



SPRU
Science Policy Research Unit

Working Paper Series

SWPS 2015-19 (July)

Global Structural Change and Value Chains in Services. A Reappraisal

Maria Savona

US

University of Sussex

SPRU Working Paper Series (ISSN 2057-6668)

The SPRU Working Paper Series aims to accelerate the public availability of the research undertaken by SPRU-associated people of all categories, and exceptionally, other research that is of considerable interest within SPRU. It presents research results that in whole or part are suitable for submission to a refereed journal, to a sponsor, to a major conference or to the editor of a book. Our intention is to provide access to early copies of SPRU research.

Editors

Tommaso Ciarli
Daniele Rotolo

Contact

T.Ciarli@sussex.ac.uk
D.Rotolo@sussex.ac.uk

Associate Editors

Florian Kern

Area

Energy

F.Kern@sussex.ac.uk

Paul Nightingale,
Ben Martin, &
Ohid Yaqub

Science, & Technology Policy

P.Nightingale@sussex.ac.uk
B.Martin@sussex.ac.uk
O.Yaqub@sussex.ac.uk

Matias Ramirez

Development

Matias.Ramirez@sussex.ac.uk

Joe Tidd &
Carlos Sato

Technology Innovation
Management

J.Tidd@sussex.ac.uk
C.E.Y.Sato@sussex.ac.uk

Maria Savona &
Mariana Mazzucato

Economics of Technological Change

M.Savona@sussex.ac.uk
M.Mazzucato@sussex.ac.uk

Andrew Stirling

Transitions

A.C.Stirling@sussex.ac.uk

Caitriona McLeish

Civil military interface

C.A.McLeish@sussex.ac.uk

Disclaimer

The works available here are the responsibility of the individual author(s) and do not necessarily represent the views of other SPRU researchers. As matters of policy and practice, SPRU does not endorse individual research contributions.

Guidelines for authors

Papers shall be submitted in pdf or Word format. They should contain a title, an abstract, and keywords. Papers should be submitted to one of the Editors, who will process them and send them to the appropriate Associate Editor. Two members of SPRU will be asked to provide a short written review within three weeks. The revised versions of the paper, together with a reply to the reviewers, should be sent to the Associate Editor, who will propose to the Editors its publication on the series. When submitting the authors should indicate if the paper has already undergone peer-reviewing, in which case the Associate Editors may decide to skip internal review process.

Websites

SWPS: www.sussex.ac.uk/spru/research/swps

IDEAS: ideas.repec.org/s/sru/ssewps.html

Research Gate: www.researchgate.net/journal/2057-6668_SPRU_Working_Paper_Series

GLOBAL STRUCTURAL CHANGE AND VALUE CHAINS IN SERVICES.
A REAPPRAISAL

MARIA SAVONA

SPRU – Science Policy Research Unit,
Jubilee Building, University of Sussex, Brighton, BN1 9SL UK
Tel. +44 (0) 1273 877139
E-mail: M.Savona@sussex.ac.uk

ABSTRACT

The scholarship on Global Value Chains (GVC) has recently begun to recognise the increasing importance of fragmentation of production that involves services – and in particular business services – offshoring (Blinder 2006; Gary Gereffi and Fernandez-stark 2010a; Ventura-Dias 2012). A predominant view seems to emerge in this embryonic domain: participation in business services GVCs might be considered a sort of ‘third unbundling’ of internationalisation of production, which opens up new opportunities for catching up in developing countries (Gary Gereffi and Fernandez-stark 2010b). What are the theoretical and empirical bases for such a claim? Do these apply to both developed and developing contexts? Is this process leading to smart and equitable development processes? This chapter selectively systematises the traditional and emerging literature on GVCs in services and claims the importance of domestic and local specialisation, particularly of the presence of backward linkages à la Hirschman, before joining service GVCs as a catching-up strategy.

KEYWORDS: BUSINESS SERVICES; GLOBAL VALUE CHAINS; HIRSCHMAN LINKAGES; DEVELOPMENT.

JEL CODES: F63; L16; L80; O14.

ACKNOWLEDGEMENTS: This chapter owes a lot to discussions with my co-authors of a related work, Javier López-Gonzalez and Valentina Meliciani (“*When Linder meets Hirschman. Inter-industry linkages and global value chains in business services*”, paper presented at the RESER Conference, Helsinki, September 2014 and at the REDLAS Conference, Montevideo, May 2015). I also owe a lot to Martin Bell, for a substantial amount of discussions and constructive remarks. I wish to thank Tommaso Ciarli, the SWPS and ECLAC anonymous reviewers for their useful suggestions. Any errors or omissions are mine only. A version of this chapter is forthcoming on the ECLAC publication “*Innovation and Internationalization of Latin American Services*”.

1. Introduction

International trade scholars are increasingly aware that the unit of analysis of traditional trade theory is changing, from *final products* to *tasks* (Grossman and Rossi-Hansberg 2006; Grossman and Rossi-Hansberg 2008; Grossman and Rossi-Hansberg 2012; Costinot, Vogel, and Wang 2013; Baldwin and Robert-Nicoud 2014). Both the volume and geographical spread of traded tasks are also increasing. International fragmentation of production, which implies that countries specialise in portions of the value chain and trade other portions of it, is a relatively recent phenomenon, involving *offshoring* and *globalisation of value chains* (for recent reviews, see (R Kaplinsky 2013; OECD 2013; Timmer et al. 2013). As put by Baldwin (Baldwin 2011), this process has led to a ‘second unbundling’ of globalisation, transformed the terms of international competition and shifted the barycentre of the world’s global headquarters and peripheries (see also Baldwin & López-Gonzalez 2014) .

As often occurs in the discipline, academic interest in a new phenomenon sparks fierce debates on its determinants and effects. Analysis of the emergence of GVCs within the landscape of international trade theory is no exception. Scholars have looked at the conditions that favours countries joining GVCs (Costinot, Vogel, and Wang 2013); at their effects on labour markets and wages in participating countries (Feenstra and Hanson 1999; Grossman and Rossi-Hansberg 2006; Antras, Garicano, and Rossi-Hansberg 2006; Timmer et al. 2013; Acemoglu, Gancia, and Zilibotti 2014); at the implications in terms of GVC governance asymmetries between developed and developing countries (R Kaplinsky 2000; R Kaplinsky 2013; Schmitz and Strambach 2009). This literature often shows opposite stands when it comes to – for instance – the presence and the quality of the contribution of GVCs to processes of catching up and development.

Within these debates, scholarship has so far overlooked the increasing importance of fragmentation of production that involves services offshoring. Services have generally been considered as non-tradable and often overlooked in traditional trade statistics (R. W. Jones and Kierzkowski 1990). The new developments of trade theory based on the *trade-in-task* framework have not yet been able to incorporate services offshoring. The trade-in-task framework’s core assumption is related to falling transport and communication costs, which are claimed to have caused two different ‘unbundling’ of globalisation (Baldwin 2011; Baldwin and López-Gonzalez 2014). We acknowledge that the adoption of the *task approach* originally put forward by (Autor, Levy, and Murnane 2003) and adopted in (Baldwin and Robert-Nicoud 2014) might in principle well serve the

purpose of a generalised framework that encompasses international fragmentation of production of *intangible activities* such as services, although we do not attempt to develop this argument here.

From a rather different perspective, the empirical evidence on service GVCs is so far mainly based on industry cases (Gereffi & Fernandez-stark 2010a; Gereffi & Fernandez-stark 2010b; see also Massini & Miozzo 2012). The increasing service offshoring and the first-time participation of developing countries might be considered as a ‘third unbundling’ of globalisation, paraphrasing (Baldwin 2011). Indeed, developing countries, and especially Latin America after East Asia, is increasingly becoming a destination for service offshore. Participation in GVC in business services is therefore increasingly being considered as opening up new opportunities for catching up in developing countries (Blinder 2006; Gary Gereffi and Fernandez-stark 2010a; Lema, Quadros, and Schmitz 2012; Ventura-Dias 2012; Hernández, R., N. Mulder, K. Fernandez-Stark, P. Sauvé, D. López Giral 2014).

This paper aims to reappraise the debate on GVCs in services from two perspectives.

First, we briefly review the literature on GVCs in general and in particular on service offshoring both within theories of international trade and the applied firm-level contributions. We then revert to two alternative voices often neglected in these circles, those of Hirschman (Hirschman 1958) and Linder (Burenstam Linder 1961). In particular, we consider the theoretical stands by Hirschman and (a modified version of) the Linder Thesis, and consider them jointly to explain the propensity to participate in services offshoring and GVCs, as a competitive explanation with respect to the traditional determinants of cost and factor endowments. We broadly derive our conjecture on the basis of the empirical evidence shown in our prior work (Meliciani and Savona 2014; López-Gonzalez, Meliciani, and Savona 2014), and take stock of the literature on the economics of services. We then claim that the higher the domestic specialisation in Business Services (BS henceforth) backward-linked industries, (i.e. sectors with the highest intermediate demand for services), the higher the propensity to participate in BS GVCs directly and indirectly, in line with what Linder claimed to be the case for the composition of final domestic demand favouring trade in similar sectors.

