

Economic integration and institutions for China-Myanmar Economic Corridor¹⁾

Manabu Fujimura^{*1}

Manoj Potapohn^{*2}

Abstract

Economic geography suggests that road networks that lower transportation cost encourage land use change, agglomeration and dispersal as economic activities over space get reorganized. Currently the main artery of overland trade between Myanmar and China, once known as “Burma road” linking Shan State of Myanmar with the Yunnan Province of China, is being upgraded with improved road conditions and gas and oil pipelines linking Yunnan with Indian Ocean through a port in Rakhine State. The authors argue that despite historically intertwined vested interests in the unruly segments of Myanmar, forces of economic integration along the emerging economic corridor could work toward institutional changes facilitating workable compromise among stakeholders if they are given a shared picture of benefit-cost distribution to work with and negotiate over. Exploratory inferences from ongoing investigation on agricultural trade including live cattle are provided.

Keywords: China-Myanmar Economic Corridor, regional integration, institutional change

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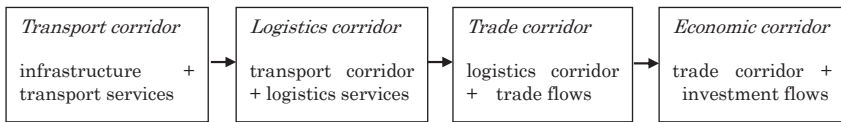
^{*1}Aoyama Gakuin University

^{*2}Chiang Mai University

1. General context of economic corridors

In economic geography, a corridor is defined as a space of linear nature connecting large agglomerations across a geographic area through a number of transport routes. Along these routes the corridor links large urban centers and other intermediate cities and towns. Once a transport corridor is set in place, it is expected to evolve to logistics, trade, and then economic corridor as in Figure 1

Figure 1: Typical development path for corridors



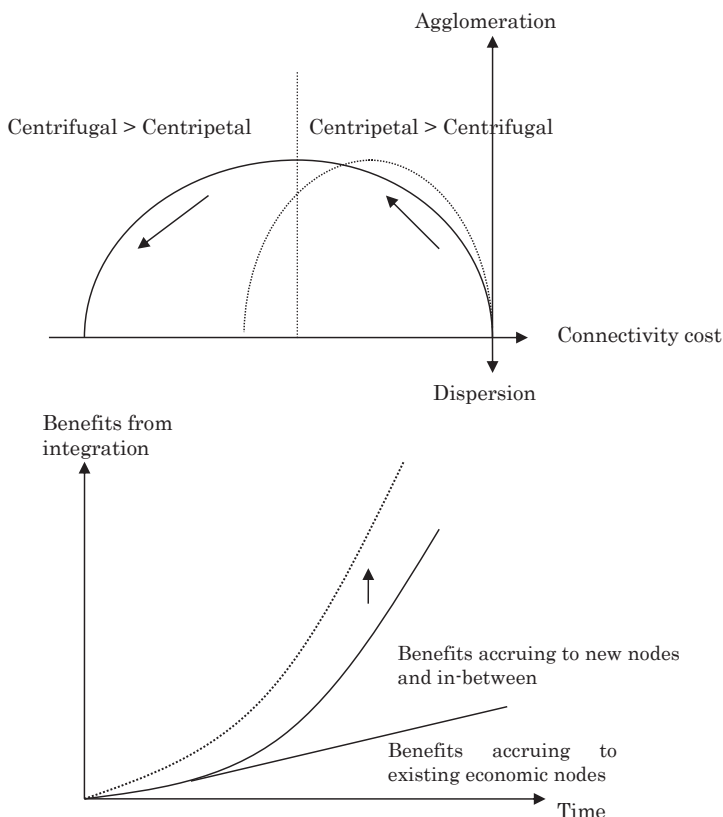
Source: Modified from Nogales (2014) p. 9

Economic corridors are expected to contribute to: promotion of *de facto* regional integration (as opposed to *de jure* integration driven by government-to-government agreements or treaties); accelerated dynamics of agglomeration and dispersion; and accelerated win-win outcome.

As an economic corridor develops over time, its dynamic impacts would in general first work toward benefits from integration accruing disproportionately to existing economic nodes as long as benefits of agglomeration (economies of scale and saved business transactions) outweigh the costs (congestion, urban pollution, etc.). Then at some critical point where the costs of agglomeration outweigh the benefits, the dynamics activates dispersion of economic activities off the existing nodes (upper panel of Figure 2), leading to spread of benefits accruing to the intermediate towns along the corridor and eventually to rural areas (lower panel of Figure 2). Facilitation of economic corridor development through physical transport infrastructure (road, bridge, railway, etc.) as well as institutional facilitation (e.g., simplification of customs clearance and vehicle passage) would fasten this dynamics (a shift from solid lines to dotted lines in Figure 2).

Cross-border nature of investments in economic corridor projects require two distinct analytical viewpoints relative to national-level projects, namely, (1) additional economic net impacts beyond summation of the impacts of na-

Figure 2: Dynamics of agglomeration and dispersion and hoped-for outcome associated with economic corridors and regional integration



Source: Author

tional projects, and (2) laying out of their benefit-cost distributions (Fujimura and Adhikarhi 2012).

