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Responding to central bank collapse

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Question

What actions have been taken in developing countries to carry out the functions of a country's central bank after the collapse of the central bank, and to support recovery from collapse? What was attempted and what were the outcomes?

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1. Executive summary

The inability of a central bank to operate has a range of impacts which include:

- Loss of control of and influence over the exchange rate.
- Loss of the ability to provide guarantees and credit lines of both domestic and foreign currency.
- No supervision of the domestic financial system.
- No provision of domestic currency/notes.

Exchange rate challenges include:

- Where an official rate exists, a growing spread between what was the "official rate" and the parallel market will usually occur, increasing costs to the economy.

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- Most economies will shift from domestic currency to a preference for foreign currency as a means to conserve wealth and for larger transactions.
- The challenge will be to minimise the costs to the economy such as transaction costs and fragmented exchange rates which encourage rent seeking and arbitrage, and seek to increase the benefits such as competitive exchange rates for exporters.

The absence of guarantees and credit lines leads to:

- A lack of liquidity in the domestic financial sector, reducing access to credit and other financial services.
- Imports and exports will be constrained for lack of credit lines and guarantees, leading to a cash economy requiring pre-payments.
- Responses can include seeking specific credit lines to support key imports and investments, as well as leveraging inflows such as remittances.

Supervision of the domestic banking system impact on:

- Local financial systems which can face challenges to accessing international financial services (such as correspondent banks required for international money transfers)[1], and have a heightened risk of fraud.

Provision of cash (notes) means that:

- The domestic notes will effectively face excessive use leading to shortages as notes get damaged; the shortage may lead to a temporary holding of value given relative scarcity.
- In the medium term, domestic notes will be replaced by counterfeited notes, foreign currencies, and other forms of exchange (ie: barter).

Responses of countries will vary according to the domestic situation, however:

- Short run interventions can temporarily impact on the market and prices; however these tend to be costly. Significant resources are required to have a more definite impact (usually an IMF-supported programme)
- In the medium run, allocating resources to work with the market to support positive incentives, and work against rent seeking and other economic costs are recommended.
- While not covered in this note, it is highly likely that poorer sectors of society will be impacted disproportionately by the consequences of central bank collapse.

2. **Introduction**

This note will focus on the impact of central bank collapse on managing exchange rates and credit lines which are critical for essential imports. It also notes other risks and potential responses when central bank functions are severely limited or not in place.

[1] An international task force is working to address the challenge of correspondent banks

It draws on the literature available following relevant challenges in a range of countries where central bank capacity is either very weak (post-conflict, following major balance of payment crisis) or effectively doesn't exist[2]. While this note seeks to give an overview of the challenges of a central bank collapse, it is also written bearing in mind the challenges faced in Yemen in March 2017.

3. Consequences and responses to central bank collapse

In countries with an official exchange rate, a weak or collapsed central bank will mean the parallel market rate with increasingly determine prices.

Dependent on what can be challenging political trade-offs, this a likely scenario where there is no formal decision to act on the exchange rate in the short to medium run.

In the context of ***Somalia***, a mostly unregulated "free" market has taken over. The very significant remittances estimated at around 70% of GDP are "an instrument for trade and commerce in Somalia and abroad" (Sanogo, pg16. 2011). Much of these flows are through hawala[3] schemes. However the USD now dominates all major transactions including remittances, with the local Somali Shilling reserved for smaller transactions especially in rural areas. **South Sudan's** central bank faces capacity challenges, including minimal foreign exchange reserves. Most imports, including basic food necessities, are based on cash trade financed through the parallel exchange rate and through fragmented small to medium importers. The impact of this includes significant mark-ups of cost compared to neighbouring countries given the very considerable transaction costs faced by traders (Dorosh 2015).

Zimbabwe in the mid-2000s had a technically capable and politically strong central bank, however it had exhausted reserves and increasingly lost market credibility as inflation took hold. Official exchange rates and official (controlled) prices ensured access to an ever smaller well connected group as rent seeking took over from an initial attempt to prioritise foreign exchange for essential and productive imports.

For the population in general, de facto prices were set by the parallel market for goods sold in the formal and then rapidly growing informal sector. Trade took place using (illegal) USD/South African Rand, barter especially using fuel, or livestock, as the "hard currency" or payments outside Zimbabwe for those with access to foreign exchange.

