Harvard CID was asked to take a look at the tea industry in Sri Lanka and provide the government an opinion on the tea liberalization issue—that is, whether the Government of Sri Lanka should relax its current restrictions on imports of orthodox tea in order to allow exporters to blend Sri Lankan-grown tea with foreign orthodox teas for export. Rather than start with this binary question, we thought it was appropriate to take a step back and identify whether there is a problem in the tea sector, who is affected by this problem, and what the government's options are for responding to the problem. We address these questions here and provide findings so far on which problems liberalization may be able to help address and which problems it cannot. We provide an outline how liberalization could be piloted in order to reveal information about firm behaviors, prices, and implementation capabilities under conditions that protect tea growers from risks and generate their support for the pilot program.

BACKGROUND ON THE TEA LIBERALIZATION DEBATE

The question of whether or not to relax the current restrictions on importing orthodox tea has been an area of vocal debate for several years in Sri Lanka. Although the debate is sometimes characterized as one between exporters (who want to liberalize) and producers (who do not), supporters and opponents cannot be reduced along simple lines. The interests are highly varied.

Supporters of liberalization argue that it will deliver a range of benefits by allowing Sri Lankan companies to blend imported teas with local teas, creating a more diverse range of higher value products. They believe that the process will increase opportunities for Sri Lankan exporters to reach consumers at different price points and that the sector overall will be more robust to supply shocks in Sri Lanka. Supporters often see liberalization as a necessary step to keep Sri Lankan tea competitive with growing production from countries like Kenya, India, China and Vietnam.

Opponents to liberalization argue that it could increase opportunities for exporters while harming producers and that this could be catastrophic in a country where an estimated one million people are employed directly or indirectly in the tea industry. They fear that allowing the blending of non-Sri Lankan orthodox teas in the country would create a viscous cycle where exporters would substitute outside tea for Sri Lankan-grown tea, the national brand of Ceylon Tea would be undermined, the price received by producers at auction would be driven down, and the premium over teas from other countries would be destroyed.

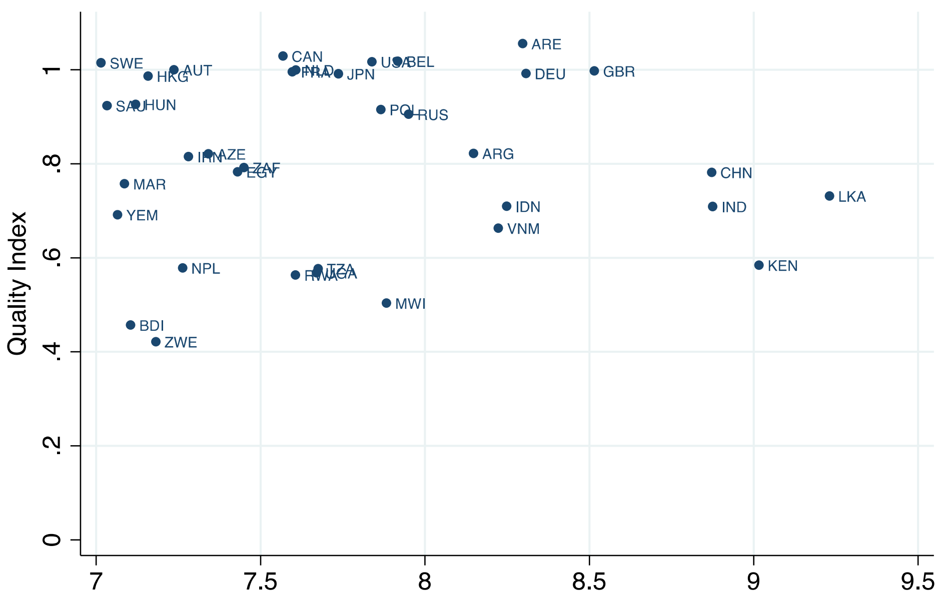
Nearly all arguments rely on assumptions—based on either theory or experience—of how exporting firms would behave under changed conditions. Assumptions are further contingent on exactly how policy would be changed, what safeguards (if any) would be put in place to manage risks, and how reforms would be implemented.

DATA ON THE TEA SECTOR

Comparison across countries

If we first look across countries, we can see a clear divide among major exporters of tea in the quantity and *quality* of tea exports (Figure 1)—where *quality* as used here is a quantitative measure based on unit price, adjusting for some demand-side and supply-side considerations.[1] The divide is that the top four producing countries by volume (Sri Lanka, Kenya, India, and China) get lower prices for their exports than the next three countries by volume (the United Kingdom, Germany, and the United Arab Emirates). A clear difference between these countries is that the first group grows tea while the second group almost exclusively processes tea that is imported from elsewhere (often from the first group).[2] The largest exporters export a lot of bulk tea while the other groups export primarily packaged tea with a high degree of value addition.

