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Exogenous and Endogenous Change in Global Value Chains

Abstract

Zhan (2021) identifies five major forces that will drive the transformation of global value chains (GVCs) and redefine the global trade and investment landscape. The key to understanding GVCs is to recognize the MNEs that control them. A detailed knowledge of differing contexts is required to predict the outcomes of the dynamic processes identified in his paper, but this must be analyzed on a consistent and coherent theoretical basis. The key argument made in this paper is that the impact of these trends can be traced through exogenous changes that work through the internalization, location and governance decisions of multinational enterprises (MNEs). MNEs also initiate some of these megatrends directly through the creation of new technologies and products and through their direct influence on civil society and policy at all levels of formulation and implementation. These decisions of MNEs interact and evolve together with pressure from civil society and government policy changes to give outcomes for GVCs that are predictable but will be determined by the context of global, national and local circumstances.

Introduction

Underlying the new investment landscape envisaged by Zhan (2021) are five major forces that will drive the transformation of global value chains (GVCs) and redefine the global trade and investment landscape. Zhan's paper has considerable value added and enables theory to be focused on the key current changes facing MNEs that orchestrate global value chains. This paper examines the theoretical content of these forces and their projected consequences and policy implications. These phenomena are a complex mixture of exogenous changes and endogenous responses from multinational enterprises (MNEs) that are the key actors in the global system view (Buckley & Hashai 2004, Casson 1995). The key to understanding GVCs is to understand the MNEs that control them. GVCs are not independent phenomena, they are creatures of the global system, and the driving forces of that system are MNEs. The five major trends identified by Zhan (2021) are:

1. *Economic governance realignment.*
2. *Technology and the new industrial revolution.* The key technology trends include robotics-enabled automation, enhanced supply chain digitalization and additive manufacturing.
3. *Sustainability endeavor.*
4. *Corporate accountability.* It is suggested that international cooperation to fight corruption, illicit payments, tax evasion and anti-competitive practices will have important consequences for GVC governance choices.
5. *Resilience-oriented restructuring.*

The theoretical import of these trends derives from their impact on the internalization decisions of MNEs, on the location of economic activities embedded in GVCs and the governance implications of internalization/externalization and location decisions of MNEs (Buckley & Casson 1976, 2019, 2020).

It is important to distinguish between internal strategic changes by MNEs and new external pressures on them from the environment. Trends 1 and 5 are strategic changes by MNEs. Trend 2 is an environmental change arising from new technologies – although MNEs themselves largely create these new technologies, for some purposes they can be taken as exogenous. Trend 3 is a response to the requirements of civil society and consumer pressures. Trend 4 represents a change in the pressure that government policy puts on firms – this is also a result of political and other actions by civil society and the actions of MNEs themselves.

The theoretical model underlying these trends is a complex set of exogenous environmental changes – from government, civil society and technological advances, to which MNEs react by adjusting their strategy and thus reconfiguring GVCs.

Theoretical reframing

A slight theoretical reframing of these trends allows us to chart and to clarify the likely effects on the global economy as mediated through adjustments in the strategy of MNEs. It also allows us to examine the extent to which the drivers of change are exogenous or endogenous.

Exogenous Change - Developments in Technology

Digitalization has important consequences for location, internalization and governance decisions by MNEs. In foreign entry strategy, the emphasis shifts from market penetration using FDI to increasing user adoption. Platform companies are more concerned with reach than individual territories as interconnection across national frontiers is a major boon for users. This implies that both theory and practice need to take more of a demand side perspective. The choice between takeovers versus greenfield investments remains a critical decision. For digital operations, internalization decisions are about governing networks, particularly user networks. At the same time, the bundling of digital assets with other (physical) assets is a crucial aspect of strategy (Hennart 2007).

Location decisions are also radically affected by digitalization. In digital operations, not all users are equally important, and their weight depends on the user's collective interactions. (Thus, attracting a "celebrity" or key "influencer" can increase the salience of the platform or product). This can provide a demand side locational advantage. Demand is heterogeneous in different countries so MNEs have to assess the similarity and dissimilarity of preferences across locations. The sensitivity of digital operations may mean that the liability of foreignness is increased and a "liability of outsidership" may attach to foreign digital entities. As location factors, the physical location of supporting (physical) infrastructure and the quality of

institutions in the host country is of increasing importance and data storage (including standards, regulation and ownership by home country citizens to ensure “sovereignty”) becomes vital. Given the political sensitivity of digital information capture, the extraterritoriality of legislation and regulation and digital sovereignty including “Cloud” security become locational determinants.

