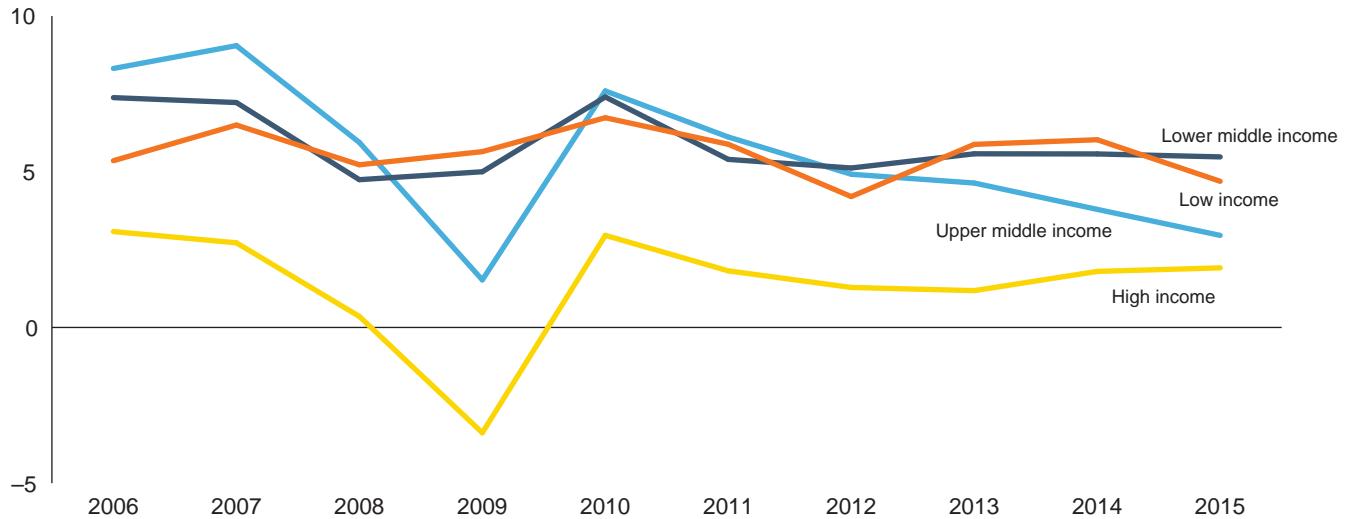




CHAPTER

## The middle-income trap and upgrading along global value chains

FIGURE 5.1 ) &amp; 2 RGT ECRKVC ITQYVJ D[ KPEQOG ITQWR s



Source: World Development Indicators database.

TABLE 5.1 Share of all countries in a given income group in 2000 and 2015

Percent

	Income group in 2000	Income group in 2015				
		Low income	Lower middle income	Upper middle income	High income	Total
Income group in 2000	Low income	{Q°È	{Q°È	4.8	0.0	100
	Lower middle income	37.7	x n ° x	3.8	100	
	Upper middle income	0.0	x £ ° {	{ n ° È	100	
	High income	0.0	0.0	100.0	100	
	Total	14.6	24.4	25.8	35.1	100

Source: 7 œ À•` >~Ž œ Ō~íþ >~` i~^~} Àœ Ō « •> Ä Ä^w V> i~œ~ -Ä i i ... i i « Ä\ÉÉ` > i > ... i • « ` i Ä Ž° Üœ À•` L >~Ž° œ À } É Ž° œ à•` -and-lending-groups).

the relationship between the two debates, but empirical analyses have found some evidence that GVC participation supports escape from the dynamics hypothesized in the middle-income trap literature, albeit with substantial variation (Kummritz and œ i ... i Ä Ä Ö ä£ÈÆ œ v v > ~` œ i ... i Ä Ä Ö ä£È® not assign causality; it instead asserts that while GVC integration can support sustained high growth rates for middle-income countries, a certain level of development and industrial complexity is required to benefit from more sophisticated, higher value-added GVCs.

The chapter makes four central claims:

- / ... i i Üœ ` i L > i Ä ... > Ü i i Y^Ä i i` "œ Ä i • þ ^~ i « p i > i w Ä > V Z ^~} ^~ " > þ " ^~ • i # ^~ V œ " i V œ Ő i other, but they should be bridged. The factors that constrain GVC participation and upgrading provide a more granular

coherent and applicable set of policy recommendations to address the causes of growth slowdowns and structural stagnation.