Moving towards the parallel market rate can reduce these challenges. ***Myanmar*** has sought to influence the (well developed) parallel market rate by floating the official rate and holding daily auctions. In practise, analysis of the data suggests that at best the influence has been limited at a cost to their Central Bank's very limited reserves, although it has served for the Central Bank to determine an official rate which effectively is the parallel rate (Kubo 2015).

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[2] It also doesn't look at IMF financed programmes which would be the more usual option countries take when facing a balance of payment crisis and major challenges at central bank level.

[3] A traditional system of transferring money used in Arab countries and South Asia, whereby the money is paid to an agent who then instructs an associate in the relevant country or area to pay the final recipient. (Oxford English Dictionary)

The economic welfare costs of parallel markets will vary according to the context given welfare benefits to remittances and export prices through a more competitive exchange rate, versus the cost of penalties, cost to the state in lost revenue and foreign exchange, likelihood of increased rent seeking, and likely shift to foreign exchange reducing seigniorage revenue through the reduced requirement of local currency. Similarly, evidence suggests that unification of the exchange rate tends not to affect prices significantly as a) prices are mostly set by the parallel market rate already, and b) it is control over fiscal spend that determines any significant further impact on inflation or not, making anticipating and managing the fiscal impacts of unification of exchange rates especially important (Agénor 1992).

Some academics and policy makers do support the case for more interventionist central banks (eg: guarantees, credit lines, effective capital controls). This can support growth and development including more stable, but not overvalued, exchange rate through the implementation of capital controls (Epstein 2009). However this also implies a modest spread between the official and parallel rate which is unlikely to reflect major costs to the economy. This does assume some capacity of the central bank to operate controls effectively.

A less common option has been to formally accept a foreign currency as legal tender

Outsourcing currency to a hard currency, primarily USD, though also Euro, has been an option some countries have taken – *de jure* dollarization. The arguments include benefits of savings on trade and interest rates and therefore higher growth (Swiston 2011 makes the case for these savings in the case of **El Salvador**), and the benefits of lower inflation. However Towers et al (2004), concluded the benefits were effectively captured by larger formal sector and upper middle class, and do not factor in the cost of lost revenue including from seigniorage to the State.

Ecuador formally dollarized as a result of a major banking crisis. The central bank had been unable to anticipate and prepare for this crisis and did not have the resources to manage it out credibly[4]. This decision to formally dollarize did stabilise the economy, although this was helped by an increase of foreign exchange flows (Jácome 2004). However the recent strengthening of the USD (and fall in oil prices) has put pressure on Ecuador, not least as its (larger) neighbours have all responded to global economic slow-down through devaluation of their own currencies (Wang 2016).

In January 2009, ***Zimbabwe*** legalised five foreign currencies, and the government moved to use the USD which became the dominant currency in use, the South African rand being a distant second. This succeeded in bringing stability to the economy, and a period of negative inflation as the risk premium of the parallel market was done away with (Noko 2011).

It has however come with the cost of lost flexibility and shortage of smaller notes/coin, and similar to Ecuador, the now strong USD has put significant pressure on the Zimbabwe economy which has been unable to adjust. One study (Buigut 2015) concluded that Zimbabwe's exports are likely to be around 15% lower than they would have been if a domestic currency had been maintained.

[4] There are broader political economy challenges that help explain the crisis more fully; however the crisis was triggered by a sharp fall in oil prices. As Ecuador's largest export it resulted in significantly lower USD inflows, and this meant the economy was in a very weak position.

Edwards (2003) summarised the evidence on using the USD rather than a domestic currency to conclude that there is a clear impact on lower inflation, but a tendency to experience lower growth in the sample. The author also recognises the limitations to the data[5].

Cambodia offers the example of a semi-dollarized economy – *de facto* dollarization - with the USD used for most transactions, and local currency used for mostly smaller transactions. Effectively both currencies are legal tender. An estimated 90% of currency in circulation is USD, as are 97% of deposits, and with the domestic currency having a marginal role, its exchange rate is effectively fixed to the USD through expectations rather than a formal policy. The benefit has been stability, which was especially sought in the years after the war and arguably helped encourage significant investment in Cambodia supporting its export-led growth. The cost has been an estimated 2% GDP (at least) in terms of lost seigniorage (Menon 2008) and more recently, the challenges of a strong USD for exporters.