Figure 1: Sri Lanka is in a high quantity, lower quality group of exporters



Note: Showing only countries with tea exports above $10 million in 2010
Source: CID calculations based on Henn, Papageorgiou and Spatafora (2013), UN COMTRADE

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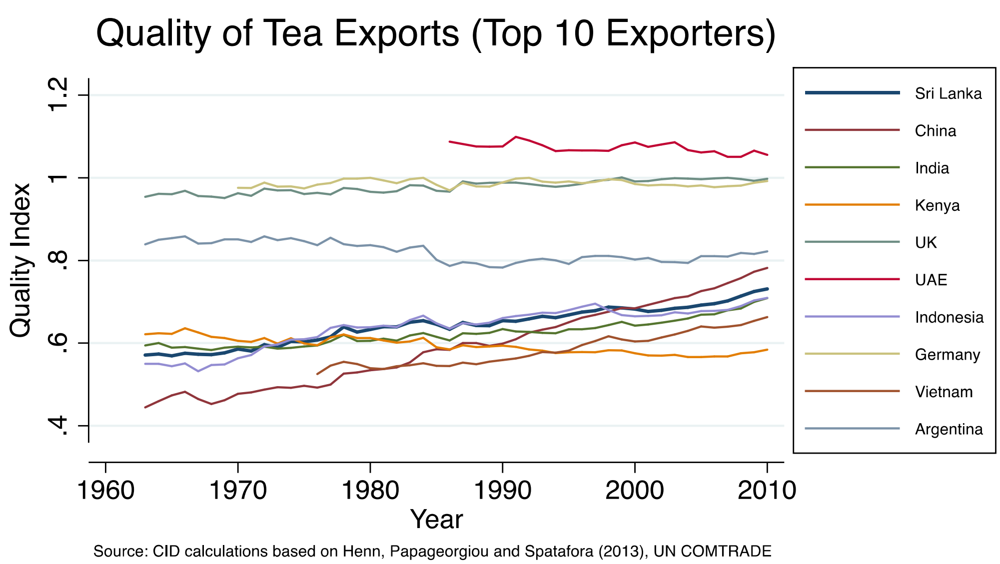
[1] Currently, we only have the data to calculate this quality measure for tea up to 2010.

[2] The Atlas of Economic Complexity allows for interactive exploration of where tea is imported from and exported to for each of these countries. See, for example, http://atlas.cid.harvard.edu/explore/tree_map/import/are/show/0902/2014/

If we look at the trajectory of the quality of tea exports for the top ten exporters by volume (Figure 2), we can see some movement over time from the lower quality exporters. This is true for Sri Lanka, but at a slower pace than China and Vietnam. In the early 2000s, China surpassed Sri Lanka as getting the highest unit prices for its tea exports among the highest-volume producers. Meanwhile, the top quality exporters remain at the top over time, with the UAE entering the sector only in the late 1980s. The tenth largest exporter by volume, Argentina, stands in between the two groups. Argentina is unique in the concentration of its tea exports to the United States (76% of its tea exports in 2015).

Figure 2: Quality of Sri Lankan tea exports is increasing, but slowly



A common reference point for the merits of a focus on value addition and packaging of tea is the UAE. Companies in the UAE import a large share of their tea from Sri Lanka and export primarily to nearby countries in the Middle East. Dubai is a major hub for the re-export of tea, with the Dubai Tea Trading Centre (DTTC) operating in a large free trade zone, which is home to 25 global tea companies. These companies enjoy generous incentives including 50-year guaranteed leases, full business ownership, and pay no corporate or personal income tax.[3] In addition to reliable basic infrastructure and services, the location also provides tea companies with storage facilities, packing equipment, a tasting unit, and research and development facilities. While this arrangement works well in the UAE, it is not clear that it is feasible or even desirable in Sri Lanka. Sri Lanka faces an acute need for diversification beyond tea and other traditional exports, such as garments, and space in industrial zones has proven valuable as a tool to attract businesses in new activities. At the same time, the UAE does not grow any tea of its own, and therefore

[3] See http://worldteanews.com/news/uae-worlds-largest-re-exporter-tea

government decisions for how to support the sector do not have to account for the needs and interests of tea producers. This has allowed for the development of an industry from scratch that is ideally suited to blending, processing, packaging and re-exporting of tea.

At the same time, an American company interviewed noted that Sri Lankan companies already do an excellent job of value addition, packaging and exporting of tea, pointing out that many exporters in Sri Lanka are global leaders and have knowhow built up through generations of exporting. Companies like Dilmah Teas have emerged as global leaders with highly diversified products and diversified export markets. Dilmah sells its product at a high unit price by utilizing its own brand strength, which builds upon the unique taste characteristics of Sri Lankan grown tea and makes use of varied regional *terroirs*. This is a difference from countries where tea production is newer. For example, Vietnam relies heavily on large foreign companies for packaging, branding and exporting.