Digitalization produces new issues for corporate governance including the reconfiguration of (non-unique) resources. Digital resources are highly mobile and governance needs to respond both to the firm as a platform owner (parallel to brand owners owning the product e.g. Apple) and as a platform user. Since data on users is easily available for digital firms, and it can be monitored, transferred, and even doctored, internal MNE regulation and the regulation of the firm’s entire GVC needs to be strict. Technological advances in digital assets, such as Blockchain have implications for improving governance and for monitoring. Blockchain, correctly utilized, can also be a tool for regulation and external monitoring.

Exogenous Change – Government Pressure on MNEs

Government pressure on MNEs will have location effects and internalization/ownership effects as MNEs seek to reconfigure operations, perhaps through offshore outsourcing of activities to low-intervention countries and the restructuring of governance arrangements. In this context, it has been suggested that cartels may replace integrated MNEs (Buckley 2020) or that multi-domestic structures will return. Given the increasing importance of (international) contracting in GVCs, government policies on contract enforcement at all levels will become increasingly critical. If intra-firm enforcement by management fiat is replaced by contract, then arbitration rules, insurance and risk mitigation by government become paramount. The transparency and effectiveness of contract enforcement regimes will become vital in attracting and keeping internationally mobile activities.

Exogenous Change – Influences from Civil Society and Demand Changes

Civil society influences the state primarily through political action or influence, while it influences the market primarily through consumer demand and moral control (Abbott & Snidal, 2008, 2009). Both influences have effects on regulation and on demand that require MNEs to re-examine their strategy. The impact of civil society on MNE strategy is under-explored in international business theory, particularly in terms of the indirect influence through regulation.

Endogenous or Exogenous Change?

The exogenous nature of all three changes can be legitimately questioned. MNEs develop technology, influence government policy and affect civil society pressure, through their sizable non-market strategies and their demand-creating investments.

MNEs are both technology creators and technology takers. Their investment in new technology and products and the internalization of the associated production and marketing functions across national boundaries is what gives the dynamic force to MNEs and to globalization (Buckley & Casson 1976). Innovation, like any other human activity, has unintended as well as intended consequences and these require regulation and the establishment of standards, necessitating government legislation and regulation. MNEs often respond by increasing their non-market, political activity by lobbying and less reputable activities to influence the external impact of governments and regulatory bodies. Other forms of non-market activities are aimed at influencing civil society through advertising, public relations activities, public discourse and control (including ownership) of the communications media.

An important outcome of “globalization” as this complex of activities is called when it is carried out in multiple national contexts, is restructuring of the governance of MNEs as they wrestle with external economic and non-economic forces and with the search for an optimal management structure. The key actor is the MNE and many of the strategy changes that MNEs make in response to exogenous changes in technology, policy and demands from civil society can be observed in the reconfiguration of GVCs. Observing these changes to GVCs in times of turbulence leads to the identification of “megatrends”.

In a recent study of the evolution of GVCs, Buckley et al. (2020) find emerging economies forging ahead relative to advanced economies in income derived from *fabrication activities*, handling the physical transformation process of goods. In contrast, convergence in income derived from *knowledge-intensive activities* carried out in pre- and post-fabrication stages is much slower. The reconfiguration of higher value-added activities is by no means levelling between advanced and emerging countries in the way that fabrication activities have done in the rapid globalization era.

The key question that arises from the identification of megatrends is the impact they will have on GVCs. The key determinant is the strategic decision set of MNEs, both in creating and in responding to these trends.

Consequences – Empirical and Theoretical

According to Zhan (2021), there are 10 consequences arising from these megatrends. Tracing these consequences is best achieved via the theoretical principles above. Most of these consequences are empirical issues or phenomena arising out of the megatrends that are mediated through MNE strategy. These can be assessed as (1) the consequences for GVCs, (2) the direct effects of MNE strategies and (3) the consequences of pressure from civil society (here Zhan emphasizes the “green” and “blue” economies but not human rights issues).

The consequences for the restructuring of GVCs.

Enderwick and Buckley (2020, p. 109) suggest that, under pressure from COVID-19, “GVCs may be physically shorter, but fragmentation will continue as intraregional specialization develops.” (see also Verbeke 2020). Zhan’s views parallel those of Enderwick and Buckley (2020) as he suggests that reshoring will lead to shorter, less fragmented value chains and a higher geographical concentration of value added and that digitally-enabled diversification will lead to a wider distribution of economic activities, but potentially with more concentrated value-added in developed countries where digital coordination of GVCs takes place (see also Buckley et al. 2020).