De facto dollarization is significantly more common and usually found in post-crisis and post-conflict countries. Having a partially dollarized economy does provide a means for the population and economy to protect against the crisis and inflation, and can facilitate financial transactions and help provide investor confidence. However it also has a cost to the macro-economy in terms of reduced seigniorage and weaker transmission of monitory policy. De-dollarization is possible though not automatic once greater stability is achieved. Countries that have been successful in de-dollarization have only managed it once there is sustained and credible stability and low inflation. (Alvarez-Plata 2007)

In dollarized economies, there is an argument to focus on managing the associated risks rather than the benefits and costs. Unless backed by very significant reserves, a run on the financial sector that is predominantly dollar-based, cannot be underwritten by the central bank. In recognition of this risk, a number of countries require greater prudence of their banking system when dealing with dollar credit lines and savings. This in turn can help nudge towards greater use of domestic currency without significant (and often ineffective) controls on foreign currency use which risks creating uncertainty in the economy. (Heysen 2005).

In some cases, financing vehicles can be set up that at least temporarily help with access to trade finance and enable imports at (lower) official rates.

The literature provides a larger sample from the 1970s/80s, when fixed exchange rates were more common and a number of countries faced chronic balance of payment challenges triggered by increases in oil prices. These include ***Kenya*** using tea export revenues for fertiliser and other agro-inputs, and ***Tanzanian*** coffee exports for oil imports. ***Ghana*** used its cocoa exports to protect foreign exchange and a stable exchange rate for imported oil and priority pharmaceuticals, and adapted this approach during the transition phase to a more flexible exchange rate to partially protect consumers (USAID 1989). It was also able to leverage the seasonal cocoa exports to raise financing from the commercial sector (Auditor-General of Ghana 1994).

[5] Other than small nation states and Puerto Rico, Panama and for a period also Liberia, are the only medium size countries to formally use the USD as their national currency. Since early 2000s, Ecuador, El Salvador and Zimbabwe have also opted for the USD which will over time provide more lessons including as a response to macro-ecnomic crisis.

More recently **Egypt** has ring fenced limited foreign exchange through "special" auctions for essential imports such as cereals and oil. This was effective for a period to protect consumers from price rises, though at a cost to reserves and once these were depleted, then support from countries in the region. Egypt also managed to raise financing from the Islamic Trade and Finance Corporation (part of IsDB), providing an example of a multi-lateral backed syndicated *Murabaha*[6] loan at competitive rates (ITFC 2012)[7]. Zimbabwe has similarly made use of funding on several occasions from the Afroeximbank[8] to provide foreign exchange for specific needs such as food imports during periods of drought (eg: Afroeximbank 2014)

Bilateral Payment Arrangements (BPAs) have been put in place in a number of countries. These primarily are facilities set up between two countries for major exports and required imports, and arguably a form of credit line provided by the exporter of the essential commodity secured against particular goods that in turn are imported. For example, ***Cuba*** has a BPA for rice imports from Thailand and Vietnam. Pakistan considered a BPA for wheat exports to ***Afghanistan***, but instead opted to open a credit insurance line for private exports of wheat (FAO 2003). Aside from finding a match in terms of a commodities required by the two participating countries to exchange, BPAs are likely to require a degree of underwriting which is usually by the respective central banks.

A number of countries have export credit facilities, either formal institutions or facilitated by their respective central banks. In addition to the example of Pakistan's credit line for exports to Afghanistan, the USA ExIm Bank has been part of the wider US Government support to a post-conflict ***Liberia*** with USD3.7 million credit line for wheat imports (US Mission Liberia 2015).

Risk of weak or non-existent supervision of financial sector is likely to hit the credibility of banks, especially domestic banks.

As part of this, Anti-Money Laundering/Counter Terrorism Financing (AML/CTF) considerations need to be factored in to prevent the domestic financial sector being cut-off from making foreign transactions, as are heightened risk of fraud and banking collapse.