But while many tea exporters are thriving, tea producers in Sri Lanka are struggling. As the Oxford Business Group points out in its recent country report, producers have at times faced auction prices below their breakeven prices, forcing the government to step in and subsidize production.[4] Although Dilmah Teas believes it would stand to benefit from liberalization of orthodox tea imports, it is publicly opposed to the idea. Dilmah sees the threat to producers as too large, noting the risk of imported orthodox teas substituting for Sri Lankan grown tea, which would cause demand to drop and the price at auction to drop still further. Dilmah therefore sees the debate as a distraction from the true problems in the industry, which it sees as low productivity and yields, high labor costs, and the failure of tea exporters as a group to demand premium prices that the tea could be delivering.[5]

A wide range of stakeholders agree that low productivity is a central problem for tea production in Sri Lanka. Observers point to several factors at play: the limited ability for technological improvements to be used to increase yields while maintaining the quality that hand picking provides; a lack of replanting to replace aging tea fields; unionization of tea workers resulting in wages that are higher than productivity and generous benefits; an antiquated and expensive system where tea companies provide housing, health and education services to workers; and an emerging problem of labor shortage as workers move to more desirable and better paying jobs. Interviewees also noted pressures caused by a changing climate and decreasing in biodiversity, as well as high logistics costs and weak transportation infrastructure.

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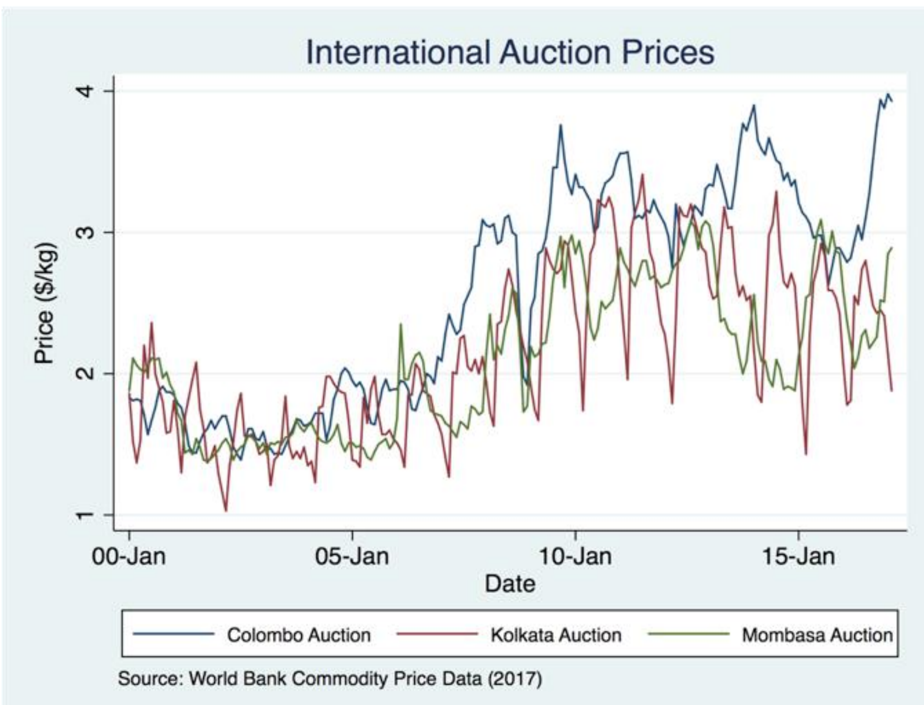
[4] See https://www.oxfordbusinessgroup.com/analysis/orthodox-thinking-tea-remains-vital-economic-contributor

[5] See https://www.oxfordbusinessgroup.com/interview/cultivated-cup-obg-talks-merrill-fernando-founder-and-chairman-dilmah-tea

Supply or demand problem?

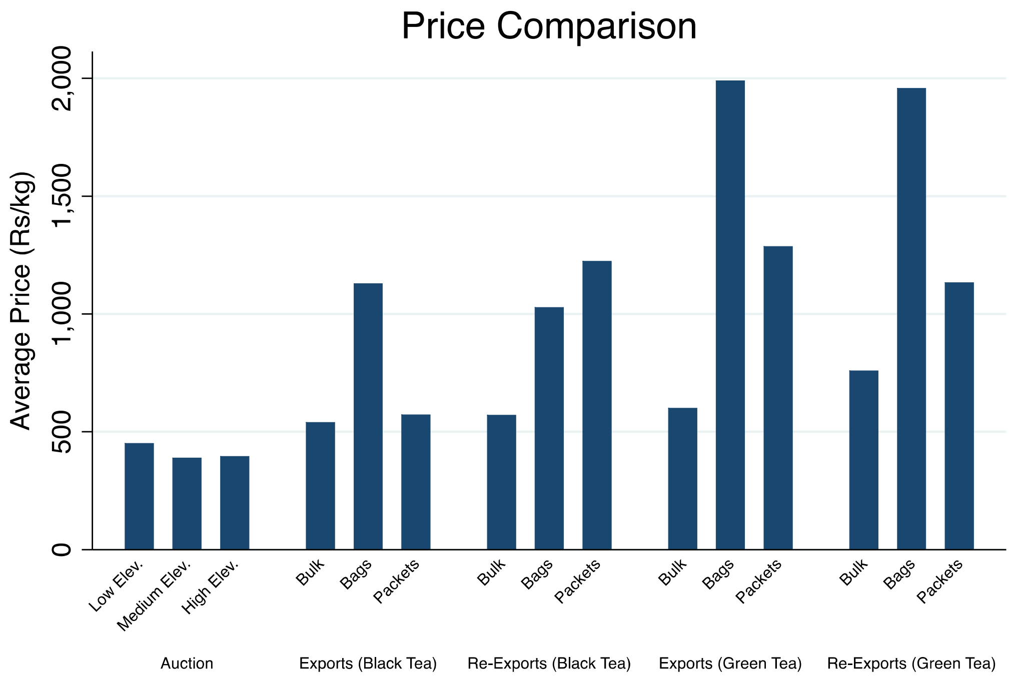
However, in addition to these supply side issues, others argue that the overriding problem is one of demand. Several observations regarding prices help explain what is going on with supply and demand of Sri Lankan tea. The first observation is that Sri Lankan grown tea, under the brand of Ceylon Tea, does get a premium over other bulk teas as can be seen in a comparison of auction prices with India and Kenya (Figure 3). Moving from auction to exports, Sri Lankan exporters do not gain much additional value when exporting tea in bulk (Figure 4). But when exporters are able to export tea bags, the price per kilogram is, on average, twice that of bulk tea.[6] When looking at variation across tea exporting companies, the differentiation of prices is even more striking (Figure 5). The price that different exporters receive for bulk tea does not vary by much, but the prices received by different exporting companies for bags (and for packets) covers a large range. It is also clear from the data that exporters of bags and packets that are able to charge higher prices tend export in overall lower volumes.

