A Portrait of U.S. Factoryless Goods Producers

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Production fragmentation across national borders is now a pervasive feature of our global economy giving rise to the so called "factoryless" goods producers (FGPs) who outsource processing and manufacturing activities to foreign firms while retaining characteristics of a manufacturer, such as ownership of the intellectual property and controlling sales to customers.[1] In order to better reflect the changing production arrangements, the Office of Management and Budget (OMB) has mandated U.S. statistical agencies to classify these entities within the existing data collection system.[2] However, since the first federal register notice in 2010, research by statistical agencies and academics as well as comments from the public has resulted in OMB's latest recommendation to further evaluate "the feasibility of developing methods for the consistent identification and classification of Factoryless Goods Producers that are accurate and reliable" (80 FR 46479-46484).[3]

This paper will assess the responses to the special inquiry about the purchase of contract manufacturing services in the 2012 Economic Census (EC), an establishment level survey, and the Company Organization Survey (COS) , an enterprise level survey, in order to explore the feasibility of identifying FGPs as a *firm* level concept.[4] The OMB's Economic Classification Policy Committee (ECPC) recommends measuring FGP activity at the establishment level. However, cognitive research by the Census Bureau suggests that company headquarters rather than individual establishments may be the best respondents to answer the special inquiry questions intended to measure FGPs.[5] The first step in the analysis will document differences in responses

[1] See www.census.gov/eos/www/naics/fgp/Factoryless_Goods_Producer_Fact_Sheet.doc (accessed December 19, 2016) for a definition of FGPs.
[2] Refer to the first federal register notice issued on May 12, 2010, 75 FR 26856-26869, for more details.
[3] See http://www.census.gov/eos/www/naics/federal_register_notices/fedregister.html for a comprehensive list of federal register notices pertaining to the North American Industrial Classification System.
[4] See Kamal, Moulton, and Ribarsky (2015) for a description of the special inquiry questions in surveys conducted by the Census Bureau and the Bureau of Economic Analysis.
[5] This information is derived from internal Census Bureau documents and conversations with cognitive analysts.

by firms (identified via their establishments) in the EC to firms in the COS. The frequency of agreement and discrepancies will be documented.

Enriching the analysis beyond analyzing discrepancies in responses across surveys, the paper will then document patterns in ownership of intellectual property (such as research and development expenditures, receipts of royalty payments), engagement in production activities (such as existence of establishments in the manufacturing sector, share of production labor), and ownership and sales of finished goods (such as sales receipts adjusted for various industry-specific factors). These are three notable dimensions that define FGPs.[6] Moreover, borderless production arrangements have necessitated an increase in the trade of intermediate goods that are incorporated in various stages of the production process of a final good. About 60 per cent of global trade consists of trade in intermediate inputs (UNCTAD, 2013). Therefore, trade patterns, particularly import activities with an effort to carefully distinguish between intermediate and final goods, will also be documented. In addition, the paper will document the incidence of headquarters activity (as identified by establishments in NAICS 551114) which should presumably be more prevalent for FGPs. Headquarters activity is meant to encompass strategic or organizational planning and decision-making activities. Thus, in addition to exploring responses to the question on usage of contract manufacturing services, this exercise will rely on implied relationships under the definition of FGPs in order to more fully characterize "factoryless" manufacturing firms.

Finally, the paper will document the incidence of FGPs that are multinationals (MNCs) vis-à-vis domestic FGPs and non-FGPs. UNCTAD (2013) reports that 80 percent of global trade takes place in production networks administered by MNCs. Arguably, MNCs play a central role in mediating global production and trade. Moreover, property rights theories of the multinational

[6] This exercise is similar to Bernard and Fort (2015) who focused on the wholesale sector only.

firm (Antràs, 2015) predict that intra-firm imports is more likely in capital and skill intensive industries (Nunn and Trefler, 2013) and from countries with well-functioning judicial institutions (Bernard, Jensen, Redding, and Schott, 2010; Corcos, Irac, Mion, and Verdier, 2013). Thus, we would expect to find differences in the incidence of FGP activity by multinationals across industries and the countries where production is located. In addition, the paper will document differences in the above-described variables across the three distinct groups of firms – multinationals, domestic FGPs, and non-FGPs. This exercise will enable us to gain an understanding of the characteristics of firms that outsource the transformation task of the production process while retaining the design and marketing tasks in-house.

Together, the above analyses are expected to shed further light on the feasibility of identifying FGPs at the firm level by analyzing direct responses to questions designed to capture such activity as well as associated characteristics implied by the definition of FGPs. The results will further enable an assessment of the strengths and challenges of two possible strategies for identifying FGP's - either asking companies to self-identify on statistical surveys or using a profiling method based on theoretical concepts. The paper will also be able to quantify the economic significance and prevalence of FGPs in the U.S. economy relative to non-FGPs.

No single existing survey contains an ideal set of questions to identify FGPs. Therefore, we will utilize a host of confidential microdata sourced from the Census Bureau and the Bureau of Economic Analysis. In particular, we will link the 2012 Economic Census (EC)[7], an establishment level survey, to the 2012 Company Organization Survey (COS), a firm level survey, to analyze responses to a special inquiry question about purchase of contract manufacturing services. We will

[7] In the context of this study, the Economic Census will include all industries that received the special inquiry pertaining to the use of contract manufacturing services, namely, Census of Manufactures (CM), Census of Wholesale Trade (CWH), Census of Retail Trade (CRT), and Census of Services (CSR).

further combine these data with the Linked Firm Trade Transactions Database (LFTTD) to obtain a measure of firm-level imports. The Longitudinal Business Database (LBD) will be utilized to identify firm age and employment. The Annual and Benchmark Surveys of US Direct Investment Abroad (USDIA) and Foreign Direct Investment in the United States (FDIUS), conducted by the Bureau of Economic Analysis, will be linked to the Census Bureau's Business Register to identify the universe of U.S. multinational parent firms and U.S. affiliate firms of foreign parents. Utilizing the aforementioned sources of data will enable the most detailed analysis of "factoryless" manufacturing activities to date and pave a path towards offering a feasible way of identifying firms that engage in these activities.

References

Antràs, Pol, 2015. *Global Production: Firms, Contracts, and Trade Structure*. Princeton University Press.

Bernard, Andrew A., J. Bradford Jensen, Stephen J. Redding, and Peter K. Schott. 2010. "Intrafirm Trade and Product Contractibility," *American Economic Review Papers and Proceedings* 100: 444-448.

Bernard, Andrew B., and Teresa C. Fort. 2015. "Factoryless Goods Producing Firms," American Economic Review Papers and Proceedings, 105(5): 518-23.

Corcos, Gregory, Delphine M. Irac, Giordano Mion, and Thierry Verdier. 2013 "The Determinants of Intrafirm Trade: Evidence from French Firms," *Review of Economics and Statitsics* 95(3): 825-838.

Kamal, Fariha, Brent Moulton and Jennifer Ribarsky, 2015. "Measuring 'Factoryless' Manufacturing: Evidence from U.S. Surveys," in Susan Houseman and Michael Mandel (eds.), Measuring Globalization: Better Trade Statistics for Better Trade Policy, Volume 2, pp. 151-194.

UNCTAD. 2013. *World Investment Report*.
http://unctad.org/en/pages/PressRelease.aspx?OriginalVersionID=113. Accessed 15 December, 2016.
http://unctad.org/en/PublicationChapters/wir2013ch4_en.pdf . Accessed 15 December, 2016.