The non-existence of a central bank and therefore supervision in ***Somalia*** effectively limited financial services to hawala money transfer agencies. This meant no other formal financial services were available, until the re-opening of the Somali central bank in 2009 which has enabled formal banks to start to operate, the first in 2014 (AMISON 2014). However the lack of effective supervision has meant that that Somali money transfer agencies risked having no access to a correspondent bank required to facilitate international financial transfers. The UK government reportedly put pressure on Barclays to postpone its decision to end its

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[6] In Islamic finance, a sales contract where the bank buys a product on behalf of a client and resells the product to the same client by clearly mentioning the cost incurred in buying the product and the margin or the mark-up when reselling the product to the client (Financial Times)

[7] The ITFC has supported trade finance in a number of IsDB member countries, including Murabaha-based Islamic finance mechanisms. A complementary example is covered in support to a private sector sugar importer in Sudan, which also included a mechanism to cover exchange rate risks (which would of course would involve an additional cost). See http://www.itfc-idb.org/en/content/itfc-entices-private-sector-sudan

[8] **The African Export Import Bank** was established in Abuja, Nigeria in October, 1993 by African Governments, African private and institutional investors as well as non-African financial institutions and private investors for the purpose of financing, promoting and expanding intra-African and extra-African trade (www.afroeximbank.com)

correspondent banking relationship with major money transfer agencies to Somalia (World Bank 2015), as well as set up the ***Somali-U.K. Safer Corridor Pilot*** to be mobilized in the event of a significant disruption in remittances. To more systematically address this challenge in light of capacity challenges, the Central Bank of Somalia recently agreed to delegate on a temporary basis the supervision of Money or Value Transfer Services to a trusted agent that will monitor compliance with AML/CFT standards (Erbenová 2016).

Similarly ***Liberian*** banks faced challenges as a number of correspondent banks ended their relationship with domestic banks, which in turn meant trade-related credit was especially challenging to provide and which had representing about a third of domestic banks business (IMF 2016). A number of small **Pacific Island states** have faced challenges, with a high cost impact on critical remittances. As the source of significant remittances to these Pacific Island states, New Zealand set up a Treasury-backed scheme for banks which enables low-cost remittances through the banking system's international Automated Teller Machine and Electronic Funds Transfer at Point of Sale networks. The facility includes daily monitoring to mitigate financial integrity risks (Erbenová 2016).

Inexperienced supervision and weak rule of law were identified as the main factors which enabled significant fraud at ***Afghanistan's*** largest bank (Kabul Bank) in 2010, with the national government having to guarantee all deposits to prevent a wider banking crisis. The estimated cost was 5% of GDP (IMF 2011) and it has required the splitting of the bank's portfolio into a viable "good" bank, and an insolvent "bad" bank with efforts underway to recover part of the funds lost in the fraud.

This issue of correspondent banks in particular is recognised as a challenge for a number of countries and territories, with the Financial Stability Board, IMF, World Bank and others tasked by the G20 to seek solutions. These have included highlighting the importance of understanding the challenges, including domestic financial systems, to have contingency plans in place. Where correspondent banks are unable or unwilling to operate, the potential of using public entities or centralized payment systems to address the challenge of international transfers could be an option. However AML/CFT compliance by domestic public bodies (including relevant central banks) will still need to be addressed (Financial Stability Board 2016). Mexico is on example where the challenge has been managed by setting up capacity in its central bank to receive remittances from the USA, and then distribute the USD within the domestic banking sector.

Another consequence of central bank collapse is ability to print money.

This can be linked to very high inflation where the cost and logistics of providing sufficient cash becomes challenging. It can also occur where Central Banks simply do not have the funds to purchase the cash, or a central bank closure means there is no authority to provide the cash notes.

In the case of ***Somalia***, the USD has effectively taken over for most forms of exchange of value. The official Somali Shilling notes were last printed around 25 years ago. However the Somali Shilling remains in circulation for more routine transactions, especially in rural areas. Initially the lack of notes helped keep the value of the currency. However over time alternative versions were printed by a variety of agents including "rival war lords", and with different degrees of acceptance (Economist 2012). The debasing of the currency has led to very significant fluctuations in the exchange rate, including being the currency that strengthened most against the USD in 2013 (Financial Times 2014) following relative peace and inflows from returning Somalis investing in

their country of origin. The autonomous region of Somaliland has set up its own central bank who has overseen the provision of a separate currency. In addition, mobile phone payment has taken off, with close to 40% of the adult population using mobile phone payments (World Bank Global Findex 2014), as a safer and easier alternative to cash and which the diaspora remittances helped get off the ground (Onyulo 2016).