The first point of “additionality” can be considered as a concept parallel to that of externalities in that it represents additional economic benefits or costs accruing to cross-border infrastructure projects that would not occur through national projects alone. Positive additionality would include growth impact by enhancement of intra-regional trade and facilitation of border transactions that would not arise by individual national efforts alone (some evidence in Fujimura

2017). On the other hand, not easily quantifiable negative additionality would include: induced illicit trade in timber, drugs and arms, and trafficking of humans and wild animals, due to lower costs of cross-border transport, and therefore, expansion of underground economies in the region, which would not arise if regional connectivity were not improved (discussion in terms of harmful drugs in Fujimura 2014).

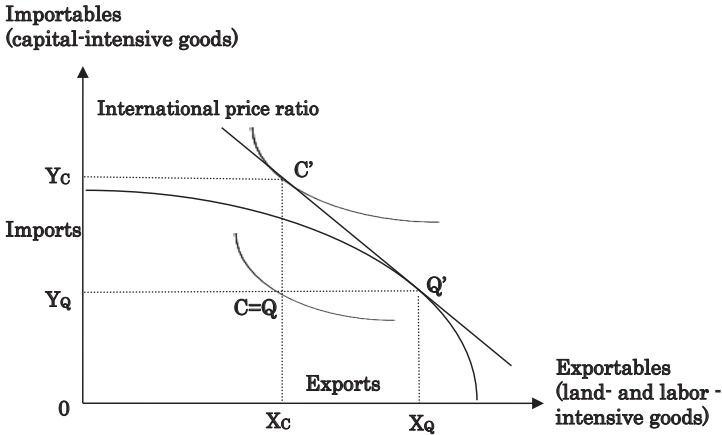
The second point of benefit-cost distribution also needs to be as transparent as possible for the evaluation of cross-border investment projects. Making such distributional aspects transparent would help identifying the areas where the third parties (e.g., external donors) can fill the gaps left by the participating countries.

2. Aggregate picture matters but distributional picture matters more critically for a desired institutional change

If we opt to assume that the current state of Myanmar along the China-Economic Economic Corridor (CMEC) is under resource “underemployment”, we could apply a “vent-for-surplus” model argued by Myanmar’s own economist, Hla Myint. According to this model, the opening of remote agrarian societies to world markets creates opportunities to make use of formerly underemployed land and labor resources to produce greater output for export to foreign markets (Figure 3). Before cross-border integration, the production of the local economy took place at point $C=Q$, well within the confines of the production possibility frontier, and X_C of land- and labor-intensive primary products and Y_Q of capital-intensive manufactured goods were produced and consumed. The opening up of the local economy to foreign markets provides the economic incentives to utilize these idle resources and expand production of exportables to point X_Q . Given the international price ratio as in the figure, $X_C X_Q$ of primary products can now be exported in exchange for $Y_C Y_Q$ of manufactured goods with the result that the final consumption point C' is attained with the same primary products being consumed but with $Y_C Y_Q$ more of imported manufactured goods available for local residents.

So, with all other conditions benign, the aggregate story is superior after the integration. However, the reality is far from benign. In cases where local farmers continue to engage mainly in subsistence agriculture with little participation

Figure 3: Vent-for-surplus paradigm of international trade



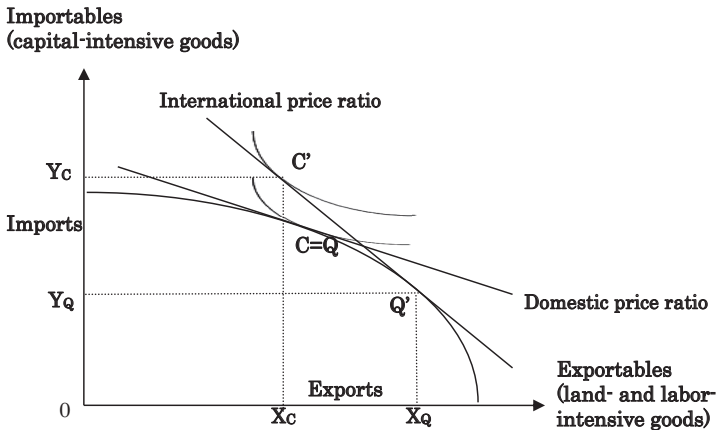
Source: Modified from Todaro and Smith (2015) p. 623

in the newly created trade and investment opportunities and associated supply chains, then most of the benefits would accrue to foreigners (Chinese investors in this case) and powerful local elite groups connected with them, pictured in a neo-colonial paradigm.

In fact, when one observes the current situation of special economic zones (SEZs) in border areas of Myanmar as well as in Laos, one is tempted to apply this vent-for-surplus analogy in a pessimistic context in which the host peripheral region may be locked into an enclave of an exploitative structure. In the context of border SEZs in Laos, Laungaramsri (2015) argues that these SEZs are used by the Lao state as “a shortcut to transfer its responsibility for rural modernization to the Chinese patron”.

If we opt to assume that the current state of northeastern Myanmar along CMEC is under full employment of resources, we can apply the traditional theory of international trade and comparative advantage, as in the classic Hecksher-Ohlin model (Figure 4). One of the four theorems that fall out of the Hecksher-Ohlin model is called “Stolper-Samuelson theorem, which says “an increase in the relative price of a commodity raises real returns to the factors used intensively in the production of that commodity”.