Second, we aim to challenge the views mentioned above on the opportunity to favour GVC in BS as a development strategy and more in general the argument put forward mainly by trade theorists. We do so by claiming that in the absence of a strong domestic presence of backward linked

manufacturing industries to BS, it is unlikely that a (developing) country would build a GVC in these sectors from scratch, or develop the capabilities to upgrade existing low value added services and develop high value added BS to join the upstream segments of existing GVCs and serve international markets. We therefore attempt preliminary reflections on the policy implications to be drawn and suggest some caution when considering unconditional participation in GVCs in services as a new pathway for sectoral and technological upgrading in developing countries.

Before venturing in the above reflections, we also consider the competing view that GVCs present new opportunities for specialisation without the need of ‘building a service value chain from scratch’ (as put forward in the case of manufacturing value chains by (Baldwin 2011; Baldwin & López-Gonzalez 2014, p. 4). This view implies that backward linkages à la Hirschman may increasingly arise *across national boundaries* and therefore lead to participation in BS GVCs, as a result of closeness to ‘headquarter’ nations and regardless of the domestic sectoral structure. Reappraising these alternative views is important as they might have different implications in terms of industrial policy, whereby putting more emphasis on favouring participation in GVCs might undermine the role of domestic industrial policy in constructing and upgrading indigenous capabilities.

The remaining of the chapter is organised as follows: the next section briefly and selectively reviews GVCs literature within trade theory. Section 3 explicitly focuses on Business Service (BS) GVCs within the empirical literature. In Section 4 we revert to the ‘Hirschman-Linder’ hypothesis to make sense of the emergence of services GVCs and attempt implications of industrial policy for development. Section 5 summarises and concludes.

2. A brief overview of GVCs within trade theory

For the purpose of this brief overview, we focus on those contributions that attempt to integrate GVCs within mainstream trade theory and draw conclusions on the benefits of offshoring for national labour markets, mainly in developed countries.

Trade theory has for over a century dealt with comparative advantage in and trade of *final products*. Fragmentation of production, let alone the international spatial disaggregation of productive activities, was not really acknowledged until the 1970s, when the concept of “commodity chain” was firstly introduced, according to the reviews in (Bair 2005; De Backer and Miroudot 2013). The

term then evolved to encompass the international geographical spread and the increasing interconnectedness of countries in such a process, named as “offshoring” and “global commodity chains” (Gary Gereffi 1994). Today, (Grossman and Rossi-Hansberg 2006) declare the end of trade in “wine for cloth”, referring to the Ricardo’s seminal example, and the start of fragmentation in the production of manufactured products across countries. This implies that comparative advantage has to be accounted for in terms of portions of value added: the term Global Value Chain finally enters the debate (Gary Gereffi, Humphrey, and Sturgeon 2005; Gary Gereffi, Fernandez-Stark, and Psilos 2011; R Kaplinsky 2013).

According to trade scholars, a key determinant of offshoring and the emergence of GVCs is the dramatic decrease in transportation and communication costs. This has radically changed the opportunity cost of specializing in sectors and activities that once required spatial concentration, thereby undermining the role of agglomeration economies to such an extent that scholars have forecasted the ‘death of distance’ and a ‘flat world’ (Friedman 2005; Leamer 2007). With transport and communication costs virtually converging to zero, the locational advantages of economic activities would become increasingly meaningless, favouring their migration to destinations where factor endowments and wage competition, at least for low-skilled or ‘routinised’ activities, would make the key difference (Autor, Levy, and Murnane 2003; Autor and Dorn 2013; Baldwin 2011).

Building on the *task approach* put forward by Autor and colleagues (Autor, Levy, and Murnane 2003), trade theory has moved towards a framework of *trade-in-task* rather than *trade-in-goods*, which embodies the emergence of GVCs and focuses on their effects on domestic and international labour markets and wages (see among others, (Grossman and Rossi-Hansberg 2008; Antras, Garicano, and Rossi-Hansberg 2006; Costinot, Vogel, and Wang 2013; Baldwin and Robert-Nicoud 2014).

The appeal of a task approach to explain offshoring within trade theory lies in a certain degree of determinism. The starting point is a straightforward (assumed) association between the incentives to offshore and the degree to which tasks are ‘*routinized*’ – usually (but not exclusively) performed by low-skilled labour - vis à vis the ‘*non-routinized*’ ones - usually (but not exclusively) performed by high-skilled labour. Firms would be more prone to offshore routinized rather than non-routinized tasks, thereby limiting the importance of closeness and spatial concentration for non-routinized

tasks, which depend on tacit knowledge and are more costly to offshore (Autor et al. 2003; Vona & Consoli 2014; see also Consoli & Vona, Rentocchini 2015, from a different perspective¹).

Models of trade-in-task, common to most of this literature, show that the benefits of offshoring for the domestic labour markets in *both* developed and developing contexts are similar to those arising from factor-augmenting technical progress (R. W. Jones and Kierzkowski 1990; R. W. Jones and Kierzkowski 2005; Grossman and Rossi-Hansberg 2006), as the productivity impact on offshoring firms generates positive spillovers and increases the domestic wages of those tasks that are performed by similarly skilled labour.

Has the *trade-in-task* framework found corroborating empirical evidence across countries, and, indeed, tasks? Is such a framework able to explain *services' offshoring*?

(R. Jones, Kierzkowski, and Lurong 2005) have argued that one of the consequences of disagglomeration of production has brought about higher demand and wider spread of *service links* to spatially coordinate dispersed activities.

From a theoretical perspective, the trade-in-task framework might well lend itself to encompass *service* offshore, as the notion of *task* rather than *product* is intuitively more appropriate to describe not only the sequence of intermediate inputs composing the service, but the (intangible) output itself. Often, sectors such as BS include activities that Autor and colleagues (Autor, Levy, and Murnane 2003) would refer to as *non-routinised tasks* performed by high-skills jobs.²

As mentioned, most of the scholarship based on the trade-in-task framework consists of models (see (Baldwin and Robert-Nicoud 2014) for a recent review). The collection of empirical evidence on tasks remains a challenge. So far it seems to be mainly confined to the case of the US, where task data have been derived by matching the Census of the Current Population Survey and the Dictionary of Occupational Titles (Autor, Levy, and Murnane 2003; Autor and Dorn 2013; Consoli,

¹ (Consoli, Rentocchini, and Vona 2015) build on the *task-based approach* by (Autor, Levy, and Murnane 2003) and empirically test competing explanations of the demand for non-routinised skills over the past decade. They find that technology, and in particular Information and Communication technology, is less of a driver now than it was in the 1990s of demand for non-routinized skills. Indeed trade, the enlargement of access to low skilled markets and their import competition has been more of a determinant of the increased demand for higher skills domestically and has brought about higher polarization of skills at the extremes of the skills distribution.

² The speculation on the applicability of the trade-in-task framework to services is due to the fact that, to the best of our knowledge, no explicit attempt has yet been made to conceptualise the differences between an intermediate service input, a task and a service output. Although this is clearly out of the scope of this work and would be an interesting challenge for both trade and economics of service scholars (see interesting attempt in (Consoli and Rentocchini 2014).

Rentocchini, and Vona 2015). Similar data in Europe have not yet been collected, although first steps have been made.³ To the best of our knowledge, there has not been yet such an attempt in developing countries.

Steps ahead have been made on the collection of homogenized data on trade in value added. The OECD-WTO Trade in Value Added (TiVA) and the World Input Output data have been released in 2012 and allow to trace the value added embodied in domestic and international exports. A flourishing set of contributions has started constructing indicators of *trade in value added* (Koopman et al. 2010; Timmer 2013; Baldwin & López-Gonzalez 2014; López-Gonzalez et al. 2014).⁴

To the best of our knowledge, trade-in-task scholarship has not yet attempted to formalize and empirically integrate services. Instead, GVC scholars have attempted empirical mapping of service offshoring, based on the collection of qualitative evidence. This might stimulate a reflection on how to tackle the theoretical challenges above. We turn to this in the next section.

3. GVC in business services: a ‘third globalization unbundling’?

The different phases and geographies of globalization

A stream of recent contributions has tried to empirically account for the emergence of GVCs and the changing nature of trade in the 21st century. Some of these fall squarely within mainstream trade theory, starting from the assumption that falling transport and communication costs have been responsible for the increased fragmentation of production across national borders. (Baldwin 2011) has argued that globalization went through two distinct phases, entailing different processes of fragmentation of production. A ‘first unbundling’, up until the mid-1980s, was mainly determined by plummeting *transportation* costs and involved competition in sectors, though the whole of the supply chain remained *within national borders*. What caused the ‘second unbundling’, starting after 1985, was the dramatic drop of *Information and Communication Technologies* (ICTs) costs, which strengthened the virtuous effects of lower transport costs and fuelled *offshoring*.

