

Export Markets Entry and Exit and Firm Age - Literature Review

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Motivation

Between 2000 and 2018, global merchandise exports rose 202 percent Figure 1, from \$6.496 trillion to \$19.59 trillion (World-Bank, 2020). Policy attention to export market participation ramped up significantly after the financial crisis of 2008, the Great Recession, and the anti-trade that followed (e.g., Brexit). Academic research into the determinants of the export market dynamics and the effectiveness of policy initiatives have also vastly expanded in the past decade, perhaps inspired by the heightened policy interest and certainly facilitated by expanded access of academics to trade transaction data. To encourage exports, the government of Canada promotes a host of programs such as matching sessions with potential buyers, export financing programs (e.g., CanExport, AgriAssurance, AgriMarketing), and access to the Trade Commission services and events to help companies pursue opportunities in export markets (Government of Canada, 2018). Unlike the 202 percent rise in the global merchandise exports, Figure 2 shows that Canadas merchandise exports rose by 63 percent between (\$276.635) 2000 and (\$450.786) 2018 (World-Bank, 2020). Understanding the sources of export persistence may guide as to which programs may be most successful in encouraging small and medium food processors to export and scale-up within export markets. In this note, we briefly review this new wave of empirical research.

What Did the Study Find?

Productivity and Demand Uncertainty Explain Firm Dynamics in Export Markets. A common finding in empirical trade studies is that exporters are in the minority (Bernard et al., 2003). Only

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21 percent of U.S. plants reported exporting anything based on the 1992 U.S. Census of Manufactures. According to [Bernard et al. \(2003\)](#), exporters sell most of their output domestically. Approximately two-thirds of exporters sell less than 10% of their output on the foreign market. Exporters are bigger than non-exporters. Exporter ship on average 5.6 times more than non-exporters, 4.8 times more domestically. [Bernard et al. \(2007\)](#) document that not all exporters are the same and a very small share of US manufacturing exporting firms (11 percent) account for a very large share of exporting revenues (92 percent). Manufacturing plants are also heterogeneous in measured productivity. Exporters have, on average, a 33 percent advantage in labour productivity relative to non-exporters ([Bernard et al., 2003](#)). Exporters are characterized with high exit rates ([Bernard et al., 2009](#); [Raff and Wagner, 2014](#)). In a study of 46 countries, [Besedeš and Prusa \(2011\)](#) find that median export market survival ranges from one to two years. In Spain, 47% of export spells last less than one year and the median duration is two years. In the United States, the median survival age ranges between two and four years ([Bernard et al., 2009](#)). Why some firms export and others do not have attracted significant attention from trade economists. The heterogeneous firms literature (e.g., [Bernard, Jensen, and Lawrence \(1995\)](#); [Melitz \(2003\)](#)), for example, suggests that it boils down to productivity differences, i.e., exporters are more productive than non-exporters.

[Foster, Haltiwanger, and Syverson \(2016\)](#), however, find that, despite being just as or even more productive than incumbents, new entrants are, on average, smaller and face higher exit rates. Similarities in productivity among incoming and established exporters suggest that variations in size and survival rates arise due to differences in idiosyncratic demand. [Li \(2018\)](#); [Timoshenko \(2015a\)](#) find that uncertainty about the products demand in the foreign market explains a greater proportion of firm dynamics in export markets than productivity differences do. Findings of demand uncertainty led to a new strand of trade literature that focuses on the role of information on a firms decision to export and on firms ability to learn about their products demand in the export market (e.g., [Arkolakis, Papageorgiou, and Timoshenko \(2018\)](#); [De Loecker \(2013\)](#); [Eaton et al. \(2014\)](#); [Foster, Haltiwanger, and Syverson \(2016\)](#); [Timoshenko \(2015a,b\)](#)).

Does age affect firms response to export market demand shock? Does experience matter? Exporters can learn about their products demand over time in either an active or a passive learning process. A firm is said to be engaged in passive demand learning if it updates how much it exports in the following period based on how much demand it experiences today. An active demand learner, on the other hand, is a firm that invests in relationship building with potential buyers (e.g., matching sessions with suppliers). While active learning models depict more realistic learning mechanisms, they have generally focused on partial equilibrium models ([Arkolakis, Papageorgiou, and Timoshenko, 2018](#)) and on the dynamics of exporting firms as a result of assumed learning mechanisms ([Abbring and Campbell, 2003](#); [Eaton et al., 2014](#); [Fernandes and Tang, 2014](#); [Foster, Haltiwanger, and Syverson, 2016](#)). [Timoshenko \(2015b\)](#) extends [Melitz \(2003\)](#) model and develops a general equilibrium model of passive learning that has been successful in explaining firm dynamics such as product-switching behaviour among exporters. A key insight from [Timoshenko \(2015b\)](#) is that young firms expand (contract) by a larger amount when they face positive (negative) demand shocks than older firms experience matters. [Bernard et al. \(2009\)](#) empirically show for French manufacturing firms growth rate decreases with age; and that demand shocks trigger more exit in younger firm cohorts.