Figure 3: Sri Lanka's auction prices are at the high end



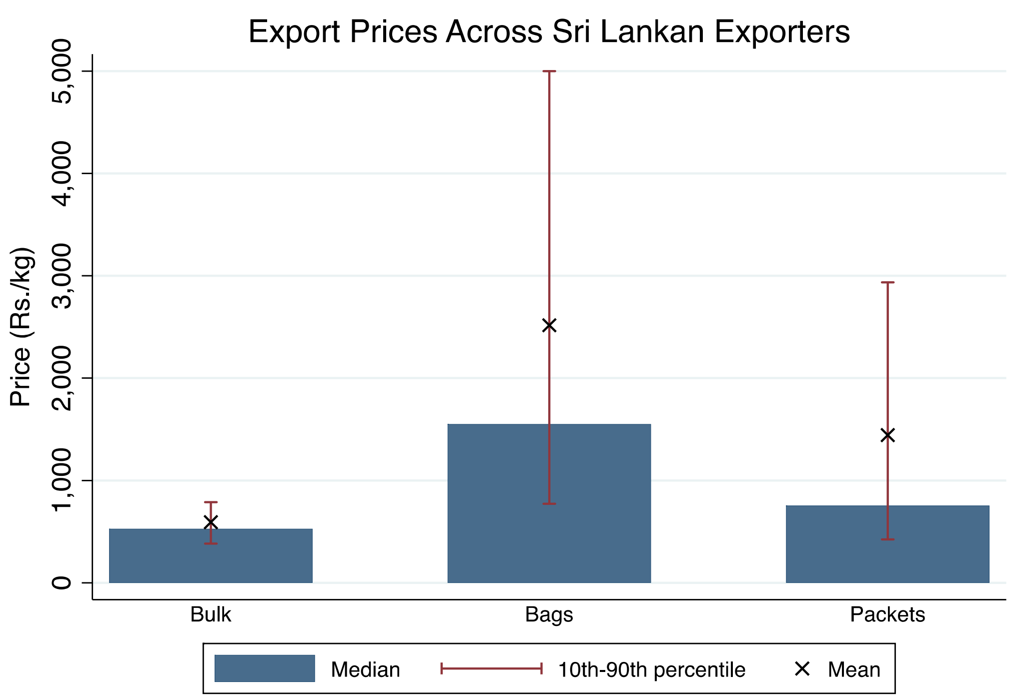
[6] On average, they do not gain much additional value when exporting packets of black tea either, although higher prices are received when re-exporting packets. According to customs data, black tea makes up over 98% of tea exports and is thus the most important for understanding the sector. Re-exports are very small in comparison to overall exports. Over 96% of tea exports are classified as Ceylon Tea.

Figure 4: Exporting tea bags yields the highest premium over bulk tea



Note: Calculated based on 2012-2016 monthly price data
Source: Sri Lanka Tea Board