³ See the European Skills, Competences, Qualifications and Occupations (<https://ec.europa.eu/esco/home>).

⁴ For instance, in López-Gonzalez et al. (2014) we use the World Input Output data (WIOD) to analyse the drivers of the increased share of service value added in exports across countries and over time.

It is this second unbundling that has shifted the nature of international competition towards *stages of production* rather than *final products*, followed by a spatial concentration of ‘factory economies’, i.e. developing countries that specialize in the low-tech phases of production chains, around industrialized/developed countries such as the US, Japan and Germany, the ‘headquarter’ centers. Falling costs have mattered therefore in different ways, first for disagglomeration of production and value chains *within* national borders, then for the international fragmentation of production and value chains *across* countries. Importantly, it is argued that closeness to ‘headquarters’ mattered particularly as it favoured the industrialization of developing countries in the form of *participation* in existing GVCs (rather than “*building* (GVCs) from scratch”) (Baldwin & López-Gonzalez 2014, p.4). What are the benefits of participating in existing GVCs rather than building them from scratch?

According to (Baldwin and López-Gonzalez 2014), developing countries start to function as neighbouring factory economies, specialising in the lower-skilled (manufactured) portion of the value chain while the higher-skilled segments remain within the boundaries of the headquarter country. This process of joining an existing value chain is claimed to be a unique occasion for many countries, which managed to industrialise for the first time at virtually a fraction of the time-span that developed countries took to take off. For instance, countries such as Mexico, close to the US; China, close to Japan; Poland and Turkey, close to Germany, have all increased their participation in GVCs thanks to their closeness to headquarters. (Baldwin and López-Gonzalez 2014) show that in the 'Factory North America', the US sources intermediates from a diversity of suppliers but that neighbouring Mexico predominantly buys from the US. So the pattern of specialisation driven by GVCs is that Mexico buys intermediates from the US, assembles them into final products and then exports them to American consumers (see Figure 1). Interestingly, the same occurs in ‘Factory Europe’ (see Figure 2), with Germany leading the GVC around ‘factories’ such as Poland and Czech Republic.

[Insert Figures 1 and 2 here]

In summary, as (Baldwin 2011), p. 33) notes:

“The 2nd unbundling made industrialization less meaningful. Before the 2nd unbundling a nation had to have a deep and wide industrial base before it could export, e.g. car engines. Exporting engines

was a sign of victory. Now it is a sign that the nation is located in a particular segment of an international value chain”.

This evidence has also raised concerns within a different stream of scholarship, interested in the distribution of benefits along the value chain and the income polarisation effects observed as a consequence of value chain globalisation. (R Kaplinsky 2000), for instance, points to the sources of inequality linked to the spatial distribution of production activities between headquarter and factory economies. It is true, Kaplinsky argues, that being left out by GVCs represents a losing proposition. However, the countries that are most likely to lose from the globalisation process are also those that keep joining and participating in GVCs at costly conditions. Many of the cross-country asymmetries in the distribution of the gains of being part of a GVC are attributable to issues of *governance* (R Kaplinsky 2000; Gary Gereffi, Humphrey, and Sturgeon 2005). Processes of governance entail “*the role of coordination and the complementary role of identifying dynamic rent opportunities and apportioning roles to key players*” (R Kaplinsky 2000), p. 124).

One of the questions that remain open within trade theory is whether and under which conditions factory economies manage to upgrade their specialisation to higher value added segments of the value chains. It might well be that systematically ‘joining’ existing GVCs rather than ‘building’ them (Baldwin 2011) - even assuming that such a clear-cut difference exists and is meaningful - might hamper a process of domestic capabilities building and upgrading, and therefore is likely to result in a specialisation trap. If technological and economic upgrading from low to higher value added activities is difficult, it is important to understand what are the conditions (or the specific policy actions) that ease this process.

More generally, attention needs to be paid to nexus between positioning in a particular segment of a global value chain; the dynamics of rent appropriation along these different segments; the power structure asymmetries characterizing the actors involved. It is in the dynamics of this nexus that different development scenarios might arise for developing countries. The chances to “kick away the ladder”, borrowing from (Chang 2002), are most likely linked to the opportunities for technological, economic and social upgrading along phases of the value chain with an associated redistribution of rents (R Kaplinsky 2000; Schmitz and Strambach 2009; Raphael Kaplinsky and Morris 2015).

What, if any, is the potential role for service GVCs in this context?

A 'third globalisation unbundling'?

Both first and second unbundling of globalization refer to manufacturing value chains. However, most recently the literature has emphasised the emerging phenomenon of the 'servicification' of manufacturing, i.e. the increase in the service content of exports (Gary Gereffi and Fernandez-stark 2010a; Hernández, R. A., Martínez-Piva J.M. and Mulder 2014; Hernández, R., N. Mulder, K. Fernandez-Stark, P. Sauvé, D. López Giral 2014). For example, the EU's value added that is used by China to produce exports is mainly in the service sectors, where China is basically engaged in the manufacturing elements of the value chain, particularly in lower-skilled activities; further, the evidence on service GVCs shows that the concentration of trade in business services is mainly among headquarters economies such as the US, Germany, the UK and Japan (Baldwin and López-Gonzalez 2014).

What type of services is the object of this emerging phenomenon?

As (Gary Gereffi and Fernandez-stark 2010a) effectively show (see Figure 3), developing countries have been the destination of an increasing volume of standardized Information Technology Outsourcing (ITO), including – ranked in terms of value added – infrastructure management activities, software services such as Enterprise Resource Planning (ERP), only most recently also Software and R&D consultancy. The top segments of offshored services are Business Process Outsourcing (BPO) and Knowledge Process Outsourcing (KPO), which are more intensive in high-skilled human capital and knowledge and typically remain in 'headquarter economies', although in recent years increasing volumes of trade in such high-skilled activities (and non-routinised tasks) has involved Latin American countries (for a detailed summary of this evidence, see also (Hernández, R., N. Mulder, K. Fernandez-Stark, P. Sauvé, D. López Giral 2014). This process has been attributed to a combination of decreasing ICT costs, increasing opportunities for standardization of typical IT functions – that therefore require less high-skill content – and a very recent drive to look for talents (i.e. creative, and not necessarily technologically-related high skills) across the whole world, a drive that for the first time allows greater participation of suppliers from developing countries (Lewin, Massini, and Peeters 2009).

[Insert Figure 3 about here]

Overall, the tone of the emerging discourse is prone to depicting a rosy picture of the developmental opportunities for ‘periphery’ countries to join service GVCs, and the role that industrial policy can play to nurture this process (Gary Gereffi and Fernandez-stark 2010b). However, scholarship on service GVCs is still at an embryonic stage, with much empirical evidence still limited to single industry cases. This calls for some degree of caution and certainly for further research to support this view.

For instance, in a recent contribution, (Flecker, Haidinger, and Schönauer 2013) have raised doubts about the actual benefits of service offshoring for both the headquarter and recipient countries involved, mainly in relation to the labour market conditions idiosyncratic to service value chains. They argue that the vertical disintegration of service labour markets and the lengthening of service value chains might exacerbate those aspects of value exploitation of the knowledge ability of service employees.

Global sectoral structural change and services: Are we missing something?

The economics of services as a discipline has developed in parallel with the evolving theory of value and been characterized by shifting concerns. Pre-occupation about the intangibility of services and the erosion of capital accumulation leading to the threat of de-industrialization in most advanced countries⁵ has subsequently mutated into optimism over the scope for knowledge accumulation and leveraging for the rest of the economy that are intrinsic in some business services⁶ (for a review, see (Gallouj and Savona 2008; Ciarli, Melicani, and Savona 2012).

More recently, this has fed into the rhetoric surrounding the ‘New Economy’ and, more specifically, the ‘Knowledge Economy’ (Marrano, Haskel, and Wallis 2009). These categories are often associated with the increase in Knowledge Intensive Business Services (KIBS) share in developed economies and the widespread diffusion of ICTs, which has not only dramatically reduced input costs but also allowed standardization and codification of numerous service activities⁷. The empirical evidence on the emergence of KIBS (Ciarli, Melicani, and Savona 2012; Melicani and

⁵ A seminal contribution on the topic remains (Kaldor 1966), followed by (Baumol 1967; Fuchs 1968).

⁶ Classical contributions to the opposite stand – i.e. the optimism toward the progress and ‘third industrial revolution’ are (Fourastié 1949; Bell 2008).

⁷ The empirical assessment of the impact that technical change related to ICTs has had on services, in terms of reduced idleness of production, productivity and time-saving gains for customers is still in its infancy (Savona and Steinmueller 2013).

Savona 2014) has often coupled with this rethoric.⁸

We observe that this view is somehow affecting the evolution of the theoretical and empirical debate within trade theory and GVC scholarship, particularly in regard to ‘desirable’ diversification and upgrading opportunities in a number of developing countries, which, it has been suggested, would be eased by joining business service GVCs (Ventura-Dias 2012; Crespi, Tacsir, and Vargas 2014).