Figure 4: Traditional paradigm of international trade



Source: Author

While this theorem is based on a model in which factors of production do not cross national borders, it can be extended to a situation in which receiving (Chinese) FDI in agribusiness for export (Chinese) markets would be equivalent to seeing a demand rise (an outward shift in demand curve, therefore an increase in equilibrium price) for Myanmar's agricultural products for which land and labor are used intensively, therefore, raising real return to land and labor owners in Myanmar.

In this case, too, with all other conditions benign, things should look bright for Myanmar nationals based on their comparative advantage in land and labor relative to China, while Chinese investors and consumers also gain from integration by tapping into relatively abundant land and labor in Myanmar and importing agricultural products.

However, again, the reality would not be benign. Northeastern Myanmar historically has been subject to precarious property rights conditions for local residents due to long sustained armed conflicts. It is easy to imagine that stakeholders with political and military powers are tempted to manipulate property rights institutions toward capturing all or most of the newly available economic benefits from the regional integration.

Farrelly (2017) states that the lesson from Myanmar's history is that it is only

ever the men with guns that truly call the shots...” Karin (2017) states that “the 2008 Constitution...sees no decentralization in the state control over rich natural resources mostly found in ethnic states. Exorbitantly high revenue from jade and gold mining has since the earlier KIO ceasefire in 1994 transformed local entrepreneurship into large-scale industries benefiting the country’s military and business elites...”. Similarly, Meehan (2017) states that “the transition has been underpinned by changing legal frameworks...which have empowered the government to commandeer ‘wasteland’ — in practice land without legal title — for ‘productive purposes’. Much of this land has either been transferred to private companies as agribusiness, forestry or mining concessions or has been allocated to the Army. Over the past two decades...smallholder farmers across Shan State...have been confronted with nexus of military, government and private sector empowered by a legal structure that facilitates and legitimizes dispossession.”

In a global context of all economic corridors involving China, World Bank (2019) analyzed various aspects of Belt and Road Initiative (BRI) projects covering 71 countries. Its bottom line message is: the analysis shows that BRI transport corridors have the potential to substantially improve trade, foreign investment, and living conditions for citizens in participating countries—but only if China and corridor economies adopt deeper policy reforms that increase transparency and improve debt sustainability. It is warned further that large infrastructure projects can create political, environmental, and social risks including corruption while such risks vary depending on specific economic corridors in question and the associated quality of domestic institutions.

World Bank (2019, p. 114) specifically mentions environmental risks associated with frontiers of transformation, where “lower transport costs may push costs of settlement (labor flows), logging, and so on over the margin of profitability with the China–Indochina Peninsula Economic Corridor (CIPEC) and China–Mongolia–Russia Economic Corridor (CMREC) being among the most at-risk, with large areas facing deforestation in the past 15 years. World Bank (2019, p. 120) also specifically mentions social risks including: threats to human security; negative impacts falling disproportionately on vulnerable people(s); involuntary taking of land or restrictions on land use; negative impacts associated with land and natural resource tenure, etc. Contexts of BRI for

this paper are discussed in Appendix 1.

3. Developments along CMEC:

The extent to which the aforementioned hoped-for outcome from economic corridor development can be realized is inevitably context-specific, to which we turn next.

The amount of Myanmar's border trade makes up about 30% of the country's total trade and Muse customs takes up 70% of the border trade, far exceeding the second largest border trade with Thailand at Myawaddy customs (see Table 1). While the border trade with Thailand is in significant deficit, the border trade with China is in significant surplus, with the Muse route contributing to it the most. It is expected that improvement in transport infrastructure along the CMEC would further facilitate the trade expansion in this route.

Table 1: Myanmar's border trade by customs office (FY2016, US\$ million, %)

Customs office	Export	Import	Total	Share
Kanpiketi (Kachin State)	64	42	107	1.4
Lweje (Kachin State)	186	16	202	2.6
Muse (Shan State)	3,704	1,658	5,362	69.5
Chinshwehaw (Shan State)	516	58	573	7.4
Yunnan Province total	4,470	1,774	6,244	80.9
Kyaingtong (Shan State)	2	2	4	0.1
Tachileik (Shan State)	14	67	81	1.1
Myawaddy (Kayin State)	60	868	929	12.0
Kawthaung (Tanintharyi Region)	69	65	134	1.7
Myeik (Tanintharyi Region)	157	52	210	2.7
Thikhi (Tanintharyi Region)	11	1	12	0.2
Thailand total	317	1,057	1,374	17.8
Tamu (Sagaing Region)	38	10	48	0.6
Lyi (Chin State)	25	15	40	0.5
India total	63	24	88	1.1
Border trade total	4,860	2,855	7,716	100.0

Source: Mizutani and Horima (2017) p. 101

Figure 5: Routes traveled in Shan State



Source of the map: Myanmar Information Management Unit
<https://themimu.info/gis-resources-agency-maps>

Major exports from Myanmar to China at the Muse border include: rice, beans, sesame seeds, corns, vegetables, fruit, dried tea leaf, fish, rubber, etc. Major imports from China to Myanmar include: machinery, plastic material, electric and electronic appliances, etc.