Figure 5: The variation of prices for bags and packets is large across companies

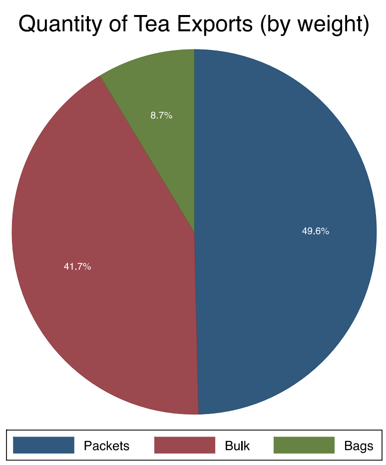


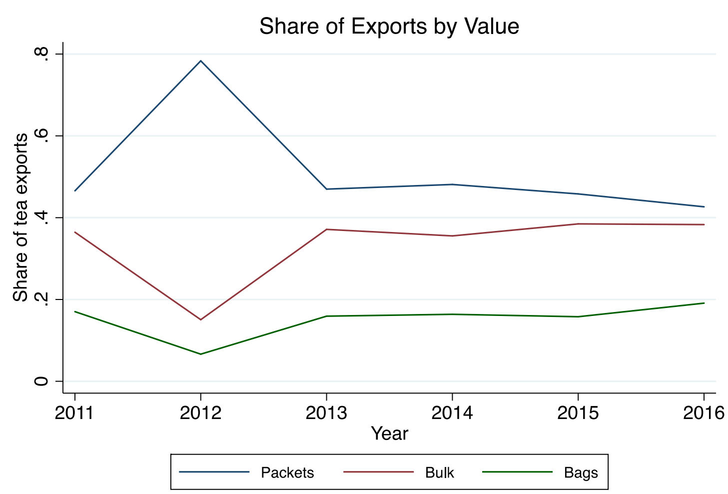
Source: Sri Lanka Customs, 1 January 2011 - 30 April 2016

This price data reveals several important facts about Sri Lankan tea exporters. Companies on average are able to export at much higher prices by packaging tea, especially in bags, but not all companies are able to achieve this. At the low end, some companies get little premium for exporting in packaged form over bulk. Meanwhile, the price received at auction appears to be pinned down by the export price of bulk tea.

Further exploration using Sri Lanka Customs data shows that most companies export a mix of bulk, bags and packets, but they do so in very different ratios. Market concentration is highest among exporters of bags and lowest for exports of bulk tea, but there are a large number of exporters for each type. Overall, there are more than 300 active tea-exporting companies, with around 90 exporting in higher frequencies (arbitrarily defined here as more than 50 shipments per year). By weight, less than 10% of Sri Lanka's tea exports are in bag form and around half are in packets (Figure 6). By value, bags represent closer to 20% of Sri Lanka's tea exports, and this has been fairly stable over the last several years, except for an outlier year in 2012.

Figure 6: Relatively steady state structure of Sri Lanka's tea exports in recent years





Source: Sri Lanka Customs, 1 January 2011 - 30 April 2016

All of this suggests that the overall structure of tea exports from Sri Lanka is in a quasi-equilibrium state. The companies that are able to export at higher levels of value addition doing so, and the remainder of companies focus more on bulk tea exports, which requires less capital and less business knowhow.

Comparing the changes in prices of bulk tea exports and bag tea exports versus the auction price also reveals something about market forces at play. Figure 7 shows that the auction price and the price of bulk tea exports tend to move together, but the price of bag exports diverges. This is further evidence that the price at auction is pinned down by international price of bulk Sri Lankan tea. Exporters of bulk Sri Lankan tea can be thought of as price takers, and this makes tea producers price takers at the auction as well. This can also be seen in a side-by-side comparison of weekly auction prices and weekly auction quantities (Figure 8). During most times (see 2012 through late 2015), fluctuations in the auction price do not affect the quantity sold at auction, as all tea brought to auction usually gets sold. However, from late 2015 onward, a sharply rising auction price corresponds with a drop in quantity sold at auction as producers faced widespread drought conditions. While some of this price increase can be attributed to inflation, this cannot explain full increase. Thus, individual exporters of bulk tea are price takers, but Sri Lankan producers collectively are not. While the price of Sri Lankan tea roughly tracks global tea prices, tea from other countries is not a perfect substitute for tea from Sri Lanka. In this sense, tea producers individually may be thought of as supply constrained (the more they can supply at auction, the more they can profit, provided that the auction price is above their costs), but tea producers collectively are demand constrained (auction prices are generally low because of an oversupply of tea to the export market).

Figure 7: The auction price and price of bulk tea exports track one another, not so for tea bags