Zhan’s prediction that *digitally enhanced GVCs* will strengthen the role of large digital MNEs providing the enabling digital infrastructure is empirically testable (Chen et al. 2019). The extent depends not only on technology and MNE strategy but also on policies of host and indeed source countries in controlling the monopolistic and monopsonistic powers of platform owners. The rise of countervailing power from regulation, new competition and the demands of civil society facing platform owners in the longer run is also an intriguing prospect. We should not, however, underestimate the “stickiness” of GVCs because of hysteresis, indivisibilities and lumpiness in supply chains. A granular, contextualized analysis is needed before we can generalize on the impact of changing external forces on the restructuring of GVCs.

Services represent a fascinating subset of GVCs. Even so, a vast range of different activities is covered by the term “services” and it is commonplace to point out the intimate connection between manufacturing and services. International diversification enabled by digital technologies will aid services that have always been predominantly domestic to internationalize, such as health care and digital infrastructure. Higher value-added services – ranging from professional and business services to finance, engineering and marketing activities are increasingly international and are often provided from locationally specific hubs (Van Assche 2020). High and medium value-added services, traditionally highly centralized, will be increasingly delivered offshore through teleworking. Teleworking opportunities are enhanced by advanced digital communication tools, including teleconferencing, augmented reality, virtual reality and 5G. Cloud storage and computing make it possible to perform complex tasks remotely, while improvements in translation software facilitate remote communication.

The fine-slicing strategies of MNEs, using both internalization and externalization as appropriate, and dynamic choices of location (including offshoring), enable MNEs to factor in the growing influence of servitization into their evolving global strategies. Unfortunately, the COVID-19 pandemic has made service-based activities (and service-based economies), particularly those based on close and repeated interactions with customers, more vulnerable than manufacturing-based ones because of the difficulties of face-to-face interaction.

MNE Strategies and FDI

Growing international tensions and systemic competition between China and America has ratcheted up investment in, and protection of, security related industries. Moreover, the definition of what is “security related” has expanded. The rising role of risk (particularly political risk) has put an increased premium on “resilience”. Resilience is often contrasted with “efficiency”, meaning static efficiency, but no MNE is fixated on static efficiency. In fact, flexibility has long been the key touchstone of global strategy and it is flexibility across all activities, including R&D that is at a premium in a time of exogenous shocks, such as pandemics and policy changes in the global system. A strategy of resilience has to be multi-faceted—for instance, a shift to equity from debt financing gives companies permanent capital that is flexible. More malleable legal structures such as special purpose acquisition vehicles and various forms of cartel are a response to rising VUCA. Potentially socially damaging effects of building resilience include cash hoarding and share buybacks. Clearly, not all the new strategies are welfare – enhancing. Miroudot (2020) has an interesting piece on firm and country resilience. There is a real opportunity here to investigate the interactions between firms and individual countries in building resilience.

On the supply side, Zhan suggests that there will be a decline in global-efficiency-seeking FDI and an increase in regional-market-seeking FDI. This suggestion seems to prefigure a change of MNE organization to multi-domestic structures. This may well be a viable medium-term response to the fracture in the global economy. Again, this is likely to be different across the vastly different array of GVCs. Robotics and 3D printing reduce the labor intensity of production and therefore the competitive advantage of locations generated by labor cost differentials. However, this is counteracted by other technologies that make dispersed operations easy to orchestrate – an example is blockchain.

It is difficult, in general, to pronounce on the balance of the impact of different technologies. The impact is sector- and even activity-specific. This is a case for granular research in different sectoral domains. The suggestion that there will be downward pressure on trade in intermediate goods, and a reduction in trade in final products is contentious. Fine-slicing increases intermediate trade and there seems little reason to doubt the continued benefits of specialization and trade. It is possible that international trade in intermediates will be interdicted in the short run by protectionist policies, but alternative sites will be found in the medium term as countries and cities compete for locationally-mobile activities. Locationally-fixed specialised hubs, particularly in high value services, are relatively non-substitutable, at least in the medium term, as it is difficult to build the necessary reputational assets in a short time.