In the following, we provide observations from our field travel along the CMEC (Figure 5) in March 2019.

The road from Mandalay to Muse border (Mandalay-Lashio Road and Lashio-Muse Road, or National Road No. 37) seems to be upgraded significantly since one of the authors visited this route last time in March 2013. The road from Mandalay to Pyinoolwin has been almost totally upgraded to 4-lane paved road and it was easy for a fast-moving vehicle to overtake slow-moving trucks and agricultural vehicles.

Pyinoolwin, Thibaw, Lashio

The city of Pyinoolwin appears to have been growing fast with an influx of

Chinese money, as obvious from the smartphone shops under Chinese brand signboards such as OPPO and Vivo (the same has been observed along the travel route in Myanmar this time).

We were able to interview a local ethnic Chinese businessman, Mr. U (73) who runs a “Jack-of-all-trades” store and various businesses in downtown Pyinoolwin. Mr. U was born in Bhamo (between Muse and Myitkyina) as an eldest son to his parents who migrated from Yunnan. He was educated in public education system until he was 16 but his education was disrupted when the military regime starting in 1962 under Ne Win’s anti-Chinese policy confiscated his parents’ houses and assets. Later he moved to Pyinoolwin and tried various kinds of business. His current trade business handles timber, sugar, watermelon, rice, seafood, etc., all for exports to China. He sometimes imports agricultural machinery from China to meet demand from local farmers. He recalls that the population of the city was less than 50,000 but now the city has grown to about 300,000.

The downtown of Thibaw (Hsipaw) is small and it is easy to walk around to see much of its activities. Along the main street, there are many shops, restaurants, and fashion stores, second-hand electric appliance stores, etc., owned by Chinese or ethnic Chinese (it is hard to distinguish between old and new migrants). An interview at a shop selling Chinese motorbikes, watches and mobile phones revealed the following: Retail prices of Chinese motorbikes range from K400,000–500,000 (\$267–300) for cheaper brands like “CANDA” and “RJ Star” to K900,000–1 million (\$600–667) for “CLICK” brand. These motorbikes are transported by hired agents, or “carriers”, from Ruili via Jiegao border zone. They are sent over to China empty-handed and they drive back one motorbike and carry another strapped to the rear (two motorbikes per agent). It would take them about six hours to drive back from Muse to Thibaw. The reward to the agents is said to be K20,000–35,000 (\$13–23) per motorbike carried, depending on its brand value. Their transport routes and how they go through the customs, or bypass them, are unclear. As the motorbikes can run in difficult terrains, they could easily use unofficial transport routes.

On the way from Thibaw to Lashio, we interviewed at a watermelon farm run by a young couple. The husband is a 24-year-old Shan tribe from Namkhan. He started working as a laborer at a watermelon farm (likely Chinese owned) when

he was 13. He learned by doing how to grow watermelon himself. Just recently he rented a land of 13 acres and started his own farm with his wife. He says he has seen many new watermelon farms propping up between Thibaw and Lashio due to the demand from China. The watermelon seeds and production technique originally came from lower Burma where land is flatter and suitable for growing watermelon. With an increasing availability of water hoses and pipes imported from China, it has become easier to grow watermelon on hillside slopes around there.

The city of Lashio looks much more developed since our last visit in March 2012, with many refined-looking shops, and comfortable-looking hotels (which were few last time). Above all, signboards in Chinese language now abound on streets. The downtown market sells made-in-China household commodities as well as fresh apples, pears, oranges (tangerines), etc., imported from China. A flower vender says they also procure their merchandise from China via Muse border.

We interviewed at a shop along the main street selling Chinese-made agricultural machines such as tractors, threshers and cement mixers and found that these agricultural machines are procured from Mandalay. It is presumably due to a logistical reason that their maintenance and spare parts are more easily available from the distributors based in Mandalay or Yangon. The machines would normally be imported at Yangon Port and then distributed through Mandalay.

On the other hand, we found that at the motorbike spare parts shop, they import their merchandises from the Muse border. Inexpensive but easy-to-break-down motorbikes made in China are prevalent in the local market, providing a large enough market for independent spare parts shops to make good business.

105 Mile Trade Zone

At about 10km before reaching the border town of Muse, there is “105 Mile Point”, or formally, “Ministry of Commerce, Department of Trade, Muse (105) Mile Trade Zone”. 105 miles or about 170 km, is a distance from Lashio.

Behind the main site for the 105 Mile Point, there is an elevated plateau which houses a large trading center for agricultural produce being exported

from Myanmar to China. When we visited in a morning, the place was very lively with innumerable trucks loaded with watermelons and melons.

Trucks loaded with fruit take turns moving in and out with only 5 minutes allotted per truck for transactions and deal-making between sellers and buyers. The trading center handles on average 400–500 trucks every day within about 3.5 hours in the morning. The day we visited, about 700 trucks were participating in the trade. Maximum handling capacity is about 1,200 trucks per day. Buyers are all Chinese who are from as far as Hainan province, Tibet Autonomous Region and northeastern provinces. 400–500 buyers participate in the daily trade. As the Muse border crossing point has become too crowded, fresh fruit export now goes instead either to Jinsankyawt or Pang Hseng border crossing point. As the route to the latter is recently plagued with occasional attacks from local militia, most of the trucks departing from this trading center head to the former border crossing point. The road to Jinsankyawt has been rehabilitated with Chinese assistance. The Chinese side of the border has been upgraded to a formal border trade gate. But the Myanmar side remains an informal border crossing point for the time being, with no commerce or trade-related authority stationed at the gate but only security function served by the *Tatmadaw* (government military).