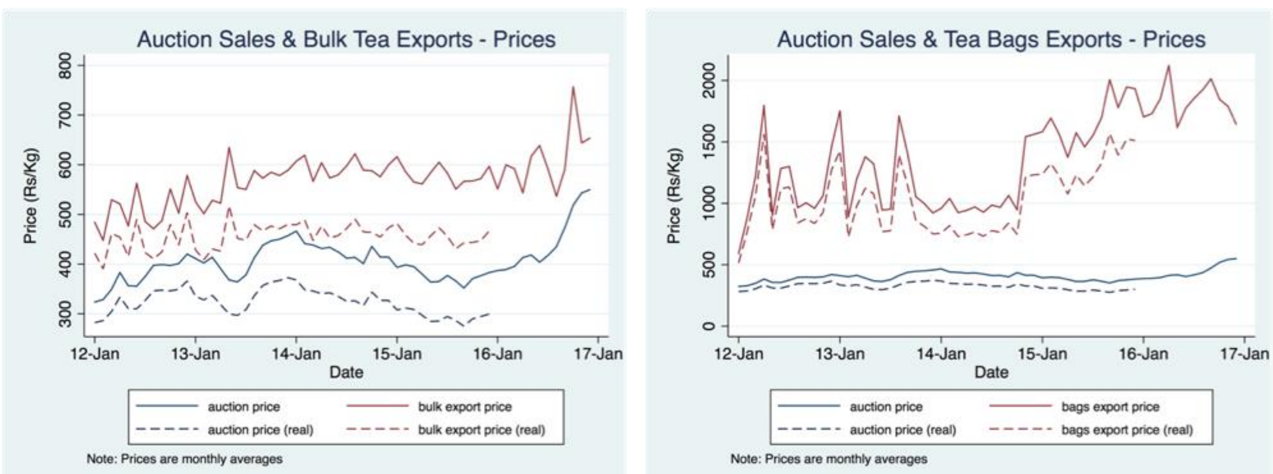
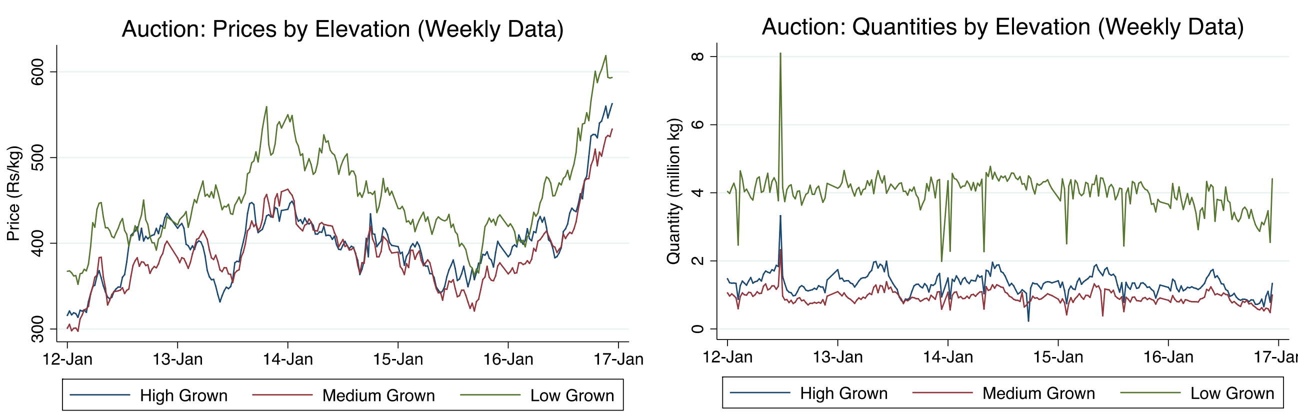


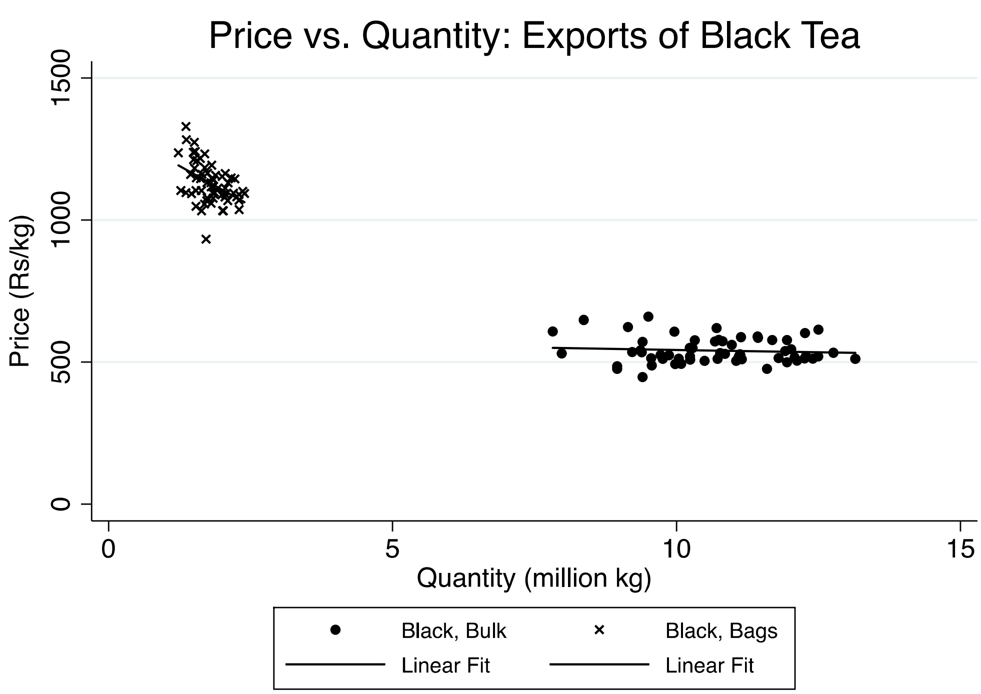
Figure 8: Auction prices do not affect quantities but supply reductions do increase the price



For this reason, some observers have pointed out that the goal of being the largest exporter of black tea in the world no longer serves the needs of Sri Lankan exporters or producers. The price data shows agreement that cutting overall production in the country would lead to higher prices for both exporters of bulk tea and producers. Meanwhile, exporters that are adding significant value, especially those exporting in bag form, are not price takers on either an individual or collective level. These exporters are supplying differentiated products to the world market. But any premiums received by such exporters are not being reflected back in the auction price.