On the demand side, trade in final goods may be affected by protectionist measures. However, global demand for increasingly specialised and heterogeneous products continues to rise and it has been fuelled by the growth of the global internet inducing demonstration effects of “national” or “regional” products. The rise of the “splinternet” and national interdictions of cross-border communications may fragment global demand, but high-end consumers (with their travel and desire for foreign education) and the rise of the global

middle class represent formidable pressures for diversity in final product trade. A shift from mass-production to mass-customization is a long-term trend enabled by the strategy of fine-slicing activities by MNEs, and particularly their ability to adapt distribution and marketing to local conditions. There are grounds for taking this argument, together with the potential rise of multi-domestic structures together, and working through the potential consequences for value chains, taking into account potential protectionist policy interventions inhibiting a global approach by MNEs.

Growing FDI in infrastructure and public services is another outcome predicted by Zhan. In the short term, the development of infrastructure may indeed support domestic recovery by boosting local economic activity and employment. The long-term effect depends upon the activity that this investment generates. Infrastructural investment rarely pays for itself by fees, rents or tolls and is therefore largely debt financed. The public nature of much infrastructure investment means funding by public debt. Funds must be raised to amortize this debt (usually through taxation) and if this is inadequate, then defaults or (foreign) expropriation of the assets will follow. Infrastructure investment is not a panacea for growth or development and it will add to poorer countries' problems and their debt burden unless the stimulus to economic activity is sufficient to pay off the debt and unless domestic public finances (and taxation) can pay off the financial commitment. Caution is necessary from host countries in undertaking infrastructural and public investment, particularly if foreign funding is involved.

Civil Society Pressure

Investment in the green economy and the blue economy presents opportunities for MNEs, not least because this is often Government inspired and subsidized.. Pressure from civil society and policy initiatives have put the UN's Sustainable Development Goals firmly on the strategic agendas of MNEs. A combination of social and political pressure and consumer support is a powerful combination of forces pressing for greater green and blue projects. These pressures can prompt changes in the configuration of MNE value chains, particularly when coupled and digital technologies and appropriate governance mechanisms (Srinivasan & Eden, 2021). Global harmonization of standards (particularly environmental, social and corporate governance goals (ESGs)), investor pressure, and increasing attention to corporate accountability mechanisms are further influences on global supply networks. The wider role of civil society pressures on the configuration of GVCs in response to human rights abuses and "modern slavery" is missed by Zhan, but it is a critical example of the influence of civil society on GVCs and MNE strategy.

Conclusions

It is impossible to understand GVCs outside the strategy of MNEs. The impact of megatrends can be traced through a tractable model drawing on the extant internalization theory of the MNE. Exogenous changes work through the internalization, location and governance decisions of MNEs. MNEs also initiate these megatrends directly through the creation of new

technologies and products and through their direct influence on civil society and policy at all levels of formulation and implementation. These decisions of MNEs interact and evolve together with pressure from civil society and Government policy changes to give outcomes for global value chains that are predictable but will be determined by the context of global, national and local circumstances. Zhan's (2021) paper draws our attention to contemporary forces in globalization that require careful theoretical consideration and empirical testing. A detailed knowledge of differing contexts is required to predict the outcomes of the dynamic processes identified but this has to be analysed on a consistent and coherent theoretical basis.

Changes in technology, regulation and other government policies including protectionist and national security restrictions and increased pressure on MNEs and related institutions from the demands of civil society (sustainability, human rights) interact and increase the volatility and uncertainty of the global business environment. These elements vary by (national) location, by technological domain and by industry and therefore have significant effects on GVCs through the internalization, location and governance decisions of MNEs.

Implications for policy can be traced through the theoretical model, from exogenous changes to strategic decisions of MNEs, and through these to GVCs and operational outcomes. These outcomes interact with policy changes, some prompted by civil society pressures, others (and particularly those in authoritarian societies) by the self-interest of those controlling policy. If anything, Zhan's paper probably understates the fracture in the world economy between the USA and China (Petricevic & Teece 2019).

A single external environment for MNEs can no longer be taken for granted. The current trend towards protectionism, even autarky, and the associated "techno-nationalism" make national boundaries and extra-territoriality an increasingly important location factor for MNEs and a profound influence on their internalization strategies and governance (Buckley 2020a, b). The recent completion of the Regional Comprehensive Economic Partnership (RCEP) is almost entirely focused on tariff reductions on physical goods with little impact on services, standards or regulation. The application of coordinating policies across nations for services is problematic and is likely to be more so as services (and servitization) grow in the future. The global orchestration of GVCs will become increasingly important as contracts replace ownership and the governance of contract enforcement will assume critical importance and increasing scrutiny by nation states and MNEs alike. New global institutions with real powers will become increasingly necessary in the trade, investment, technology and health domains.

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