- The need for developing countries to adapt to trade through globally integrated value chains in goods, services, and information presents a partial but important conceptual paradigm and policy framework to identify levers for middle-income countries to converge with richer countries. The economy needs to upgrade into higher value-added tasks and products over time, involving more value creation and innovation, and to move towards more diversified and specialized production structures.
- The institutional, macroeconomic, trade, and industrial policies required for successful GVC participation can also address economic stagnation among trapped middle-income countries.



failure “to build a national mindset and institutions that encourage constant upgrading of its human capital.” Ohno divided the catching-up industrialization process into four stages and identified them as follows:

1. **Initial stage**: The country begins to learn about the needs of the world market and to develop a basic industrial base.

2. **Stage of模仿 (I-mitate)**: The country begins to imitate the technologies and production methods of more advanced countries.

3. **Stage of仿造 (I-fab)**: The country begins to produce goods that are similar to those of advanced countries but at lower prices.

4. **Stage of原创 (I-create)**: The country begins to develop its own original technologies and products.



«Àœ`ÕVì^Ûi iVœ~œ“þ° œÀ ^~ìiÀ~>ì^œ~>• ^~iµÕ>•^ìþ ì...i >L^•^ìþ œv  
VœÓ~ìÀ^iÃ ìœ Li~iwi~ vÀœ“ }•œL>•^â>ì^œ~ >~` ì...i «Àœ•^viÀ>ì^œ~ œv  
“Õ•i^~>ì^œ~>• VœÀ «œÀ>ì^œ~Ã >~` 6 Ã >Ài ^~yÕi~Vi` Lþ `^ÃìÀ^LÕ

/ ... i i Ý « iÀ^i~ViÃ œ v ì... iÃ i Vœ Œ~iÀ^iÃ Vi~ìšÀ` «Vœ•« Vœ•À` iVið “tÀ>~Ã viÀ>L•i vÀœ“ iÝ~Ã i~} ^~  
dations primarily on structural, industrial, and trade policies as lesson from these past industrializn 3>-17<00D5>-7.2 <008F>-811.9 (e)-15.5-1  
well as social policy:

- > VÀœ « A Œ` i~} >• « œ•^V^iÃ •^“^i ì... i LŒ^•` Œ « œ v iÝViÃÄ^Üi V> « ^i>•  
^~ yœ ÜÃ ìœ VŒÃ ... ^œ ~ ^“ « >ViÃ œ v « œ i~} >• ÄŒ` `i~ Älœ « Ä° œ Ü  
ever, Aiyar and others (2013) see an important role for mea-  
sures to enhance regional integration, infrastructure invest-  
ments, and deregulation in areas where private sector activity  
^Ã iÝViÃÄ^Üi•þ Äl^y i~} / ... i^A ì... A i>ì “>< >^“Ã ìœ « Aœ Ü^` i >~ >~>  
lytical tool to assess where these issues may be at play (see  
ì>L•i ,x°£°£ ^~ >~iÝ x°£®°
- iÛi•œ « ^~} Ž~œ Ü•i`} i ~iÙœ ÀŽ iÝiÀ>•^iÃ Vœ Œ•` •^~Ž ^~`  
viduals' skill attainment and access to public infrastructure  
- ,}j~ œ Ä >~` >~ Œ lœ Öä£x®°
- Skilled workers are needed to move up the value chain from  
low value-added industries to develop higher value-added  
activities (Eichengreen and others 2013).
- To avoid the middle-income trap, China, like past escapees,  
will need to upgrade its industrial structure through new  
^~ ŒÄiÀ^iÃ Ü^i... ... ^} ... iÀ •iÛi•Ã œ v iV... ~œ•œ} þ - Œ>~} Öä£È®° / ... ^Ã  
will require differentiating between state-owned enterprises  
and non-state-owned enterprises and between product and  
factor markets.