Muse border

Last time one of the authors (Fujimura) visited the Muse-Ruili border was in September 2012. He traveled from Kunming to Dali, and to Ruili, and then crossed Shwe Li (Ruili) River over to Jiegao Border Trade zone, which looks like an enclave carved out of the Myanmar territory across the river. There are three existing border gates at this border: one for light vehicles and passenger on the northern side of the zone, another for passengers on the eastern side, and the third one for cargo trucks on the southern side.

While all the three gates looked much more crowded with both passengers and vehicles this time than the last visit, indicating an enhanced economic integration along the CMEC corridor, there was a distinct difference, which is “Muse Central Business District (CBD)” under development at a 120 ha site facing Ruili City across the border river. The developer is based in Mandalay. Their brochure is mainly in Chinese language but with some English line ap-

peeling such as “New Gate, New Life, New City”. Their plan is to turn this area into a new town with different zones: commercial, residential, recreational, public functions, etc.

At the center of the commercial zone is a shopping mall named “Mingalar Muse” just completed. At the end of the shopping mall, we saw a new (4th) international gate constructed and waiting to open. The price of plots in the residential zone in the CBD and the rents at the shopping mall are quite high, obviously targeted to Chinese buyers and tenants.

Chinshwehaw border and Laukkaing

Before we went to Muse we took a side step eastward to Chinshwehaw border and Laukkaing city (see Figure 5) which are under the self-administration of Kokang ethnic group.

From a junction in Hseni at about 60km northeast of Lashio, we went eastward. The road is rather narrow with no shoulders but the asphalt surface is still new and driving was smooth.

At about 70km from the Hseni junction, before crossing Tennyen River in Kunlong township, we were stopped by Tatmadaw soldiers and required to show our identifications. Our guide sensed a need to make some informal payment for a smooth passage and he did so.

At the entrance to Laukkaing township, located north of Kunlong township, is a toll gate, to which we paid an entrance fee of K500 (\$1/3). The receipt was written in Chinese language indicating “Kokang Autonomous Region, Chinshwehaw Division”.

From here about 300m eastward is the Chinshwehaw border crossing point. However, there was a long queue of large trucks, container trailers and oil-tank trailers waiting to clear the border. Both institutional and physical infrastructure for border processing appeared to have not caught up with the current trading demand. Almost all the vehicles in the queue carry number plates of Yunnan or other Chinese provinces. Most female Myanmar people crossing over to China possess red-color border passes valid for one month.

From the Chinshwehaw border we headed north to Laukkaing city, which is about 35km away. On the way we were stopped by Tatmadaw soldiers along the road and implicitly pressured to pay an informal fee again.

The road to Laukkaing was bumpy with many sections unpaved or under construction. We passed vehicles with number plates under “KK” or Kokang Autonomous Region and trucks with Yunnan numbers.

After about 30 minutes’ drive from Chinshwehaw border, we were stopped again at a Tatmadaw checkpoint, for the third time and we made informal payments (there was no stoppage on our way back out, though). Tatmadaw seems free to “tax” flows of vehicles presumably because the border region’s security is controlled by them. In 1980s the military regime under General Kin Nyun succeeded in infiltrating their intelligence into many ethnic armed groups, convincing them to give up their arms in exchange for political autonomy.

After another 15 minutes, we passed a (this time formal) tollgate to enter Laukkaing township. We paid a small fee of RMB10 (about \$1.2). The receipt was signed and stamped in Chinese language indicating “Kokang Autonomous Region’s City Development Administration”. It meant that from here on is virtually a Chinese territory with its development entrusted with Chinese developers.

The quarter right after the toll gate is being developed into “Kokang New Heaven” by Chinese developer group “Fula Lai (Fully Light)” group, the same group developing a new suburban city in Mandalay. The quarter’s main street is lined up with casino hotels, shopping malls, and gemstone stores. Behind the main street is a large park with an artificial lake surrounded by gift shops, seafood restaurants, hotpot restaurants, etc. The new quarter looks clean waiting for future visitors relative to the old quarters where we went next and saw existing Myanmar residents and workers as well as Chinese gambling visitors.

About 1.5km into the old quarters of Laukkaing, we came across two large-scale casino hotels. Both looked busy with many Chinese customers. Their hotel room rate ranges from RMB300 (about \$40) but non-gambling customers cannot stay. The hotel staffs do not speak English nor Burmese. The city looked like a Chinese enclave in no man’s borderland.

4. A way forward for Pareto improvement

Much of the above observations, other than a few Chinese “enclaves” at borders, seem to indicate significant economic gains generated by regional integration along CMEC.

Again, however, where institutional settings are not benign, we cannot be optimistic about a fair distribution of the benefits for all stakeholders. In fact, anecdotal evidences abound that indicate adverse situations for vulnerable local people under the existing institutional settings, as provided in Appendix 2 (not attached to this paper but available upon request to the authors).