Zimbabwe has seen several periods of shortages of notes in circulation in recent years. Hyperinflation led to using the USD as the main currency after it was legalised in 2009. The lack of small notes and change, and more recently, the lack of USD notes generally has led to a high usage of e-banking. This is primarily transferring money through cell phones, and a rapid increase in the use of debit cards/Points of sale (PoS) for those with bank accounts (New York Times 2016).

Preparing for a post-crisis/post-conflict reality

Post crisis/post conflict situations will inevitably require a rapid re-building of the central bank given its key role in the macro-economy, and stability being a key building block to help ensure enduring peace. Castillo (2008) makes the case for central banks to be ready to finance government (via domestic currency) even though this will have some short run inflationary consequences. The initial costs of de-mobilising militia and other state-building priorities can mean that an early injection of resources is critical while donor and other resources slowly start to flow.

Lawarne (2004) makes the case to ensure price stability, while recognising some inflation of 5%-10% range is desirable to enable relative price shifts as the economy adjusts to a new reality. General preparedness, especially in terms of donor coordination if donor flows are likely to be significant, was a main factor in terms of more successful post-conflict economic recovery. This includes preparedness for the likely surge of donor inflows (when absorption capacity may be challenged and risks over-valuing the exchange rate), and then phase out (when absorption capacity likely to have strengthened).

Building an effective foreign exchange market is a priority to enable trade, with different advantages and risks to whether this is a floating rate, dollarized, currency board. Preparing for distressed banking sector which will reflect wider economic challenges of small and larger business requiring financing to rebuild and unable to fully service outstanding debts. Similarly ability to audit and ensure oversight of the financial sector is often a relevant priority, not least as conflict can enable war lords and illegal businesses to thrive, and who will have an interest to ensure a central bank is unable to affect their economic interests in a peace time economy. (Addison et al 2001).

4. Potential options for countries in situations similar to Yemen

These are reflections by the author, which may or may not apply to the actual realities faced by Yemen.

The challenge of an increased spread between the official rate and the parallel rate.

Fully recognising the political and technical challenges, a country seeing a significant difference between the official and parallel rate will struggle to maintain the official rate without it leading to greater shortages. It is also likely to encourage significant rent seeking as those with access to the lower rates will be able to benefit in a market that will increasingly see prices set by the parallel rate.

Options would include:

Move to a close-to-unity exchange rate sooner rather than later, at least by reducing the margin by the official rate to mirror the parallel rate and by working to ensure the parallel rate is efficient and transparent. Where the authorities have some influence, a degree of moral suasion on the major parallel market traders can also help contain more speculative moves in the market but efforts to control the parallel market are unlikely to be very effective (or likely to be economically damaging). However some prudence prior to the option of a full float maybe appropriate. The lack of a central bank with significant reserves means there will be no level to manage the exchange rate. This may result in more erratic fluctuations in the parallel market which the official rate may not wish to reflect.

There may be a case for short-term humanitarian-type interventions that involve trying to facilitate imports at the lower official exchange rate and so reduce the risks of price hikes of sensitive items. However it is an economically expensive option. The large inflow of humanitarian food aid is likely to keep prices pressures down (on eg: wheat) more effectively as beneficiaries will tend to sell some of their food aid as a coping strategy. The transaction costs, access to fuel and transport, growing rent seeking, and other constraints are likely to be at least as challenging for traders and so reflected in prices to consumers. An overvalued official rate is a effectively a heavy tax on formal sector exporters (who will have to accept the lower rate for this to be passed to importers). A fiscal transfer approach would be more transparent and efficient in the medium term, including export taxes if viable and transfers to eg, poorer sectors of the population (eg: via cash transfers).