>~ Źœ ÜÃŽ >~` œ iÀÄ -Öä£Ó® Vœ“ « >Ài` ì... i iÝ « iÀ^i~Vi œ v >ì~  
American countries with the Asian newly industrialized countries  
using a product-space methodology and suggested that diversi -  
vþ^~} ìœ ~iÙ « Aœ ` ŒViÃ ^Ã Vi~iÀ>• ìœ i“ Œ>ì~} ì... i iÝ « iÀ^i~Vi œ v  
ì... i ~iÙ•þ ^~ ŒÄiÀ>•^âi` Vœ Œ~iÀ^iÃ -w} ŒÀi x°î®° ~ ì... iÃi Vœ Œ~iÀ^iÃ  
new production was sequentially developed in industries such as  
iron, steel, machinery, and electronics through workers with skills



use at the sectoral level and for differentiating between transactional costs and value added in trade (see Hummels and others 2001, Koopman and others 2014, and Johnson and Noguera 2012) and a growing number of indicators and indices. It makes it possible to understand a country's actual industrial structure and international links among sectors in order to formulate targeted policies and strategies.

- It provides evidence of how nontariff measures or regulatory changes affect upstream and downstream producers.
- It offers better analytical tools to anticipate the impact of potential shocks.
- It enables calculations of the trade's job content and impact on ecosystem services, thanks to satellite accounts of employ-

- Ö““À^ìà >~` œì...iÀÃ Óä£È®° œÀ vœÀi^}~ ``Àivì ^~ÛiÃl“i~ì i...i impact on spillovers on productivity is not conclusive (Görg and Ü>>P Öää{} \*>ÖÃ >~` >••>}...iÀ Óään®° œÀ i...i •~ž LiìÜij~ iÝ «œÀi^~} >~` iVœ~œ“^V Õ«}À>`^~}] iÀ~>À` >~` i~Ãi~ -£™™™® `i“œ~ÃlÀ>i` i...>i iÝ «œÀiÀÃ œÖì«iÀvœÀ“ ~œ~iÝ «œÀlìÀÃ ^~ i...i same sector and country in productivity, skills, and wages. Is i...^Ã Äi•v‡Äi•iVì^œ~ œÀ •i>À^~} Lp iÝ «œÀi^~}¶ œÀ Äi•v‡Äi•iVì^œ~ i...i >ÄÄÖ“«l^œ~ ^Ä i...>i œ~•p “œÄi «Àœ`ÖVì^Ûi wÀ“Ä >Äi >L•i lœ >LÄœÀL >`^l^œ~>• lÀ>`i VœÃlÄ° /...i •i>À^~} Lp iÝ «œÀi^~} •^lìÀ >lÖÄi >À}ÖiÄ i...>i iÝ «œÀi^~} ^“«ÀœÛiÄ i...i «Àœ`ÖVì^Û^i p œv wÀ“Ä œÛiÀ l^“i] Ü^i... i...i “œÄi ÄœLÖÄi w^~} Ä vœÀ `iÛi•œ“^} VœÖ~iÀ^iÄ and nascent industries. Recent research questions the robust ^iÄÄ œv i...iÄi i>À•p •i>À^~} Lp iÝ «œÀi^~} ÄlÖ^iÄ - •iÀ^~iÄ >~` œì...iÀÃ £™™n®] LÖi ^•iiÛi> >~` /ÀivyiÀ -ÓääÇ® vœÖ~` •i>À^~} Lp iÝ «œÀi^~} ivviVìÄ vœÀ >~>`>] >~` iÀ~>~`iÄ >~` Ä}Öi -Óääx® found them for Colombia.

Research on the link between importing inputs and productivity focuses on developed countries. Importing can improve key aspects of competitiveness through three main feedback loops: productivity, innovation, and skills. Easier access to ^“œÀiÄ i...Ä iœ““œÀœÛi wÀ““œÀœ`ÖVì^Û^i p ° œÀœÃÃ“>~ >~` ,œÃÃ^‡

though GVC integration as a buyer (through foreign value added) ^ Ä “œÀì Ä} ~ w V > ~ ì > i • œ ÜìÀ ^ ~ V œ “i Ä > ~ “œÀi ^ “ < > V ì > i ... ^ } i À ^ ~ V œ “i Ä ° œ À V œ air freight infrastructure and road network quality are particularly important. Connectivity, education and skills, and standards compliance are most important for countries selling into GVCs. The researchers concluded that the policy areas thought to be Ä} ~ w V > ~ ì v œ À i V œ “ ^ V Ö « } À > ` ^ } ^ i Ý « i V ì i ` ^ “ < > V ì °

