogeneous by initial export intensity, with larger gains for firms with lower export shares, but we find no variation by firm size or productivity. Beyond export performance, the loans also increase total sales and employment, while leaving productivity unchanged. These results suggest that export credit can be an effective tool for promoting trade, especially when targeted toward firms with limited initial export activity.

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Endnotes

¹We are aware of two papers: [2] and [3] study Pakistan's Export Finance Scheme and both find positive effects on exporting.

²Defever and Riaño [9] model export subsidies with and without export share requirements (ESR), showing that subsidies with ESR lead to greater export increases, particularly for less profitable firms. In the Hungarian context, there is no explicit ESR, but firms must demonstrate export growth ex post.

- ³While we cannot distinguish between direct exporters and suppliers of exporters, discussions with Exim officials indicate that the share of suppliers is relatively low (approximately 15% of loan recipients). Since our primary focus is on export performance, this introduces a downward bias in our estimates, as some loans are not directly export-enhancing but are still treated as such in our analysis. Therefore, our estimates should be interpreted as lower bounds of the true effect.
- ⁴Over the 24-year period, loan terms have changed somewhat, but core features remain consistent.
- ⁵The data cannot be merged with customs data, and thus we cannot gain insights on the exporting country.
- ⁶Rejected Exim loan applications would make a better control group, but the data do not contain these firms.
- ⁷Among firms receiving more than two loans, approximately two-thirds received three and one-third received four. Only eight firms received more than four loans.
- ⁸Matching without export growth and on coarser industry classification (of 10 categories) does not change the results qualitatively.
- ⁹In some cases, fewer than 3 controls are matched to a treated firm. In others, no control is available within the caliper and the treated firm was excluded from the matched sample.
- ¹⁰We use export share in addition to the volume of exports because in some years the value of exports is zero and the log of exports is undefined.
- ¹¹Our treatment is staggered, which requires estimators that address the bias from past-treated firms serving as controls [13]. However, these estimators do not allow the inclusion of nested treatments, which is necessary for our heterogeneity analysis. As a robustness check, we use the estimator from [13] in our baseline specification and find results nearly identical to those from the traditional two-way fixed effects model, suggesting minimal bias from staggered treatment.
- ¹²Note that this leads to conservative estimates, as matching is based partially on the post-treatment period (the growth of exports between the last pre-treatment and the first treatment year). If we leave this variable out of the exact matching, we estimate about twice as large coefficients.
- ¹³If those firms that obtain an Exim credit are more successful in getting other loans, our results may be upward biased. To test for this hypothesis, we control for access to alternative financing by including the debt-to-asset ratio, and obtain very similar results (Appendix Table A5). We also conduct several robustness checks. We re-estimate the regression using the Sun–Abraham method and consider alternative samples: including service firms, restricting the sample to large firms (over 250 employees), and using all export loan types issued by Exim. These changes yield similar estimates (Appendix Table A6).
- ¹⁴Time effects around the treatment cannot be included because the controls do not have an application year.
- ¹⁵As Appendix Table A1 shows, the share of firms with one loan is 54% in the full data and very similar in the matched data (48% or 106 firms).
- ¹⁶The estimated average effect (standard error) of one loan on export volume is 0.15 (0.085), significant at the 10% level, and on the export share is 0.030 (0.020).
- ¹⁷A potential concern is that loan intensity correlates with export share. Adding loan intensity as a control does not alter the heterogeneity pattern (Appendix Table A8).
- ¹⁸We cannot study loan intensity because loan size depends on export growth and is therefore endogenous (see Section 2.2).
- ¹⁹Loan frequency is measured over the 5-year post-loan period, though firms may have received multiple loans over the full 24-year dataset.
- ²⁰Estimates on sales and employment may partly reflect loans to suppliers of exporters, and should not be fully attributed to export loans.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section. **Figure A1:** Number of firms with Exim loans and volume of loans. *Notes:* The graph presents the distribution of export loans over time. Volume in 2021 billion Hungarian Forints on the left-hand scale and number of firms on the right-hand scale. **Figure A2:** Export response of Exim loans: Event-time estimations firms that received one loan. *Notes:* $N = 4828$ (export volume); 5113 (export share). The table presents the evolution of Exim loans on exports and the corresponding 95% confidence intervals. Reference year: 4 years before treatment. The regression controls for industry-year effects, time effects relative to the treatment year and firm fixed effects. Standard errors clustered at the firm level. **Figure A3:** Heterogeneity of the exim loan effect by pre-treatment export share. *Notes:* $N = 5945$ (Export Volume); 6248 (Export Share). The table presents the variation of the Exim loan effect by pre-treatment export share. The effect is estimated with the baseline regression augmented with interaction terms between the treatment dummy and linear, squared and cubic pre-treatment export share. The regression controls for industry-year effects, time effects relative to the treatment year and firm fixed effects. Standard errors clustered at the firm level.

Table A1: Loan frequency and size. **Table A2:** Industrial distribution of firms with and without Exim loans. **Table A3:** Probit regression for propensity score estimation. **Table A4:** Balance of the matched sample. **Table A5:** Export response of Exim loans controls for loan-to-asset ratio. **Table A6:** Export response of Exim loans robustness checks. **Table A7:** Export response of Exim loans full sample results. **Table A8:** Export response of Exim loans by export share controls for loan intensity. **Table A9:** Export response of Exim loans by firm size and productivity.