On Myanmar's side, the country is still short of a full-fledged nation-state and its central authority lacks capacity to guide the economic activities along the CMEC to the best interest of the region's sustainable development. On China's side, its central government seems to have let loose short-termist private sector investors in unruly part of Myanmar under the name of regional development and using Yunnan Province as a gateway to Southeast Asia under BRI. Together these institutional circumstances have led to complex networks of vested interests exploiting Myanmar's agricultural resources in a seemingly unsustainable way.

Sustainable economic development must be supported by sustainable institutions, which in turn must be underpinned by sustainable property rights. A shared insight in economics is that the smaller the area of land ownership, the more productive and sustainable use the land is put to. A corollary to this would be that the larger and shorter the time horizon of the land ownership, the more exploitative and unsustainable use the land would be put to. No-man's land, once given an open access, is easily abused as in a "tragedy of commons"

The final part of this paper wishes to provoke analyses and policy discussion on how to move away from the status quo toward a better equilibrium. A desired institutional change toward a Pareto improvement, in which aggregate gains from economic integration are distributed such that no one sees oneself being a net loser, can be agreed as a way to go.

Market forces possess in principle potential to induce institutional changes toward an improved state of affairs if ruled by transparent system of property rights in particular as envisioned in a theory of international trade. For example, Kaczan (2016), using village-level panel data from all areas of rural India, yielded an empirical result in which improved road access could contribute to forest recovery rather than deforestation as a net result a complex set of causal routes: lower transport costs leads to (1) agricultural intensification reducing extensive agricultural margin, (2) creating non-agricultural income opportuni-

ties including migratory work, (3) fuel substitution from wood to fuels, and (4) tree plantation, which all contribute to reduced forest pressure.

So, there is a hope that we do not need a revolution or heavy external intervention to shock-treat the existing institutions but market forces might guide things to a desirable direction with a little nudge. We argue that such a nudge can begin with sharing a transparent template/matrix that all stakeholders can work with and negotiate over. Such template/matrix could look like Table 2.

Words of a TNLA (Ta'ang National Liberation Army) leader cited in Han Tun (2019) are illuminating: “...*I think China and the Myanmar government should consider negotiating and talking about current political issues first. Then they need to know about our decision by discussing and recognizing all the aspects of these issues with us so they will know our people's desire, and so it will become an effective project for China.*” He is indeed talking about Pareto improvement. There is a hope for economizing on a nudge with a shared understanding of a way forward.

On Myanmar's side, its government should: liberalize mass media and inform the general public with the exact situation along CMEC; expose, if not restrain, local rent-seekers who act as nominal partners to Chinese investors; expose, if not restrain, rent-seeking in the military's vested interests; reduce the level of violence and try to bring in non-Chinese investors to the CMEC route so that some risk-taking entrepreneurs might respond. Diversity of investors would help the local population to open to diverse ideas and opportunities instead of China's currently monopsony situation.

On China's side, its central as well as provincial governments should realize how the “going-out” policy has been impacting rather negatively on its neighbors' sustainable development and start improving the governance of their investors. They should realize that while “hard power” can be gained in proportion to a nation's economic status, “soft power” must be hard gained through mutual respect with neighbors not only on economic but also social and cultural fronts.

Economic geography implies that development of CMEC would first benefit Kunming and Mandalay economies, but over time, benefits would spill over to the intermediate cities and towns and rural communities between the two nodes, provided that the two countries' authorities can cooperate in reversing the cur-

rent adversarial institutional conditions.

External agents and observers concerned can assist filling gaps where the stakeholders directly involved come falling short.

Finally, we conclude this paper with a distinct case of newly developing trade opportunity along CMEC, which is cattle trade (Appendix 3 summarizing issues in Myanmar-China cattle trade is not attached to this paper but available upon request to the authors).

Myanmar is renowned for its being dependable source of supply of low-cost live cattle in mainland Southeast Asia. Stories about cattle walking in the jungle through rebel-controlled territories and eventually trucked to distance markets as far as Thailand, Malaysia, Laos and Vietnam are legendary in the region. Traceability technology (such as ear tagging and radio frequency identification, or RFID) and regulatory reform allow the trade to be modernized and upgraded in Thailand portion of the supply chain. Recently similar modernization is undertaken in the aftermath of legalization of cattle movement within Myanmar. Myanmar-China portion of modernization is being worked out with trade control protocol. Already, it attracted an investment in slaughterhouse (e.g. Senzhen listed Hunan Dakang company being set up at Ruili) and a cattle company has been reportedly established in Mandalay. Myanmar government agencies together with the trade association are experimenting with permit system which allows quarantine of cattle prior to shipment to make sure it satisfies disease control standard and at the same time make benefit from this trade a catalyst for supply chain upgrade as well as inclusive to realize the standard trade development facilitation potential. It is a big challenge since the endeavor encompasses many difficult terrain putting “one health” paradigm (referring to integration in animal health ecosystem health and human health) to work and at the same time it is perhaps undertaken at the edge of the country where administrative capacity and legitimacy are still being built over local population.