Figure 9 puts this dynamic in perspective. Using monthly data on prices and quantities of exports from the Sri Lanka Tea Board, we can see that the quantity of bulk exports of black tea is generally unrelated to the price received, except in the case when quantity drops to an unusually low level and prices increase somewhat. However, these prices differences are tiny in comparison to the price difference between bulk and tea bag exports, and the quantity of tea bag exports has a much stronger relationship with the price received. A similar dynamic is visible with green tea exports, but the quantities of green tea exports are much, much smaller.

Figure 9: Differing prices and dynamics of bulk tea and packaged tea exports



Source: Sri Lanka Tea Board

FINDINGS SO FAR

Problems at different scales for different stakeholders

The central problem with tea in Sri Lanka is that it is primary source of income for many people with little room for wages to grow or for producing companies to increase productivity. The data presented in the previous section distinguishes between the supply problems faced by producing firms individually versus the global demand constraints faced by producers collectively. Although tea grown in Sri Lanka has unique characteristics that make it more valuable than many other major producing countries, the international market price of tea is low in comparison to the cost of production. Tea laborers in Sri Lanka are among the lowest paid and poorest groups in the country. The historical model of the industry, the overall strategic orientation toward high volume of exports, and the limited brand strength of Ceylon Tea all no longer serve the needs of Sri Lankans employed in the industry.

While companies complain about workers demanding wages above what productivity allows, workers observe that wages they are paid are below those for low-skill work in other industries. Due to the historical path of development of the tea industry in Sri Lanka, where companies provide housing, health and education services, limited alternative employment opportunities, and low physical connectivity in tea-growing areas, workers have less mobility to shift jobs. For workers who are able to shift out of tea, this generally represents an improvement in their well being. Thus, labor shortage is a problem faced by companies but not a problem from the perspective of workers. Since upwards of 70% of tea production comes from smallholders, the labor shortage problem in tea is really limited to the large companies that supply 30% of tea and aggregate tea from the smallholders.

The movement of some workers and smallholders out of tea production is a good thing for the individuals and may also be a net positive for producers as whole since the industry usually oversupplies tea to the auction floor. When smallholders choose not to re-invest in their fields because they have better opportunities outside of tea, this should not be viewed as a problem for the industry as a whole. However, when smallholders want to re-invest but are unable to find the capital to do so, this is a different situation.

The tea exporting industry in Sri Lanka is diverse and mature. There are significant differences between the business models of bulk tea exporters and those that are exporting products with higher value addition, especially tea bags. Exporters focused on value addition are toward the frontier of processing, branding and marketing, whereas bulk tea exporters are serving demand concentrated in a few regions and countries (primarily the Middle East and Russia) for Ceylon Tea that is simply packaged from the auction. For some of these countries, Sri Lankan-grown tea is an input for their own mature processing and re-export industries. There may be some scope for some exporting companies to shift from lower to higher value production and demand more premium prices. However, this will not reduce the demand for bulk tea from Sri Lanka and some exporters will continue to serve those markets so long as tea is available at the auction.

Appropriateness of liberalization

Based on available data, there are no strong indications that the liberalization of orthodox tea imports would solve the central problem of limited global demand in comparison to the high supply produced in Sri Lanka. Producers have not yet benefited from higher value addition by exporters in the form of higher prices at the auction. At the same time, there are no strong indications that liberalization would cause the harms to producers that are widely feared, since current exports from other countries have not displaced the unique value of tea from Sri Lanka. It is unlikely that the liberalization of orthodox imports would change either of these dynamics.

The worst fears of opponents of liberalization predict that widespread blending would occur at low levels of value addition, which would ruin the natural premium of Sri Lankan grown tea. However, if this were likely, the natural premium of Sri Lankan tea would have already been reduced as importing countries shifted from Sri Lankan to cheaper tea available on the global market. Given that this has not happened, it would be more likely that bulk exporters tend to do limited blending in order to meet the taste requirements demanded by importers, which may actually increase the demand for tea on the auction floor.

For higher levels of value addition, liberalization would allow for a greater diversity of teas exported by Sri Lankan companies. This could potentially increase the demand from these exporters for Sri Lankan-grown tea, but the price data suggests that the effect on auction prices would be limited. Liberalization also has considerable promise for attracting diversified foreign companies to Sri Lanka to take advantage of the business ecosystem and location. During one of our interviews with an American tea processing and distribution company, the company pointed to current restrictions on imports as the main reason why they would not consider setting up operations in Sri Lanka. The company stated that if liberalization were to take place, Sri Lanka would become an ideal location for them to expand operations. Companies point to a radically shifting global market for tea, with a shift toward more specialized products for individual clients and changing demand in countries like the United States. Thus, attracting companies that have a foothold in new markets would be an important opportunity for Sri Lanka.