We have put forward above that the increasing presence of services in the processes of international fragmentation of production is considered as a sort of ‘third unbundling’ of globalization, with potential beneficial effects. What are the conceptual and empirical bases supporting this view?

In what follows we put forward a few questions that we believe should nurture a research agenda on service GVCs, which ideally would bridge trade theory, GVCs scholarship and the economics of services.

1. Taking stock of the scholarship on the economics of services, should we actually consider the increasing involvement of services in GVCs as a sort of ‘third unbundling’ of globalisation, equivalent in importance to the processes of tertiarisation that have followed industrialisation in developed countries, only occurring now on a global scale?
2. Are the determinants of the first generation of unbundling – i.e. cost and factors endowment - also crucial in explaining service GVCs and their particular geographical spread across ‘headquarter’ and ‘factory’ economies?
3. What are the prospects for development that participation in services GVCs would ensue, compared, for instance, to those emerged for manufacturing GVCs?
4. What are the implications in terms of (national) industrial policy? Do we need a different approach that takes into account the questions (and answers) above?

We do not attempt answers to all questions here. We wish instead to briefly discuss the first two by advancing interpretation of the phenomenon of service GVCs that complements the one sketched above. However, we believe, and discuss more in the conclusions, that further research is needed to

⁸ We have mentioned earlier that concerns with tertiarisation have been *cyclical*: a further evidence of this is the very recent “re-assessment” of the benefits of industry - most likely due to the second public outrage following the tarnish consequences of the latest global financial crisis - as reported in the EC 2013 Competitiveness Report “Towards Knowledge-Driven Re-industrialisation”.

disentangle crucial issues such as the quality of development that participation in services GVCs might ensue, and, most importantly, the implications for alternative approaches to industrial policy that this phenomenon calls for.

4. When Linder meets Hirschman: a complementary view of services GVCs

As mentioned above, it has been argued that the increasing standardization and transferability of knowledge following the spread of ICTs have been the most important drivers behind increased outsourcing and offshoring that have concerned (some) business services. Most likely the business services that have most gained from increased standardization are also those that are the most routinized to start with (Autor, Levy, and Murnane 2003), and that appear at the low end of the map provided by (Gary Gereffi and Fernandez-stark 2010a) and reported in Figure 3.

Although focused on a smaller and higher-end set of BS (R&D, ICT-related services, engineering, technical consultancy and legal services) and on a developed context, the European evidence produced in (Meliciani and Savona 2014) shows that BS tend to spatially agglomerate and localize *close* to the industries that are highly intensive in BS, typically high tech manufacturing industries. In line with other contributions (Rodriguez-Pose & Crescenzi 2008), this evidence empirically challenges the view of an increasingly “flat world” (Friedman 2005; Leamer 2007), by showing that, despite ICT falling costs, less routinized and standardised BS (mostly intensive in high-skills), do not easily cross national (and regional) boundaries.

Interestingly, in a very recent paper, (Bahar, Hausmann, and Hidalgo 2014) look at the dynamics of countries’ comparative advantage and support these conclusions. When modelling the cross-country diffusion of knowledge on the basis of national export baskets⁹, they *assume* that (p. 111): “(..) *Controlling for product-specific shifts in global demand, firms in a country will be able to incorporate a new good into their export basket only after they have become productive enough to compete in global markets.*” Their results – contrary to what mainstream trade theory, and particularly gravity models, predict – support the view that non-codified knowledge, which is most likely the one required to carry out non-routinized tasks in Autor’s (2003) terms, does not cross-national borders very easily. Even when it does, it might tend to concentrate in trade-neighbouring

⁹ It is worth noting here that (Bahar, Hausmann, and Hidalgo 2014) still refer to the *trade-in-goods* framework, as they do not pick the *task approach*, which most of the trade literature reviewed in Section 2 is based upon.

countries. It follows that a country's evolving comparative advantage, embodied in its export basket, is very much shaped by the knowledge accumulated domestically and in that of its closest or trading partners.¹⁰

Within this context, BS are carriers of much tacit, non-reproducible, knowledge and therefore less easy to be offshored. Geographical proximity to where their (typically intermediate) demand is located characterises these sectors, and, more generally, such activities are more intensive in high-skilled human capital. Falling transportation and communication costs and ICT-enabled standardisation of tasks, responsible for the first two globalisation unbundlings, might not act as a strong driver for KPO and BPO offshore, whereas it has most likely played an important role in ITO offshoring to developing countries. Overall, the potential for standardization of service activities opened up by ICTs has to date primarily affected only a share of service activities, namely those that are positioned at the lower-end of value chains (Blinder 2006).

In reappraising the theory discussed in Section 2, and particularly the main assumptions behind it, as to whether they apply to service offshoring, we claim therefore that the stickiness of knowledge – and spatial distribution of skills to perform those tasks that are typically non-routinized within Autor's and Balwin's world – are likely to counterbalance the effects of falling transport and communication costs, as shown at the regional level by (Meliciani and Savona 2014) and at the national level by (Bahar, Hausmann, and Hidalgo 2014).

Further core assumptions of both trade theory and GVC scholarship seem to be ill-suited to account for the observed rise in service offshoring. One of these is the disagglomeration between production and consumption (Blinder 2006). For most service activities, it is difficult to conceptually and empirically separate their provision and consumption, in line with what scholars in the economics of services call *co-terminality*. As a consequence, much of the effects of falling costs that have indeed favoured the disagglomeration of production of manufactured goods might simply not affect services.

Which services are most likely to be offshored?

Either the low segments of the value chains, as largely shown by (Gary Gereffi and Fernandez-stark 2010a), due to the separability of standardised and codified knowledge between the supplier and the

¹⁰ Knowledge 'stickiness' across firms, sectors and countries is something that evolutionary economists and historians of technology had already pointed out several years ago (Cowan 2000; Foray and Dominique 2006; Mokyr 2002).

recipient, or those highly intensive in non-standardised and tacit knowledge that seem to have however mostly concerned ‘headquarter’ countries so far (Kowalski et al. 2015). The increasing involvement of services in GVCs is therefore the result of more complex processes, that, in our view, are unlikely to be exclusively attributed to the same historical processes of falling costs that characterised the first two globalisation unbundling. The considerations above beg for a complementary framework to explain GVCs in services.

When Linder meets Hirschman

The basic intuition that we attempt to articulate below is that in the absence of a strong domestic presence of backward-linked industries to (high-end) services as most BS, it appears unlikely that a (developing) country would construct its own or join an existing BS GVC, or indeed both, let alone upgrade from existing lower-value added services GVCs and develop competitive BS. To articulate our intuition, we revive two seminal classical contributions to the theory of international trade and economic development, respectively those of Staffan Burenstam Linder and Albert Hirschman. While we have no pretense to formalize anything here, we hope that this might stimulate further reflection and research.

Interestingly, both Hirschman (Hirschman 1958) and Linder (Burenstam Linder 1961) represent alternative voices to the mainstream trade and development thinking at their time (Lundahl 2005).

In a seminal text on economic development, Hirschman (1958) identified the structure of sectoral intermediate linkages within regional economies as the main determinant of specialisation and growth polarisation. According to Hirschman, there are different types of externalities, depending on whether activities are related to one another by forward or backward linkages, i.e. whether certain sectors concentrate where their clients are located or, rather, migrate where new or emerging supplier sectors are located.

Hirschman’s one was a remarkably original stand with respect to the mainstream growth theory based on factor endowments. Sectoral specialisation and structural change had hitherto rarely been considered of any relevance in explaining growth polarisation across local and national economies¹¹. The role of linkages in Hirschman’s work serves the purpose of *creating new sectors* by way of a scalable intermediate demand, and therefore represents a useful device to explain

¹¹ These intuitions have on some occasions been taken up and operationalized in the literature (L. P. Jones 1976); see also, more recently, (Hausmann, Klinger, and Lawrence 2008), although it is out of the scope of this paper to go more in depth into these.

structural change of the sectoral composition of economies, although Hirschman's work remained relatively silent on the conditions and specific mechanisms by which intermediate demand is translated into the creation of new supplier sectors¹², and for what matters, into upgrading. Recently, the role of structural change is being increasingly brought back in the development debate (Lin 2012; Stiglitz, Lin, and Monga 2013), which is extremely interesting from our perspective.

The work of Linder (Burenstam Linder 1961) also emerged as a particularly radical stand against mainstream trade theory following the Heckscher-Ohlin-Samuelson model. The latter explained foreign trade on the basis of cross-country differences in factor endowments, such that capital-endowed countries would export capital-intensive goods and reach higher incomes per capita, while countries relatively more labour-endowed would specialise in and trade labour-intensive goods. Linder put forward what it is now known as the *Linder Thesis*, his main contribution to the theory of foreign trade.

According to Linder (1961), the Heckscher-Ohlin model was able to explain trade in raw materials, but less so trade in manufactured goods. The latter trade depended on whether a country reached a certain level of domestic *representative demand* in a particular manufactured good. This benchmark level of domestic demand, in turn, provided the necessary information from purchasers to producers, which eventually allow them to face competition in foreign market. Therefore countries with a similar structure of final demand – owing for instance to similar levels of per capita income – tended to have similar structures of trade specialisation.