While the unfolding development in cattle trade is subject to significant uncertainties, this case presents some promise for a win-win outcome if institutional changes are carefully navigated.

Table 2: How improved CMEC connectivity with improved land tenure security may work for everyone

<i>Channels of effects</i>	<i>Myanmar</i>		<i>China</i>		<i>Rest of the world</i>	
	<i>Stakeholder</i>	<i>Net benefit</i>	<i>Stakeholder</i>	<i>Net benefit</i>	<i>Stakeholder</i>	<i>Net benefit</i>
Infrastructure finance	Not likely to be forthcoming at the current stage of Myanmar's economic development		Public sector financier	Short term – Long term + if sustainable.	Donor financier	Short-medium term – Very long term +
Infrastructure construction	Subcontractors	Increased profits	Private sector financier	Increased profits	Private sector financier	Unlikely for CMEC?
Infrastructure O&M	Engineers and workers	Income gain	Contractors	Income gain	Contractors	Unlikely for CMEC?
Saved transport cost	Engineers and workers	Income gain	Engineers and workers	Income gain	Engineers and workers	
Increased traffic	Passengers	Saved time	Passengers	Income gain	Passengers	Likely to be N/A
	Cargo forwarders	Income gain	Cargo forwarders	Saved time	Cargo forwarders	N/A at the moment?
	Transport companies	Income gain	Transport companies	Income gain	Transport companies	
	Various service providers	Income gain	Various service providers	Income gain	Various service providers	
Myanmar's increased exports	Producers of agricultural crops and cattle	Increased producer surplus	Consumers	Increased consumer surplus	Consumers	Increased consumer surplus
	Exporters	Income gain	Importers/distributors	Income gain	Importers/distributors	N/A at the moment?
Myanmar's increased imports	Consumers	Increased consumer surplus	Producers	Increased producer surplus	Producers	Increased producer surplus
	Importers/distributors	Income gain	Exporters	Income gain	Exporters	Income gain
Easier flow of people	Outward migrants	Income gain	Migrants to Myanmar	Income gain	Likely to be N/A	
Induced FDI inflow to Myanmar	Local partners	Income gain	Investors	Income gain	Investors	Income gain
Environmental impacts	Local residents	Benign	Investors	Reputational gain, CSR	Providers of external assistance	Reputational gain, CSR
Social impacts	Local residents	Benign	Investors			

Assumptions:

- Infrastructures for CMEC connectivity are mostly associated with transport sector such as road, railway, and bridges. Those with cost recovery prospect such as tolled highways and rapid railway may be financed by private sector financiers, but most other modes of transport would be financed publicly.
- Property rights institutions are reformed toward more secure land tenure for Myanmar local residents while judiciary and administrative costs for such reforms are assumed to be small enough to be ignored.
- Infrastructure construction, operations and maintenance (O&M) are followed by various effects over time in a broad order as listed in the table.
- Time-horizon of the occurrence of benefits and costs is long term, with each stakeholder taking into consideration long-term benefits more than offsetting short-term costs.

Source: Author

Appendix 1

China's BRI—possibly unsustainable experiment of exporting its overcapacity problem

Since President Xi Jinping announced China's One Belt One Road (later rephrased as Belt and Road Initiative, BRI) in 2013, its geographical expanse and financial size involved have caught attentions from different circles around the world. This appendix summarizes what the authors think is a reasonable interpretation of the context in which China's economy extends its increasing influence over neighbor countries such as Myanmar.

Gabusi (2017) examined first 12 loans approved by Asian Infrastructure Investment Bank (AIIB) which is headquartered in Beijing and for which China is the founding and dominant member. He found that these loans are given to BRI countries which have seen their trade relationship with China grow constantly over the past few years and are all fast-growing markets for Chinese exports of industrial supplies. However, 11 out of the 12 projects are co-financed by other multilateral development banks such as the World Bank, the ADB, the European Bank for Reconstruction and Development (EBRD), the European Investment Bank, and the International Finance Corporation (IFC). He concludes that these projects were not dominated by China's narrow interest only, and were based on international credit standards and that the view of China challenging the existing liberal order in international finance is too a far stretch. Then he implies that Beijing's offer of public goods through the AIIB has more a political than an economic significance, as a way to promote China's interests and expand its influence on a global stage.

In fact, AIIB as a multilateral lending institution, should be constrained by the value systems of participating member countries, and cannot be an instrument for China's hegemonic ambitions. Rather, the attention must be paid to the bilateral financial channels used by China for BRI projects, which would be the main instrument for whatever the overarching goal of China's economic diplomacy. The problem is that China being a non-member of OECD, we cannot at the moment expect full transparency of China's bilateral banks' lending practice, therefore, external observations cannot be as complete as we want them to be.

Here we rely mainly on two sources on what to make of BRI in practice: Bello (2019) and World Bank (2019).

Bello (2019) concludes (in his executive summary) that BRI is not a grand strategy for China's hegemony but is a solution to its China's industrial overcapacity crisis being implemented in a technocratic top-down fashion but rather going out of the central control. He infers that as early as the 2000's more than 75% of the country's industries including cement, aluminum, shipbuilding, steel, power generation, solar panels, etc., were suffering from overcapacity. As the problem continues to worsen, "of the 1.1 billion tons of steel Chinese factories were capable of making in 2015, only 70% was actually produced..." Shutting down "zombie" state enterprises may be demanded from the center but it is the local authorities who have to deal with the consequences.