The correlation between GVC integration and GDP per capita is positive and significant. The gains from GVC integration are largest for lower income groups, but the gains diminish as income increases. Similarly, growth in output per capita is highest for lower income groups. Some channels for GVC integration depend on industry similarity, with links assumed to be easier when trade is intraindustry.

of the lack of value-added trade data prior to 1990, they permit analysis for only the last 20 years, while much of the middle-  
 6 aAd policies to produce greater gains from GVC participation.

/ `` i ~ Y ~ I ~ A ~ i ~ V ~ I ~ ^ o e ~ > `` A ~ i ~ A ~ A ~ i ~ A ~ L ~ o e ~ I ~ . . . • ^ " ^ ) > I ~ ^ o e ~ ^ A ~ ^ ~ retorical perspective.

The previous section showed that while integrating into GVCs is associated with sustained growth and development, doing so through a global value chain

**FIGURE 5.6** Growth of global value chain integration and GDP per capita by income category  
 GDP per capita in 1990 = 100

transitions from low to middle to high through a series of diagrams laying out these transitions.

The diagram illustrates the progression of engagement levels in GVCs, showing the relationship between integration aspects and dimensions of engagement. The vertical axis represents the dimension of engagement, with three levels: low, middle, and high. The horizontal axis represents the aspect of integration. Orange lines indicate growing intensity of engagement on the buying side, while blue lines indicate growing intensity on the selling side. The diagram shows a transition from low engagement to high engagement, with specific points labeled along the path.

The orange lines indicate the growing intensity of engagement connecting to upgrading to mature engagement.

The orange lines indicate the growing intensity of engagement on the buying side, and the blue lines indicate the growing intensity on the selling side.

The diagram shows a transition from low engagement to high engagement, with specific points labeled along the path. The orange lines represent the buying side's increasing engagement, while the blue lines represent the selling side's increasing engagement. The diagram illustrates how GVCs facilitate these transitions through various stages of integration and engagement.

complementing production with proper and effective access to  
are aligning its goals to those of actual and potential buyers

w Ä “ Ä i i ~ ~ ï œ L i “ i ^ Ö “ ï œ • > Ä } i] « > Ä i ^ v Ö • > Ä • p ^ ~ “ > ~ Ö v > V i Ö Ä ^ ~ } - Ö Ä œ • ^ ï œ > ~ ` œ ï ... i Ä Ä Ö ä £ È ® ° ^ Ä “ } Ä œ Ü ï ... ^ Ä ` Ä ^ Ü i ~ L p « Ä œ ` Ö V i ^ Ü ^ ï p and capaq60>-182.7 (c)17 ( D)-3.488 Dacpaq6pan<(l)-2hngplp4ipn png Dcs.( p)-1.2 0069>5.1 (a)1 (p)-1.93an<<o..8 -15m c Dp... ...Hi` Ö

Ö p 2V P Ö

i > Ő` À p > `` œ i ... i À Á Ó ä f È] ` i ~ > `` > } } ^ Ó ä skill and technology transfer. Eng new equipment and think - \* ^ Z œ Ä > `` / ... œ " Ä i ~ Ó ä f È ®° , i Ä i > À V ... i À Á ... > Œ 2B Qe 0/26 A3(s)-3227 (d)-18 A4-1c (s)-20.51>Tc7 -4i(h)-41(i38.1 (s5i)-12.2 technological advances in automation, big data analytics, and digitization. They have also looked at manufacturing responses to climate change and other environmental- and resource-related risks, including transitions toward additive manufacturing through three-dimensional printing technologies. And they see the growth of the circular economy as likely to require manufacturers to design products for several cycles of disassembly and reuse.