A *joint Hirschman-Linder hypothesis* reprises the importance of Hirschman linkages and (a modified version of) the Linder Thesis, refers to domestic intermediate rather than final demand and considers them jointly in explaining the propensity to join services offshoring GVCs.

As argued above, our belief is that traditional determinants of cost and factor endowments are able to explain less of the recent processes of 'global structural change' involving services offshoring. Rather, it is the structure of domestic intermediate demand for business services and the specialisation in BS forward linked industries, the domestic *representative intermediate demand*, which most affect the propensity and capacity to engage in international value chains in BS, in line with what Linder claimed for final domestic demand.

¹² I owe to Martin Bell reflections on structural change within Hirschman's work.

In a related work, López-Gonzalez, Meliciani and Savona (2014) empirically tested and found support for the above conjecture on the basis of the recently released World Input-Output Database (WIOD) and annual Inter-country Input-Output data (ICIO), which cover forty economies (including all EU-27 countries as well as Australia, Brazil, Canada, China, India, Indonesia, Japan, Korea, Mexico the Russian Federation, Chinese Taipei, Turkey and the US) and a rest of world grouping across 35 sectors (20 of which are services, 11 manufacturing, and 4 primary sectors) over a 15 years time horizon (yearly from 1995 to 2009). The ICIO data allow tracking not just the direct linkages within and between countries and sectors but also those that arise indirectly through the growing interconnectedness in trade. The database therefore lends itself to the creation of indicators that capture the extent and nature of GVC participation across different sectors (see also (Koopman et al. 2010; Erumban et al. 2011)).

The findings in López-Gonzalez et al. (2014) show that a joint Hirschman-Linder hypothesis holds for the (WIOD) sample of countries and, indeed, for the emerging countries only. Also, the intermediate demand coming from close trade partners emerges as having a displacement effect on the likelihood to participate in service GVCs by developing countries. This seems to be at odds with the idea that countries can enter global value chains by mainly relying on global demand and regardless of their own specialization. There are of course counter-evidences to these findings, although based on specific cases. For instance, both (Lema, Quadros, and Schmitz 2012) and (Gary Gereffi and Fernandez-stark 2010a) look at the Indian offshore service industries and show that – despite the absence of a strong backward-linked industry, it has massively upgraded, from an initial specialization in mature segments of it (IT and BPO) to higher value added segments such as KPO and R&D. It would be interesting to find more evidence that corroborates long-term upgrading processes exclusively led by foreign demand.

5. Concluding remarks

This chapter has proposed a brief and selected reappraisal of the theoretical and empirical literature on GVCs with a particular focus on service GVCs, which have recently emerged as the latest path of international fragmentation of production. Our aim was two-fold.

First, we reviewed the new developments of trade theory based on the *trade-in-task* framework, and critically assessed whether they have explained, let alone looked at, service offshoring. Based on the literature on the economics of services and on empirical evidence on the spatial concentration of

these activities, albeit in developed countries, we proposed a complementary view on the emergence of service GVCs.

Second, we pointed out the need for further research on the opportunity to favour participation in service GVCs as a developmental strategy, which the GVC scholarship seems to be increasingly suggesting.

We briefly reviewed the trade-in-task framework and emphasised that its core assumption relates to falling transport and communication costs, which are claimed to have caused two different ‘unbundling’ of the globalisation process (Baldwin 2011; Baldwin 2012; Baldwin and López-Gonzalez 2014). We acknowledged that the adoption of the *task approach* put forward by (Autor, Levy, and Murnane 2003) and (Baldwin and Robert-Nicoud 2014) might in principle well serve the purpose of a generalised framework that encompasses international fragmentation of production of *intangible activities* such as services. We have not attempted this here, though have suggested that research in trade theory might fruitfully pursue this direction of investigation.

Rather, we have reviewed the empirical evidence on GVCs in services, so far mainly based on industry cases (among others, Gereffi & Fernandez-stark 2010a; Lema et al. 2012) and asked whether the first-time participation of developing countries in service offshoring might be considered as a ‘third unbundling’ of globalisation, paraphrasing Baldwin (2011). Indeed, developing countries, especially those in Latin America after East Asia, are increasingly becoming a destination for service offshoring. Despite underlying optimism on the benefits of such trends, the trade-in-task framework suggests in our view that falling transport and communication costs would mainly favour the fragmentation and offshoring of ‘routinized’ tasks, usually involving lower-skilled jobs. Some developing countries might therefore become favourite destinations of those segments of service offshoring that mainly compete on price rather than skills and talent. Only in a few cases, countries such as India and (a few) Latin American ones, have managed to join higher value added segments of service GVCs (Lema, Quadros, and Schmitz 2012; Hernández, R., N. Mulder, K. Fernandez-Stark, P. Sauvé, D. López Giral 2014).

We argued that – due to the specificity and heterogeneity of the industry at play, especially within BS - there is a potentially complementary explanation of the emergence of GVCs and the choice of certain countries as offshoring destinations. Taking stock of the literature on the economics of services and drawing on the existing empirical evidence in developed countries, we have put

forward a *Hirschman-Linder hypothesis*. Business services tend to emerge and spatially concentrate where a critical mass of BS backward-linked sectors builds up to a *representative domestic intermediate demand*, paraphrasing Linder (1961). In the case of developed countries, this is mainly represented by BS-intensive manufacturing sectors (Meliciani and Savona 2014). This evidence seems to hold also in the case of developing countries (López-Gonzalez, Meliciani, and Savona 2014), although much more research at a finer-grain level to further support this evidence is needed.

The Linder hypothesis put forward the notion of *representative domestic demand*; the Hirschman framework highlighted the importance of intermediate demand and backward linkages for structural change. The Hirschman-Linder hypothesis in this context aimed to emphasise the importance for countries – and particularly developing countries – of developing internal industrial capacity, particularly in BS backward-linked sectors, to spur a critical demand for the high value added services, before, or, indeed, contextually to, choosing to join a service GVCs. As mentioned above, cases such as India, Philippines or Uruguay offer counter-evidence to this view, whereby trade specialisation and participation in service GVCs has been mainly driven by external demand. These are indeed interesting cases to observe over the next decades, to assess their long-term development paths compared to other developing countries which different domestic sectoral and trade specialisation.

The rationale behind the Hirschman-Linder view might be considered similar to the one supporting the *infant industry argument*. Despite being criticised by mainstream trade economists, infant industry policies have been able to spur rapid catching-up processes in most European countries during their initial phases of industrialisation as well as, for instance, South Korea later on (among many others, see Chang 2002).

What would the equivalent of the infant industry policy be in a globalised world? Would the rationale behind the infant industry policy be holding in an internationally fragmented production system? Would it have the same potential for production, technology and export upgrading that was implicit in its original argument?

Surely industrial policy for development must take into account the increasing international fragmentation of production. One of the challenges of industrial policy in this context is to avoid that a country runs the risk of freezing its specialisation pattern at the lower end of value chains, with little scope for subsequent technological upgrading and structural change, before venturing

into international value chains. It is a matter of *directing* domestic structural change in terms of both *quality* and *timing*.

This is the reason why we believe that it important to reappraise different views on service GVCs as an opportunity for catching up in developing countries, as they have different implications in terms of industrial policy, whereby favouring participation in those GVCs that have little scope for upgrading or joining them ahead of the time *needed* to build domestic capabilities, might be detrimental.

To conclude, we hope to have stimulated interest in pursuing both trade theoretic and empirical GVC research in a direction that is able to address the following question: To what extent is joining service GVCs a sustainable policy when it is decoupled from local/domestic accumulation of capabilities in highly developmental Hirschman-linked sectors?