The fact that poor-performing state-owned enterprises (SOEs) and the banks are owned or subsidized by the government puts the day of reckoning far into the future. The longer such a day is postponed, the more vulnerable the banks and the large the impact on the whole economy will be.

Bello argues that China's overcapacity problem, already serious before the global financial crisis, was exacerbated by the massive \$585 billion stimulus put together in 2008 to counter the effects of global financial crisis on the domestic economy. By the early 2010s, the stimulus money was spent and many local governments were virtually bankrupt. Overcapacity exceeded 30% in the iron, steel, glass, cement, aluminum and power generation industries. Many SOEs faced a major profitability crisis, with returns on domestic infrastructure turning negative. Such overcapacity is the result of

factors within China beyond the central government's control, e.g., entrepreneurial efforts of local and provincial governments to stimulate growth in their jurisdictions. Meanwhile, Chinese banks faced their own over-accumulation crisis, with \$3 trillion in foreign exchange reserves and dwindling domestic lending prospects. Here BRI represented an opportunity to release their domestic surplus capacity.

China's central government lacks the ability to keep the BRI strategy tight and coordinated. Sub-national stakeholders, as they do in other policy areas, have the incentives to bend the initiative to their own narrowly defined interests. The content of BRI has been filled with projects by provincial authorities, SOEs, and national ministries competing for funds and bureaucratic power

Bello infers that this uncontrolled competition has resulted in virtually empty freight trains running hundreds of thousands of kilometers across the vast Eurasian land mass, with one particularly scandalous case involving transporting 40 empty containers and just one full container all the way to Europe.

Bello further cites:...from a review of more than 1,000 Chinese loans totaling more than \$143 billion between 2000 and 2017, tracked by the authoritative China-Africa Research Initiative (CARI) at Johns Hopkins University, and more than \$140 billion in Chinese loans to Latin America and the Caribbean since 2005 by the equally prominent Global Development Policy Center of Boston University, "the idea that the Chinese government is doling out debt strategically, for its benefits, is not supported by the facts", says CARI director Deborah Brautigam...A senior researcher in a think tank linked to China's State Council states, "the debt crisis for other (debtor) countries is an asset crisis for Chinese (creditor) banks..."

World Bank (2019) examines the trade flows for BRI corridor countries which counted 71 in total. The analysis revealed that China's exports, particularly of infrastructure-related goods, had started flowing to BRI corridor economies a decade earlier than the year in which BRI was announced. Between 2001 and 2013, the share of corridor economies in China's exports of infrastructure-related goods increased from about 32% to 43%. Their share in China's exports of iron and steel increased from 37% to 52%. These increases were driven mostly by corridor economies where BRI transport infrastructure projects are being built or planned. Similarly, BRI corridor economies accounted for a larger share of Chinese construction investment than non-BRI countries even before 2013. The share of BRI countries in China's overseas construction contracts has been increasing and consistently above the share of non-BRI countries, whereas the share of BRI countries in China's outward investment has been consistently below the share of non-BRI countries. This implies China's significant export of its construction capacity under BRI.

At the same time World Bank (2019, p. 101) warns of the poor track record of "megaprojects" in the past that should sound alarm for China's BRI. While infrastructure megaprojects, if done right, create and sustain employment, and improve productivity and competitiveness by lowering producer costs, benefit consumers through higher quality services, etc., their performance has been poor, with a consistent history of cost overruns for both private and public sector projects. Average cost overruns are of 96% for dams and 45% for railways. Successful megaprojects, delivering the promised benefits on budget and on time, are then approximately 1–8 in every 1,000 projects... Megaprojects are prone to "slow fail" processes, making it difficult to avoid higher costs. At the planning stage, costs and timelines are systematically underestimated and benefits overestimated. The projects are often considered unique, with little attempt to learn from other projects—which is a mistake.

China has published a debt sustainability framework (BRI DSF) for low-income BRI countries

at the 2nd Belt and Road Forum in April 2019. While the launching of such framework is a step in the right direction, its effectiveness depends on whether and how participating countries and financial institutions will use it, the realism of the assumptions underpinning the analysis and the comprehensiveness of data used.

The World Bank advises that China could make public its participation in debt restructuring operations. It would also benefit from having a debt restructuring framework in place, conducive to providing required relief in a timely fashion and enabling China to participate in a collaborative approach with other creditors.

Finally, Bello's (2019) cautious optimism deserves citing: Chinese capital has had only 25 years of "going out into the world". One can say that it is still engaged in the early phase of a learning curve where one can expect many mistakes to be made. The reality is that, for all its flaws and missteps, China's trade, lending, and investment push has been a net positive for developing countries...China offers practically the sole source of financing for many countries where western-led financiers shay away or attach neoliberal conditionalities...while criticisms from recipient governments and communities of aspects of the activities of China's SOEs that stem from negative practices must be taken seriously by Chinese authorities, this process must be seen as part of the learning process. One can only hope the Chinese will derive the appropriate lessons from ongoing experiences to correct its mistakes and questionable practices that its corporations and agencies made in the first stage of the country's opening up...

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