Recognizing the level of uncertainty faced by firms of different ages, the insights from the demand learning model are to promote policies that reduce the early exit of potentially profitable firms and providing age-based subsidies and to gradually reduce the amount of the subsidy (Arkolakis, Papageorgiou, and Timoshenko, 2018). In particular, if there is evidence that younger firms have higher exit rates, but gradually learn about consumer demand, policies that help firms avoid early exit can be welfare enhancing. In particular, Arkolakis, Papageorgiou, and Timoshenko (2018) note that when demand learning is present, age-dependent subsidies "allow young firms to avoid early exit and thus to benefit consumers through access to a larger number of varieties" (pg., 1). Even within new entrants, however, there may be some exporters with lower degrees of demand uncertainty.

Do destination-specific factors affect the rate of demand learning in the destination market? The costs of exporting may be lower for nearby destinations because of smaller geographic, linguistic, and cultural distances. Eaton et al. (2008), however, find that most new exporters will test the waters with small transactions in nearby markets. If this is the case, young exporters into neighbouring countries may be more uncertain about their potential profitability and react more to demand shocks than firms exporting to markets further away. Among Colombian exporters, Eaton et al. (2008) find that once firms can successfully penetrate Latin American markets, they try to enter other larger OECD markets. Although the majority of transportation technology innovations over the past few decades have been biased towards long distances, the effect of distance on trade volume does not appear to be decreasing over time (Krautheim, 2012). Leamer (2007), for example, states that There is very little that economists fully understand about global trade but there is one thing that we do know commerce declines dramatically with the distance. Similarly, the majority of research in this area focuses on language as a barrier to exports which enters the gravity model as an iceberg cost (e.g., Melitz (2007); Melitz and Toubal (2014); Sauter (2012)). In a meta-analysis of the effect of language on international trade, Egger and Lassmann (2012), review 81 academic articles and find that, on average, common language increases trade flows between countries by 44%; and the language effect on trade is increasing over time. Frankel and Rose (2002) find that language differences as trade barriers hurt bilateral trade flow.

References

- Abbring, J.H., and J.R. Campbell. 2003. "A structural empirical model of firm growth, learning, and survival." Working paper, National Bureau of Economic Research.
- Arkolakis, C., T. Papageorgiou, and O.A. Timoshenko. 2018. "Firm learning and growth." *Review of Economic Dynamics* 27:146–168.
- Bernard, A.B., J. Eaton, J.B. Jensen, and S. Kortum. 2003. "Plants and Productivity in International Trade." *American economic review* 93:1268–1290.
- Bernard, A.B., J.B. Jensen, and R.Z. Lawrence. 1995. "Exporters, jobs, and wages in US manufacturing: 1976-1987." *Brookings papers on economic activity. Microeconomics* 1995:67–119.
- Bernard, A.B., J.B. Jensen, S.J. Redding, and P.K. Schott. 2007. "Firms in International Trade." *Journal of Economic perspectives* 21:105–130.
- . 2009. "The margins of US trade." *American Economic Review* 99:487–93.
- Besedeš, T., and T.J. Prusa. 2011. "The role of extensive and intensive margins and export growth." *Journal of development economics* 96:371–379.
- De Loecker, J. 2013. "Detecting learning by exporting." *American Economic Journal: Microeconomics* 5:1–21.
- Eaton, J., M. Eslava, C.J. Krizan, M. Kugler, and J. Tybout. 2014. "A search and learning model of export dynamics." *Unpublished manuscript*, pp. .
- Eaton, J., M. Eslava, M. Kugler, and J. Tybout. 2008. "Export dynamics in colombia: Transactions level evidence." *Borradores de Economía; No. 522*, pp. .
- Egger, P.H., and A. Lassmann. 2012. "The language effect in international trade: A meta-analysis." *Economics Letters* 116:221–224.
- Fernandes, A.P., and H. Tang. 2014. "Learning to export from neighbors." *Journal of International Economics* 94:67–84.
- Foster, L., J. Haltiwanger, and C. Syverson. 2016. "The slow growth of new plants: Learning about demand?" *Economica* 83:91–129.
- Frankel, J., and A. Rose. 2002. "An estimate of the effect of common currencies on trade and income." *The quarterly journal of economics* 117:437–466.
- Krautheim, S. 2012. "Heterogeneous firms, exporter networks and the effect of distance on international trade." *Journal of International Economics* 87:27–35.