Bibliography

- Acemoglu, Daron, Gino Gancia, and Fabrizio Zilibotti. 2014. *Offshoring and Directed Technical Change*. Vol. Barcelona . doi:10.1257/mac.20130302.
- Antras, Pol, Luis Garicano, and Esteban Rossi-Hansberg. 2006. "Offshoring in a Knowledge Economy." *The Quarterly Journal of Economics*, no. February: 31–77. doi:10.1093/qje/121.1.31.
- Autor, David H, and David Dorn. 2013. "The Growth of Low-Skill Service Jobs and the Polarization of the US Labor Market." *American Economic Review* 103 (5). American Economic Association: 1553–97. doi:10.1257/aer.103.5.1553.
- Autor, David H., Frank Levy, and Richard J. Murnane. 2003. "The Skill Content Of Recent Technological Change: An Empirical Exploration." *The Quarterly Journal of Economics* 118 (4). MIT Press: 1279–1333. <http://ideas.repec.org/a/tpr/qjecon/v118y2003i4p1279-1333.html>.
- Bahar, Dany, Ricardo Hausmann, and Cesar a. Hidalgo. 2014. "Neighbors and the Evolution of the Comparative Advantage of Nations: Evidence of International Knowledge Diffusion?" *Journal of International Economics* 92 (1). Elsevier B.V.: 111–23. doi:10.1016/j.jinteco.2013.11.001.
- Bair, Jennifer. 2005. "Global Capitalism and Commodity Chains: Looking Back, Going Forward." *Competition & Change* 9 (2). Maney Publishing: 153–80. doi:10.1179/102452905X45382.
- Baldwin, Richard. 2011. "Trade and Industrialization after Globalization's 2nd Unbundling: How Building and Joining a Supply Chain Are Different and Why It Matters," no. October: 1–38.
- . 2012. *Global Supply Chains: Why They Emerged, Why They Matter and Where They Are Going*. NBER.
- Baldwin, Richard, and Javier López-Gonzalez. 2014. "Supply-Chain Trade: A Portrait of Global Patterns and Several Testable Hypotheses." *The World Economy (2014)* In press: doi:10.1111/twc.12189.
- Baldwin, Richard, and Frédéric Robert-Nicoud. 2014. "Trade-in-Goods and Trade-in-Tasks: An Integrating Framework." *Journal of International Economics* 92 (1). Elsevier B.V.: 51–62. doi:10.1016/j.jinteco.2013.10.002.
- Baumol, William J. 1967. "Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis." *The American Economic Review* 57 (3): 415–26.
- Bell, Daniel. 2008. *The Coming Of Post-Industrial Society*. Basic Books. http://books.google.co.uk/books/about/The_Coming_Of_Post_industrial_Society.html?id=q6_56x5tB7gC&pgis=1.
- Blinder, Alan S. 2006. "Offshoring□: The Next Industrial Revolution□?" *Foreign Affairs* 85 (2).
- Burenstam Linder, S. 1961. *An Essay on Trade and Transformation*. Stockholm: Almqvist & Wicksell.

- Chang, Ha-Joon. 2002. *Kicking Away the Ladder: Development Strategy in Historical Perspective*. Anthem Press. <http://books.google.com/books?hl=en&lr=&id=mRMqXSjm0qoC&pgis=1>.
- Ciarli, Tommaso, Valentina Meliciani, and Maria Savona. 2012. "KNOWLEDGE DYNAMICS, STRUCTURAL CHANGE AND THE GEOGRAPHY OF BUSINESS SERVICES." *Journal of Economic Surveys* 26 (3): 445–67. doi:10.1111/j.1467-6419.2012.00722.x.
- Consoli, Davide, and Francesco Rentocchini. 2014. "A Taxonomy of Multi-Industry Labour Force Skills." *Research Policy*, December. doi:10.1016/j.respol.2014.12.005.
- Consoli, Davide, Francesco Rentocchini, and Francesco Vona. 2015. "That Was Then, This Is Now. Skills and Routinization in the 2000s." *Industrial and Corporate Change* Forthcomin.
- Costinot, Arnaud, Jonathan Vogel, and Su Wang. 2013. "An Elementary Theory of Global Supply Chains." *Review of Economic Studies* 80 (1): 109–44. doi:10.1093/restud/rds023.
- Cowan, R. 2000. "The Explicit Economics of Knowledge Codification and Tacitness." *Industrial and Corporate Change* 9 (2): 211–53. doi:10.1093/icc/9.2.211.
- Crespi, Gustavo, Ezequiel Tacsir, and Fernando Vargas. 2014. "Innovation and Productivity in Services: Empirical Evidence from Latin America," August. <http://publications.iadb.org/handle/11319/6592>.
- De Backer, Koen, and Stephane Miroudot. 2013. "Mapping Global Value Chains." *OECD Trade Policy Papers* 159: 1–46.
- Erumban, A A, R Gourma, B Los, R Steher, U Temurshoev, M Timmer, and G de Vries. 2011. "The World Input-Output Database (WIOD): Construction, Challenges and Applications." In *Paper Prepared for the World Bank Workshop "The Fragmentation of Global Production and Trade in Value Added."*
- Feenstra, R, and G Hanson. 1999. "The Impact of Outsourcing and High-Technology Capital on Wages: Estimates for the US, 1972-1990." *Quartely Journal of Economics* 114(3): 907–40.
- Flecker, Jörg, Bettina Haidinger, and Annika Schönauer. 2013. "Divide and Serve: The Labour Process in Service Value Chains and Networks." *Competition & Change* 17 (1). Maney Publishing Suite 1C, Joseph's Well, Hanover Walk, Leeds LS3 1AB, UK: 6–23. doi:10.1179/1024529412Z.000000000022.
- Foray, and Dominique. 2006. *The Economics of Knowledge*. The MIT Press. <https://mitpress.mit.edu/books/economics-knowledge>.
- Fourastié, Jean. 1949. *Le Grand Espoir Du XXe Siècle Progrès Technique, Progrès Économique, Progrès Social*. Paris: Presses universitaires de France.
- Friedman, T. 2005. *The World Is Flat: A Brief History of the Twenty-First Century*. New York: Farrar, Straus and Giroux.
- Fuchs, Victor R. 1968. "The Growing Importance of Service Employment." In *NBER Chapters*, 14–45. National Bureau of Economic Research, Inc. <http://ideas.repec.org/h/nbr/nberch/1156.html>.

- Gallouj, Faïz, and Maria Savona. 2008. "Innovation in Services: A Review of the Debate and a Research Agenda." *Journal of Evolutionary Economics* 19 (2): 149–72. doi:10.1007/s00191-008-0126-4.
- Gereffi, Gary. 1994. "The Organization of Buyer-Driven Global Commodity Chains: How US Retailers Shape Overseas Production Networks." In *In G. Gereffi & M. Korzeniewicz (Eds.), Commodity Chains and Global Capitalism*, 95–122. Praeger Publishers.
- Gereffi, Gary, and Karina Fernandez-stark. 2010a. *The Offshore Services Global Value Chain. Economic Upgrading and ...*. http://www.cggc.duke.edu/pdfs/2011-11-11_CGGC_Offshore-Services-Global-Value-Chain.pdf.
- . 2010b. *The Offshore Services Value Chain: Developing Countries and the Crisis. Global Value Chains in a Postcrisis World*.
- Gereffi, Gary, John Humphrey, and Timothy Sturgeon. 2005. "The Governance of Global Value Chains." *Review of International Political Economy* 12 (1). Taylor & Francis Group: 78–104. doi:10.1080/09692290500049805.
- Gereffi, Gery, Karina Fernandez-Stark, and Phil Psilos. 2011. "SKILLS FOR UPGRADING□: Workforce Development and Global Value Chains in Developing Countries," no. November: 285. http://www.cggc.duke.edu/pdfs/Skills-for-Upgrading-Workforce-Development-and-GVC-in-Developing-Countries_FullBook.pdf.
- Grossman, G, and E Rossi-Hansberg. 2008. "Trading Tasks: A Simple Theory of off-Shoring." *American Economic Review* 98: 1978–97.
- . 2012. "Trade Tasks between Similar Countries." *Econometrica* 80(2): 593–629.
- Grossman, G., and E. Rossi-Hansberg. 2006. "The Rise of Offshoring: It Is Not Wine for Cloth Any More." *The New Economic Geography: Effects and Policy Implications, Jackson Hole Conference Volume*, 59–102.
- Hausmann, Ricardo, Bailey Klinger, and Robert Lawrence. 2008. *Examining Beneficiation*. 162. Centre for International Development Working Paper. <http://www.hks.harvard.edu/content/download/69081/1249134/version/1/file/162.pdf>.
- Hernández, R. A., Martínez-Piva J.M. and Mulder, N. 2014. *Global Value Chains and World Trade: Prospects and Challenges for Latin America*. Edited by R A Hernandez, Martinez-Piva J M., and N Mulder. Economic Commission for Latin America and the Caribbeans.
- Hernández, R., N. Mulder, K. Fernandez-Stark, P. Sauvé, D. López Giral, F. Muñoz Navia. 2014. *Latin America ' S Emergence in Global Services. A New Driver of Structural Change in the Region?* Economic Commission for Latin America and the Caribbeans.
- Hirschman, Albert O. 1958. *Strategy of Economic Development*. New Haven, Connecticut and London: Yale University Press.
- Jones, Leroy P. 1976. "The Measurement of Hirschmanian Linkages." *The Quarterly Journal of Economics* 90 (2): 323. doi:10.2307/1884635.