An alternative would be to actively influence the shift into foreign currency. In times of crisis and conflict, economies will tend to run to what is seen as the safest currency, usually the USD. There is likely to be a better case to encourage the use of the currency of large neighbours; Saudi Rial (SAR) being an obvious one given the large number of remittances from Yemen's large and wealthy neighbour. It will also help avoid the challenge of lack of notes in terms of the foreign currency used; in Yemen's case there is a physical surplus of Saudi currency in the country already. The foreign exchange option will have attractions; it will create a sense of stability and lower transactions.

It will however mean Yemen will lose the benefits from seigniorage which can be worth circa 2% of GDP (though this figure will steadily be eroded if the shift to USD/SAR continues anyway). It will also make it even harder to gradually move back to a domestic currency, and so include

losing the flexibility of devaluation. An oil-based economy would be reasonably well placed to be closely tied to the SAR. A more labour-intensive exporter would benefit from greater exchange-rate flexibility. The full shift to the USD or SAR is unlikely to be economically desirable or politically feasible. However official use of for example, the SAR alongside the Yemini Rial, may be a prudent option to help provide a sense of stability to the population and wider economy while seeking action to ensure there isn't a growing gap between those with access to foreign exchange and those without. However the choice of the SAR may well be optically challenging from a political perspective as well.

Seeking credit lines for finance (essential) imports

The challenge of securing credits lines will primarily be seen at the level of financial institution capacity to handle the finances (usually financing would involve domestic banks); capacity to oversee/guarantee the transaction which is usually a central bank role, and finally, how to ensure there is a subsequent cash flow that will enable re-payment (with profit/interest).

A shift to a close-to-unity exchange rate would reduce part of the challenge; this would make sales of the imports be more easily converted back into foreign exchange against inflows from remittances.

Accounts could be managed on behalf of the central bank to help manage the capacity challenges, though the guarantee of a regional/international financial institution is likely to be sought given the perceived and real risks.

Alternatively a "friendly" country with export credit schemes for commodities such as wheat maybe willing to provide export finance, if this can be credibly structured with a degree of shared risk to help ensure repayment. This option is likely to require using significant well-targeted political capital backed by a technically feasible proposal.

Seeking to maintain capacity of domestic finance system

Maintaining supervision and oversight would be highly desirable. This could include helping ensure inflows, especially of remittances, in the short run which may include encouraging innovations to reduce costs and manage risk. Yemen's economy will greatly benefit from an operating financial system; supporting the financial system's resilience and capacity would be a clear win if possible. The Somali example of outsourcing the oversight capacity may offer a workable option should this be an area of growing concern.

Maintaining a sound replacement and flow of cash/notes.

Providing the authorities are able to manage the risk of significant inflation, prioritising scarce foreign exchange to maintain a reasonable stock of domestic notes would be prudent. Seeking to promote e-banking (eg: through mobile phone system) is likely to be of benefit for both cost savings (fewer notes will require replacement), and a way of increasing the resilience of the economy by offering an alternative to make simple payments and transfers, including for remittances.

Work with the international community sooner rather than later to prepare for a post-conflict scenario.

A number of papers highlight the importance of donor coordination, as in between donors including the IMF/World Bank and UN, as well as with relevant authorities. The focus should be on peace building and seeking a sustained political settlement; without this, it will be hard to move forward. However within this context; politically sensitive macro-economic policy will be required to provide stability and confidence. This will require a degree of re-planning and consensus between the main players. At a more technical level, preparation for potential increase and then probable decrease of donor in-flows will be required to minimise damage to the macro-economy.

5. Conclusion

The challenge for policy makers is to use the remaining economic levers available to minimise the distortions that have an economic cost. This will mean working with the market using government, remittance, donor, and other flows where possible and seek to reduce transaction and other costs through realistic policy decisions. Seeking to facilitate internationally backed credit lines can offer some relief; however there will need to be clarity on exchange rate challenges in terms of who bears the cost and facilitated access to foreign exchange required to repay the credit lines.

Working with the market where feasible will in turn protect the population from the worst of abuse by those in positions of power who are able to extract resources or seek excessive profits. And, more positively it will help increase the economic incentives for trade and production in what is a very challenging environment for the legitimate market.

The risk of no intervention is that new players will emerge who are often directly related to military or leading government officials. In these situations, the momentum of private sector related activities can shift, ultimately reinforcing trends towards conflict (Porter 2010).

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