GVCs are characterized by four features: customized production; sequential production decisions going from the buyer to the suppliers; high contracting costs; and global matching of goods, Ä i À Ü ^ V i Ä] « À œ ` Ö V i ^ œ ~ i > " Ä] > `` ^ i > Ä - , ~ i à D Ä Ó ä f x ®° , •• v œ Ő À « œ ^ ~ i to the substantial power that multinational corporations coordinating GVCs have in selecting where to geographically locate individual production tasks. Technological improvements are likely in each of these cases to increase both the sophistication of buyer demands and the supplier capabilities to meet them. A full i Ý « • œ À > i ^ œ ~ œ v i ... i Ä i ^ Ä Ä Ö i Ä ^ Ä L i p œ ~` i ... i Ä V œ « i œ v i ... ^ Ä V ... > « i i Ä] but given their implications for the relationship between GVC participation and declining economic growth and structural stagnation - i ^ œ ~ i ... > i " > ~ p " ^ ^ V œ " i V œ Ő ^ i à ^ i Ä i Ý « i à ^ i ^ V i ` ] ^ i ^ Ä Ü œ à i ... addressing two aspects of these medium-term developments. ^ à Ä i] i ... i Ü œ à Ž v œ à V i Ä Ž ^ •• Ä à i µ Ö ^ à i` i œ " > ~ Ő v > V i Ö à i i Ü i ~ unsophisticated products is likely to increase substantially, requiring not only higher levels of education but also cross-domain



## ANNEX 5.1



## Notes

## References

1. *...i‡~VœiÀ~iÀ>Ài`i~w~i`L~p~i...i7~c~À,j~c~Àž~s~À...>Ù~»~>>Ó~l~x~.~o~^~i‡~Vœ“i~À~*  
*\* «iÀ~V>«~»>œv~f~l~ä{Èq~f~f~Ó}C~i~x~Ó~ä~x~.~œ~Ó~R~é~s~r~h~d~E~d~o~n~o~m~i~c~s~.~È~T~m~.~i~A~R~\~È~{~l~q~È~ä~.*  
*\* «iÀ~V>«~»>Ài~V>À~À~w~i~>À~...~‡~V~c~i~A~h~o~d~N~A~2~0~1~A~.]“Estimating~D~a~d~e~A~i~n~i~V~a~l~u~e~A~d~d~:~W~y~a~n~d~H~o~w~?”~In~*  
*L~i~•~ø~Ü~f~l~ä{È~>Ài~V>À~À~w~i~>À~•~œ~Ü~‡~V~c~i~V~c~O~G~i~À~b~a~l~A~d~f~u~e~d~m~a~i~n~A~i~t~A~c~h~a~n~g~i~l~i~g~W~o~r~l~d~.~e~d~i~t~d~b~y~D~.~E~l~m~s~a~n~d~P~.~L~o~w~,*  
*V~c~i~V~c~O~i~À~i~À~i~À~...>Ù~i~>~\*~«iÀ~V>«~»>œv~f~{~]~£~Ó~E~q~f~£~Ø~k~C~i~x~j~i~Ù~s~\~r~e~ü~a~•~/~À~>~i~À~>~^~a~>~i~c~e~~.*  
*i~À~‡~^~i~‡~V~c~i~V~c~O~i~À~i~À~i~À~...>Ù~i~>~\*~«iÀ~V>“A~i~y~a~r~.~S~e~R~.~D~u~y~a~l~.~[~E~P~f~y~]~Y~Ó~W~u~.~a~n~d~L~.~Z~h~a~n~g~.~20~1~3~.~“G~r~o~w~t~S~l~o~w~d~n~s~*  

2. */...~À~Ö~>~^~l~i~À~“A~i~l~>~l~c~e~~œ~l~i~...~i~“~^~i~‡~V~c~i~i~À~>~“~i~À~>~“~i~.~i~Y~“~>~i~i~“~v~c~À~>~“~»~“~l~i~À~>~l~c~e~>~•~œ~i~l~i~>~À~p~Ö~*  
*•~œ~Ü~À~.~/...~i~w~À~À~i~À~i~...>~i~“~^~i~‡~V~c~i~V~c~O~i~À~i~À~i~À~i~À~>~À~i~À~À~d~Ü~i~É~Ç~}~œ~Ü~i~À~>~À~...~^~}~i~c~e~”~.*  
*than the average country conditional on their income; the second is ~,“~i~】~】~】~>~^~.~œ~^~}~À~.~Ó~ä~ç~.~°~/~À~>~i~“~L~i~À~>~^~a~>~l~c~e~”~]*  
*that while it may be easy to become a middle-income country, it is ~,“~i~】~】~】~>~^~.~œ~^~}~À~.~Ó~ä~ç~.~°~/~À~>~i~“~L~i~À~>~^~a~>~l~c~e~”~]*  