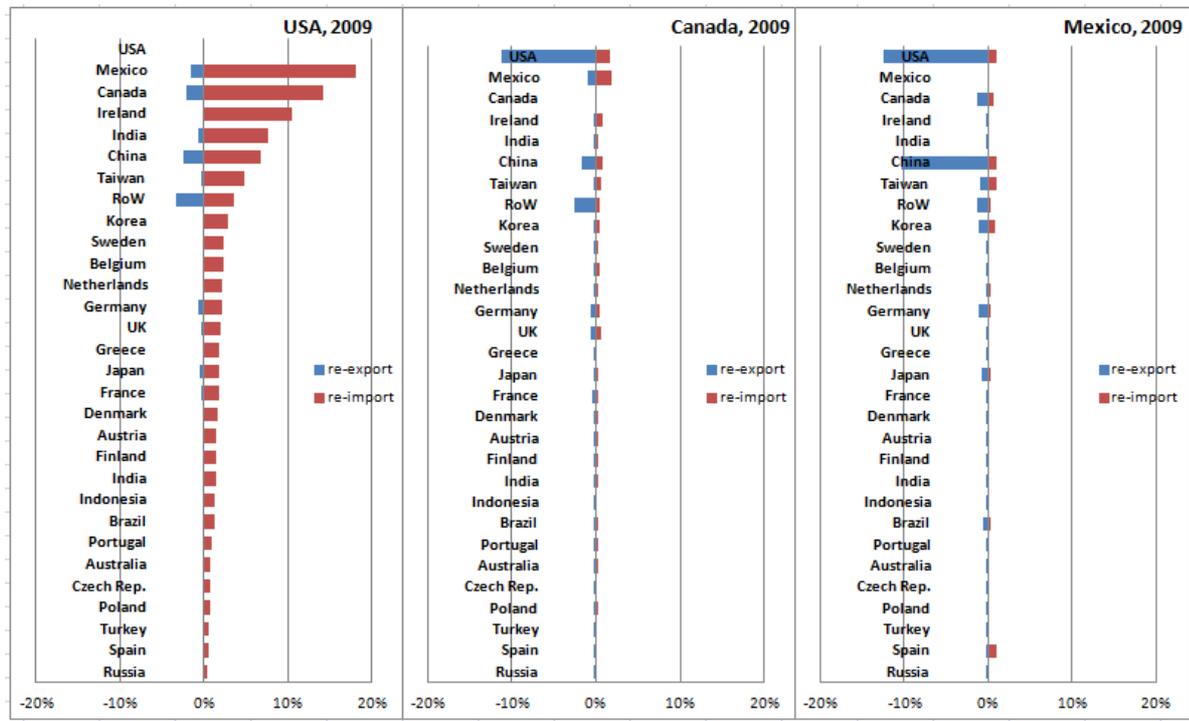
- Jones, Ronald, Henryk Kierzkowski, and Chen Lurong. 2005. "What Does Evidence Tell Us about Fragmentation and Outsourcing?" *International Review of Economics & Finance* 14 (3): 305–16. doi:10.1016/j.iref.2004.12.010.
- Jones, Ronald W., and Henryk Kierzkowski. 1990. "The Role of Services in Production and International Trade." In *Jones, R. and A. Krueger (Eds.) The Political Economy of International Trade*. Oxford, Basic Blackwell.
- . 2005. "International Fragmentation and the New Economic Geography." *The North American Journal of Economics and Finance* 16 (1): 1–10. doi:10.1016/j.najef.2004.11.005.
- Kaldor, Nicholas. 1966. *Causes of the Slow Rate of Economic Growth of the United Kingdom: An Inaugural Lecture*. Cambridge University Press.
http://books.google.co.uk/books/about/Causes_of_the_slow_rate_of_economic_grow.html?id=Mt87AAAAMAAJ&pgis=1.
- Kaplinsky, R. 2000. "Globalisation and Unequalisation: What Can Be Learned from Value Chain Analysis?" *The Journal of Development Studies* 37(2): 117–46.
- . 2013. *Global Value Chain, Where They Came From, Where They Are Going and Why This Is Important*.
- Kaplinsky, Raphael, and Mike Morris. 2015. "Thinning and Thickening: Productive Sector Policies in The Era of Global Value Chains." *European Journal of Development Research*. Nature Publishing Group, 1–21. doi:10.1057/ejdr.2015.29.
- Koopman, R, W Powers, Z Wang, and S-J. Wei. 2010. *Give Credit Where Credit Is Due: Tracing Value Added in Global Production Chains*.
- Kowalski, Przemyslaw, Javier Lopez, Alexandros Ragoussis, and Cristian Ugarte. 2015. *Participation of Developing Countries in Global Value Chains*.
- Leamer, 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(1): 83–126.
- Lema, Rasmus, Ruy Quadros, and Hubert Schmitz. 2012. *Shifts in Innovation Power to Brazil and India: Insights from the Auto and Software Industries. IDS Research Reports*. Vol. 2012. doi:10.1111/j.2040-0217.2012.00073_2.x.
- Lewin, Arie Y, Silvia Massini, and Carine Peeters. 2009. "Why Are Companies Offshoring Innovation? The Emerging Global Race for Talent." *Journal of International Business Studies* 40 (8): 1406–1406. doi:10.1057/jibs.2009.64.
- Lin, Justin Yifu. 2012. *New Structural Economics. A Framework for Rethinking Development and Policy*. World Bank. <http://siteresources.worldbank.org/DEC/Resources/84797-1104785060319/598886-1104951889260/NSE-Book.pdf>.
- López-Gonzalez, Javier, Valentina Meliciani, and Maria Savona. 2014. "When Linder Meets Hirschman. Inter-Industry Linkages and GVCs in Services." *Paper Presented at the RESER Conference, Helsinki, September 2014*.

- Lundahl, Mats. 2005. "To Be an Independent Thinker: An Intellectual Portrait of Staffan Burenstam Linder." *The European Journal of the History of Economic Thought* 12 (4): 663–88. doi:10.1080/09672560500370375.
- Marrano, Mauro Giorgio, Jonathan Haskel, and Gavin Wallis. 2009. "WHAT HAPPENED TO THE KNOWLEDGE ECONOMY? ICT, INTANGIBLE INVESTMENT, AND BRITAIN'S PRODUCTIVITY RECORD REVISITED." *Review of Income and Wealth* 55 (3): 686–716. doi:10.1111/j.1475-4991.2009.00344.x.
- Massini, Silvia, and Marcela Miozzo. 2012. "Outsourcing and Offshoring of Business Services: Challenges to Theory, Management and Geography of Innovation." *Regional Studies* 46 (9): 1219–42. doi:10.1080/00343404.2010.509128.
- Meliciani, V, and M Savona. 2014. "The Determinants of Regional Specialisation in Business Services. Agglomeration Economies, Vertical Linkages and Innovation." *The Journal of Economic Geography* doi:10.109: 1–30.
- Mokyr, Joel. 2002. *The Gifts of Athena*. Princeton University Press. https://books.google.co.uk/books/princeton?hl=en&q=&vid=ISBN9781400829439&redir_esc=y.
- OECD. 2013. "Interconnected Economies: Benefiting from Global Value Chains." *Synthesis Report*. doi:10.1787/9789264189560-en.
- Rodriguez-Pose, A., and R. Crescenzi. 2008. "Mountains in a Flat World: Why Proximity Still Matters for the Location of Economic Activity." *Cambridge Journal of Regions, Economy and Society* 1 (3): 371–88. doi:10.1093/cjres/rsn011.
- Savona, Maria, and W. Edward Steinmueller. 2013. "Service Output, Innovation and Productivity: A Time-Based Conceptual Framework." *Structural Change and Economic Dynamics* 27 (December): 118–32. doi:10.1016/j.strueco.2013.06.006.
- Schmitz, Hubert, and Simone Strambach. 2009. "The Organisational Decomposition of Innovation and Global Distribution of Innovative Activities: Insights and Research Agenda." *International Journal of Technological Learning, Innovation and Development* 2 (4): 231. doi:10.1504/IJTLID.2009.026816.
- Stiglitz, Joseph E, Justin Yifu Lin, and Celestin Monga. 2013. *The Rejuvenation of Industrial Policy*. Policy Research Working Paper 6628.
- Timmer, Marcel, Bart Los, R Stehrer, and G de Vries. 2012. "Slicing Up Global Value Chains." In *Paper Presented at: Latin America's Prospects for Upgrading in Global Value Chain*, 1–38. Mexico City.
- . 2013. "Fragmentations, Income and Jobs: An Analysis of European Competitiveness." *Economic Policy* October 20: 613–61.
- Ventura-Dias, Vivianne. 2012. "Service Offshoring: Notes on Patterns, Determinants and Policy Implications for Latin America." In *Offshore Services in Global Value Chains: New Drivers of Structural Change in Latin America and the Caribbean?*

Vona, F., and D. Consoli. 2014. "Innovation and Skill Dynamics: A Life-Cycle Approach."
Industrial and Corporate Change, October, dtu028 – . doi:10.1093/icc/dtu028.