- Leamer, E.E. 2007. "A flat world, a level playing field, a small world after all, or none of the above? A review of Thomas L Friedman's *The World is Flat*." *Journal of Economic Literature* 45:83–126.
- Li, S. 2018. "A structural model of productivity, uncertain demand, and export dynamics." *Journal of International Economics* 115:1–15.
- Melitz, J. 2007. "North, South and distance in the gravity model." *European Economic Review* 51:971–991.
- Melitz, J., and F. Toubal. 2014. "Native language, spoken language, translation and trade." *Journal of International Economics* 93:351–363.
- Melitz, M.J. 2003. "The impact of trade on intra-industry reallocations and aggregate industry productivity." *econometrica* 71:1695–1725.
- Raff, H., and J. Wagner. 2014. "Foreign ownership and the extensive margins of exports: Evidence for manufacturing enterprises in Germany." *The World Economy* 37:579–591.
- Sauter, N. 2012. "Talking trade: language barriers in intra-Canadian commerce." *Empirical Economics* 42:301–323.
- Timoshenko, O.A. 2015a. "Learning versus sunk costs explanations of export persistence." *European Economic Review* 79:113–128.
- . 2015b. "Product switching in a model of learning." *Journal of International Economics* 95:233–249.
- World-Bank. 2020. *Merchandise Exports (Current US\$)*, (accessed June 22, 2020).

Appendix

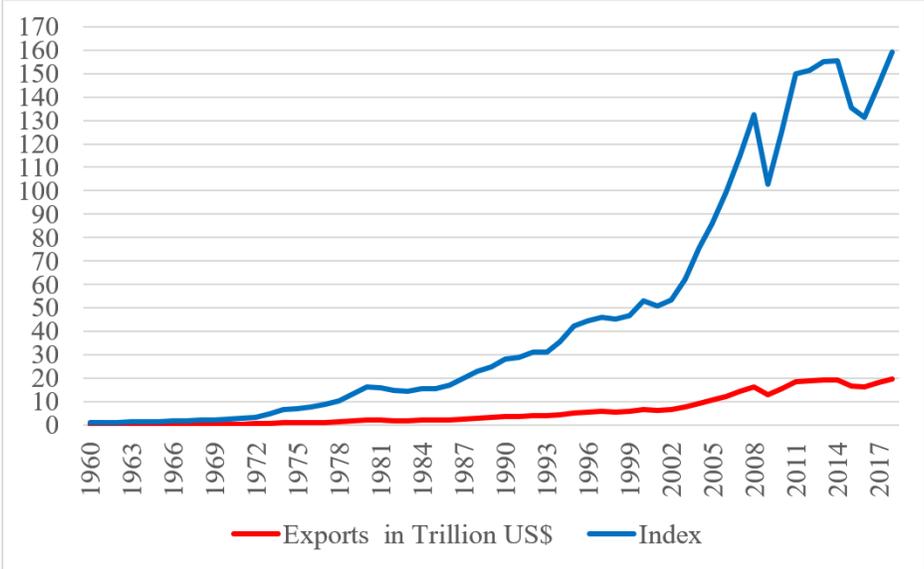


Figure 1: World Merchandise Exports (1960 -2018)
 Source: World Bank (2020) <https://data.worldbank.org/indicator/TX.VAL.MRCH.CD.WT?end=2018&start=1960&view=chart>

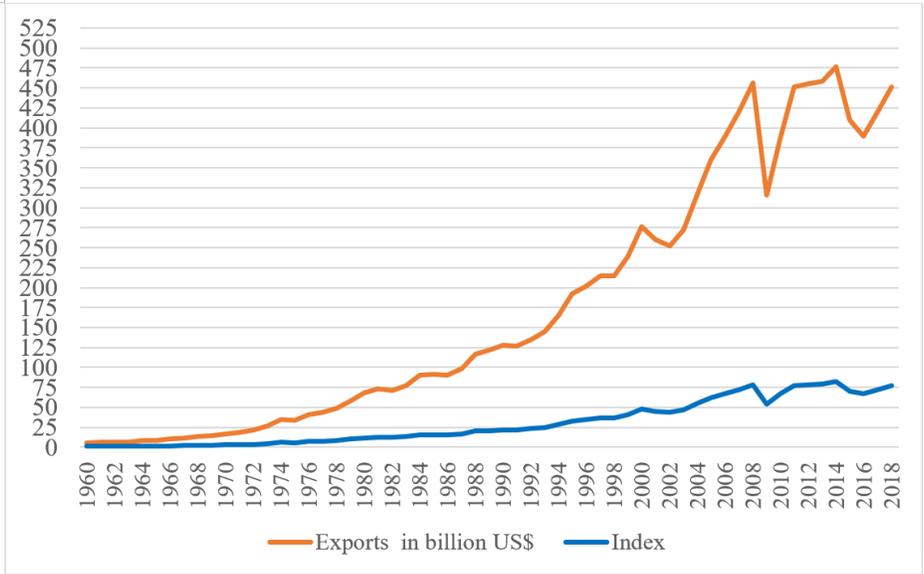


Figure 2: Canada's Merchandise Exports (1960 - 2018)
 Source: World Bank (2020) <https://data.worldbank.org/indicator/TX.VAL.MRCH.CD.WT?end=2018&locations=CA&start=1960&view=chart>