3. */...~À~À~>~À~œ~V~i~À~>~l~œ~“~Ö~V~...~œ~v~i~...~i~Ü~œ~À~ž~;~i~À~D~À~}~V~c~“~G~o~l~b~a~l~i~c~p~i~d~e~c~o~n~v~i~d~e~r~s~a~n~d~r~i~t~a~d~e~@~S~t~r~u~p~l~o~r~u~s~T~d~(~G~l~o~b~a~l~i~c~p~i~d~e~c~o~n~v~i~d~e~r~s~a~n~d~r~i~t~a~d~e~)*  
*l~œ~i~V~c~e~“~^~V~“~i~Ü~i~œ~“~i~i~“~\*~Ö~}~•~i~À~i~>~“~œ~l~i~À~À~Ó~ä~x~.~°~7~...~^~i~>~“~À~i~À~À~*  
*“~}~i~...~i~“~l~i~À~>~l~o~À~i~½~À~“~i~À~V~i~Ü~i~“~i~w~V~i~V~i~À~œ~“~œ~Ü~i~À~p~i~À~>~“~À~>~“~œ~*  
*processes of economic development more broadly, the researchers*  
*“~œ~^~l~i~“~>~À~i~V~Ö~>~À~•~p~l~œ~l~i~...~i~V~c~“~“~i~Y~i~P~œ~v~i~V~c~“~œ~“~V~À~p~À~i~“~À~>~l~i~...~i~*  
*outset of industrialization, viewing this a dynamic process where com-*  
*“~•~i~Y~“~i~l~Ü~À~ž~p~e~À~V~“~}~“~À~œ~“~Ö~V~“~i~œ~“~V~>~“~L~^~•~i~À~>~“~“~À~œ~“~Ö~V~“~i~“~>~“~*  
*i~“~i~À~i~À~“~1~À~“~}~>~“~i~Ü~“~i~Y~“~i~P~i~...~i~p~v~c~Ö~“~l~i~...~>~“~œ~À~i~‡~*  
*“~v~v~i~À~i~“~>~l~i~“~>~“~V~d~d~A~i~“~i~V~c~“~“~i~À~v~>~V~i~“~œ~Ü~i~À~L~>~À~À~i~À~À~“~*  
*GDP per capita) when starting the transition toward industrialization.*  

4. There have even been discussions of multilateral trade liberalization  
*l~...~À~œ~Ö~}~...~À~“~i~V~w~V~Ü~>~•~Ö~i~V~...~“~À~À~>~l~i~À~i~...~>~“~l~...~À~œ~Ö~}~...~l~À~>~i~“~œ~•~V~p~“~À~À~Ö~i~À~*  
*(the case thus far; Hoekman and Jackson 2013).*

x. *“~L~À~œ~>~“~À~i~À~œ~Z~i~À~i~...~À~“~À~À~œ~À~À~i~...~i~w~“~}~À~œ~v~l~i~i~“~“~À~V~>~“~•~i~À~>~l~o~À~i~œ~v~*  
*transmission channels for trade and foreign direct investment.*

... Ÿ] °] ° >~þ^ž>] >~` ° ^Ài“>`^° Óä£È° °7...iÀi >V...^~iÃ œ Ÿ•`

Replace Humans – and Where They Can't (Yet)." McKinsey Quarterly

(July): 1–12.

•iÀ^~iÃ] -°] -° >V...] >~` ° /þLœ Ÿ] ° £TM TM n° ° Ã i>À^~}‡Lþ‡ Ÿ«œÀi^~} “œÀl-  
>~i¶ ^VÀœ‡ þ~>“^V Û^~i~Vi vÀœ“ œ•œ“L^>] iÝ^Vœ >~` œÀœVVœ°»