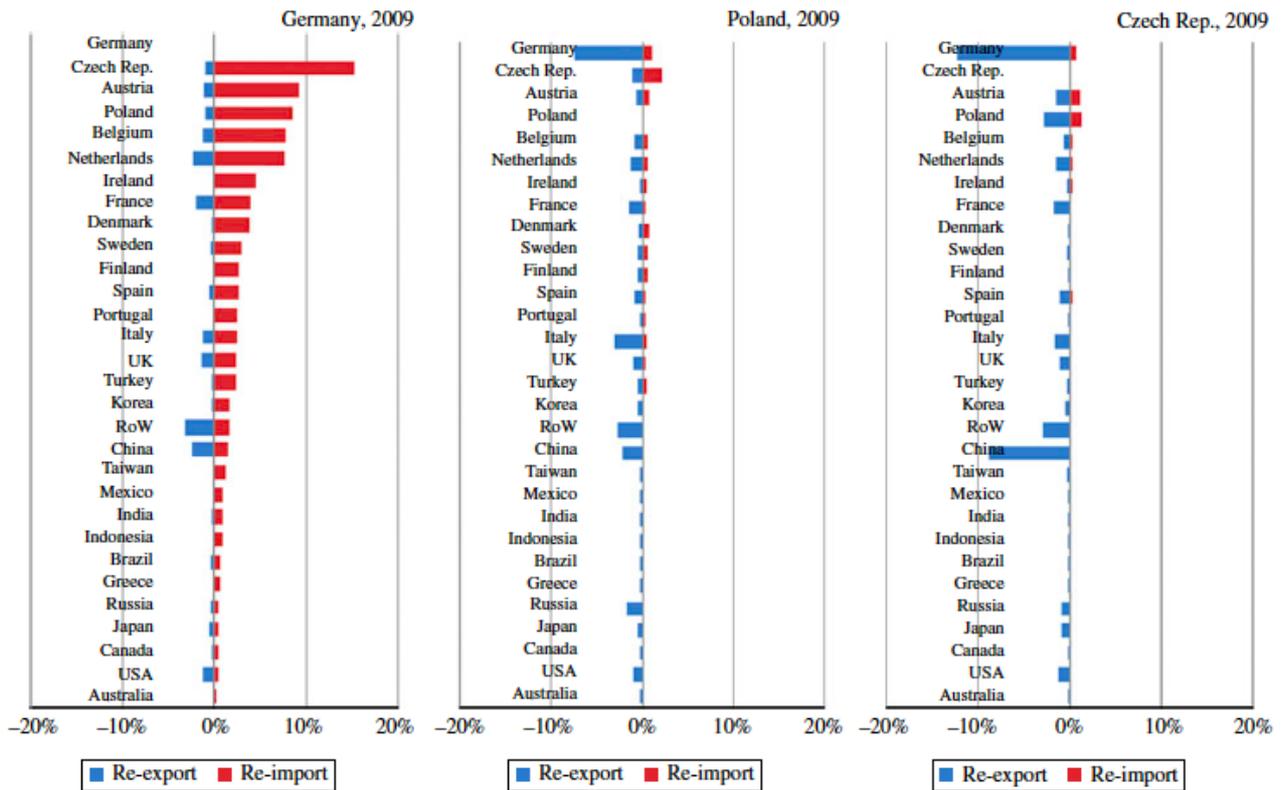
Appendix - Figures

Figure 1 - Factory North America: US, Canada and Mexico (reimports and re-exports)



Source: Baldwin and López-Gonzalez, 2014, on World Input Output Data (WIOD).

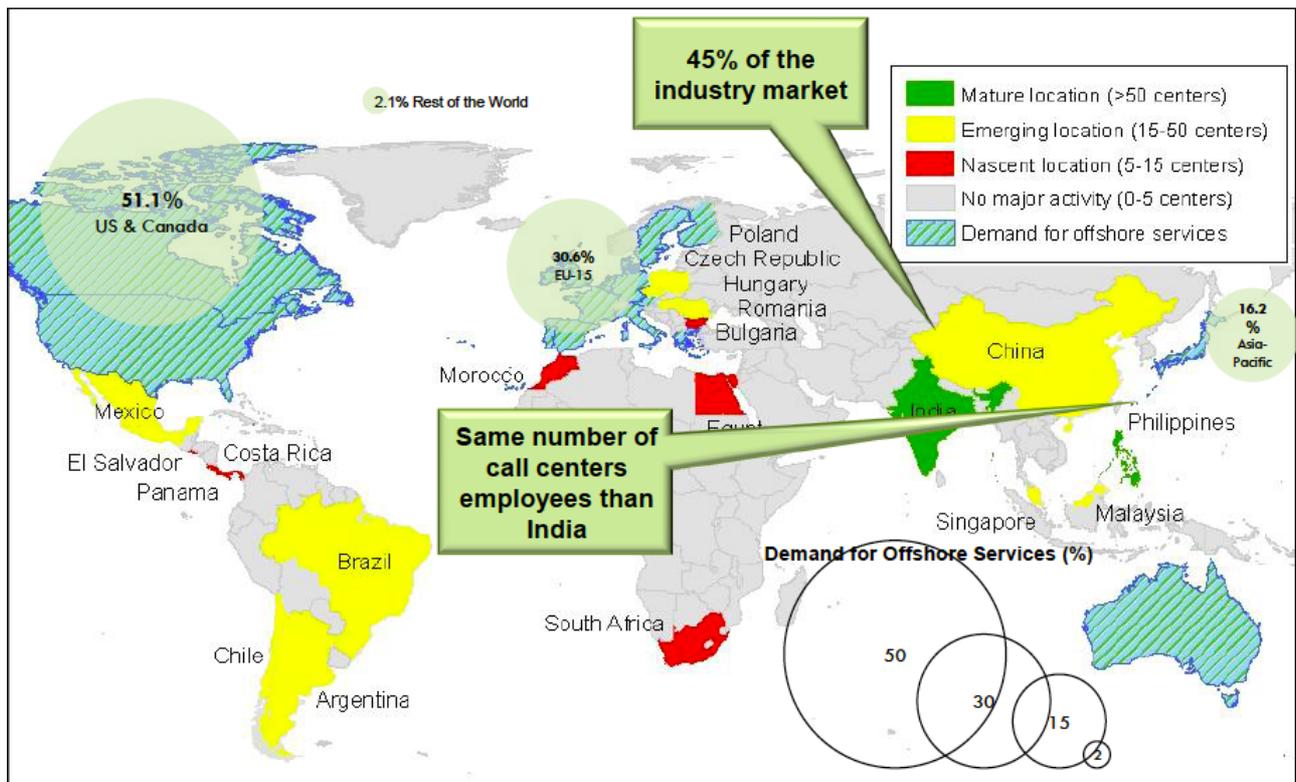
Figure 2 - Factory Europe: Germany, Poland and Czech Republic (reimports and re-exports)



Source: Baldwin and López-Gonzalez, 2014, on World Input Output Data (WIOD).

Figure 3 – Map of Service Offshoring

Source: Gereffi and Fernandez-Stark, 2010, on CGGC based on Everest and Datamonitor



2012 Duke CGGC

Source: CGGC based on Everest & Datamonitor

Recent papers in the SPRU Working Paper Series:

SWPS 2015-10. Matthew L. Wallace, Ismael Rafols. March 2015. Research Portfolios in Science Policy: Moving From Financial Returns to Societal Benefits.

SWPS 2015-11. Loet Leydesdorff, Gaston Heimeriks, Daniele Rotolo. March 2015. Journal Portfolio Analysis for Countries, Cities, and Organizations: Maps and Comparisons?

SWPS 2015-12. Karoline Rogge, Kristin Reichardt. April 2015. Going Beyond Instrument Interactions: Towards a More Comprehensive Policy Mix Conceptualization for Environmental Technological Change.

SWPS 2015-13. Jochen Markard, Marco Suter, Karin Ingold, April 2015. Socio-Technical Transitions and Policy Change - Advocacy Coalitions in Swiss Energy Policy.

SWPS 2015-14. Janaina Pamplona da Costa. May 2015. Network (Mis)Alignment, Technology Policy and Innovation: The Tale of Two Brazilian Cities.

SWPS 2015-15. Roman Jurowetzki. May 2015. Unpacking Big Systems – Natural Language Processing Meets Network Analysis. A Study of Smart Grid Development in Denmark.

SWPS 2015-16. Davide Consoli, Giovanni Marin, Alberto Marzucchi, Francesco Vona. May 2015. Do Green Jobs Differ from Non-Green Jobs in Terms of Skills and Human Capital?

SWPS 2015-17. Anders Bornh al, Sven-Olov Daunfeldt, Niklas Rudholm. May 2015. Employment Protection Legislation and Firm Growth: Evidence from a Natural Experiment.

SWPS 2015-18. Phil Johnstone, Andy Stirling. June 2015. Comparing Nuclear Power Trajectories in Germany And the UK: From ‘Regimes’ to ‘Democracies’ in Sociotechnical Transitions and Discontinuities.

Suggested citation:

Maria Savona (2015). Global Structural Change And Value Chains In Services. A Reappraisal. SPRU Working Paper Series (SWPS), 2015-19: 1-29. ISSN 2057-6668. Available at www.sussex.ac.uk/spru/swps2015-19

SPRU – Science Policy Research Unit
University of Sussex
Falmer, Brighton, BN1 9SL, United Kingdom
www.sussex.ac.uk/spru
Twitter: @SPRU
SWPS: www.sussex.ac.uk/spru/research/swps