Trade and Domestic Production Networks*

Felix Tintelnot^{a,c}, Ayumu Ken Kikkawa^a, Magne Mogstad^{a,c}, Emmanuel Dhyne^b

^aUniversity of Chicago ^bNational Bank of Belgium ^cNBER

November 26, 2017

Abstract

We use administrative data from Belgium with information on domestic firm-to-firm sales and foreign trade transactions to study how international trade affects firm efficiency and real wages. The data allow us to construct the buyer-supplier network of the Belgian economy. We document that most firms that do not directly import or export still have large indirect exposure to foreign trade, and that a firm's output is affected by idiosyncratic shocks to its buyers and suppliers. These empirical findings motivate and guide the development of a model with domestic production networks and international trade. We obtain new sufficient statistics results for the effects of trade in a model with fixed network structure, and we develop a tractable model of endogenous domestic production networks. Comparing our results to those we obtain using existing approaches highlights the importance of data on and modeling of domestic production networks in studies of international trade.

^{*}We are grateful to Costas Arkolakis, Emmanuel Farhi, Teresa Fort, Matthew Grant, Basile Grassi, Rob Johnson, Harry Li, Alejandra Lopez Espino, Ferdinando Monte, and Andrei Nagornyi for useful conversations. The views expressed in this paper are those of the authors and do not necessarily reflect the views of the National Bank of Belgium or any other institution with which one of the authors is affiliated.