One often overlooked fact is that if Sri Lanka maintains strict limits to the type of value addition that can be done in Sri Lanka, firms will merely locate in other countries with supportive ecosystems. For example, if Vietnam were to become an attractive hub for value addition, firms would be able to blend various teas there, affecting global supply in the same way they would if located in Sri Lanka, but with spillover benefits going to Vietnam instead.

Overall, it is not certain exactly how exporters would respond to a liberalization of the imports of orthodox tea and how this would affect tea producers in the country. Market signals suggest limited benefits to producers in the short-term but greater possible benefits to the industry overall in the longer term through staying on frontier, perhaps allowing Sri Lankan tea to reach new markets. Negative outcomes for producers in the form of lower prices at auction would be unlikely. Moreover, the risks could be fully managed in the short term through the existing subsidy mechanism. Therefore, a strategically designed pilot program to reveal the responses of exporting companies and markets is a promising way forward.

POLICY RECOMMENDATIONS

Recommendations on the liberalization of orthodox tea imports

A strategically designed pilot program for liberalization could be used reveal information about firm behaviors, prices, and implementation capabilities under conditions that protect tea producers from risks. One option for doing so could be as follows, although there is substantial space for other designs as well.

Sri Lanka could build upon the current architecture that allows non-orthodox teas to be imported for the purposes of value addition and export, drawing upon the implementation capability of the Sri Lanka Tea Board. An overall quota could be applied to the amount of orthodox tea that would be allowed into the country per month. Permits could then be provided to exporters by auction. Alternatively, tradable permits could be distributed to exporters beforehand according to an objective rule. The significant advantage of the auction method would be that rents would be generated from exporters that could then be used to benefit producers.

Critically, the government must institute a system that allows for compensation to producers if the price of tea at auction is negatively affected (or, even better, if measured according to a drop in the premium at the Colombo auction against other countries). This compensation mechanism could be built upon the current system that subsidizes producers when the auction price is low for other reasons. Tracking of the movement of the price of tea at auction against historical patterns could be used to reveal if the pilot does have adverse impact feared by many producers. The money generated through the auction of permits could be used to help pay the subsidies in the case of this outcome. But if the price (or premium) is not adversely affected, the government should still use the money generated from the auction of permits to support the producers in other ways. These guarantees would help to generate support from producers for the pilot.

The Tea Board would need to enforce clear packaging requirements using the language, "mixed with Ceylon Tea, packaged in Sri Lanka," to draw a distinction from "Ceylon Tea" and the lion logo. Currently, the Tea Board also requires certification of exports blended with imported specialty teas through a tasting process. It could choose to keep (parts of) this elaborate process to collect information, but should allow for the market to experiment freely during the pilot period. This would be the only way to see how exporters that are free to blend Ceylon Tea with outside orthodox tea behave. This might reveal that the tasting process is not needed or might reveal that some level of quality control is desirable.

The government should start such a pilot program without a set time frame in order to not distort the choices of firms. For example, if the government were to signal that the pilot was to be short, companies might rapidly import in order to take advantage of the short window. Alternatively, they may not import because they fear being stuck with unusable imported tea. Companies might also be unwilling to invest in developing new supply relationships and experimentation if they know the pilot will be short. On the other hand, it would be problematic to set a long pilot period in the case that liberalization does have severe negative impacts on the auction price, creating a large fiscal drain on the government. If the pilot were to reveal that the worst fears of those opposed to liberalization take place, the government would want the flexibility to end the pilot.

A reasonable approach would be to set the quota on a monthly basis, allowing firms to use any tea imported under a permit even if the pilot is stopped at a later date. This would allow for companies to experiment and also give the government flexibility to end the pilot with limited costs if needed. The monthly quota could be adjusted over time based on the results observed (especially the price response for tea at auction and the revealed price of the permit), and small changes (including quality control efforts) could be made to the system on a monthly basis.

Implementation of such a policy would require very clear and responsive communication and a high level of transparency with the roughly one million individuals estimated to be involved in the tea sector. It would be just as important to think through a communication strategy and make sure that resources are in place to implement the strategy, as it would be to carefully design the pilot program for liberalization.

Other policy recommendations

Pursuing gradual liberalization of imports is not mutually exclusive to other policy options that may be more effective in directly addressing the problems that producers face. Ultimately, tea production in Sri Lanka that delivers competitive wages to workers will require a combination of increases in the price received by producers and increases the productivity per worker, likely through labor-saving technology. This further necessitates viable options for many workers to move out of tea into other economic opportunities and, most probably, the downsizing of the volume of tea produced. In addition to a controlled pilot of liberalization, the following policy areas are worthy of exploration:

- Providing more flexibility for producers to sell directly to international buyers – The current system, which funnels nearly all production of tea through auction, puts producers at a disadvantage by not allowing them to differentiate their product and demand higher prices. Companies that were interviewed noted that there is willingness on the part of plantations to sell directly to international buyers, which is possible but very bureaucratically difficult under current policies. Allowing more flexibility for growers who want to bypass the auction to do so would allow for some to gain a premium that they do not get when their tea is combined at auction. This would allow producers to gain more from investments they make in improving their individual quality. The potential sources of value include specific micro-conditions, environmentally and socially friendly processes, and full transparency of origin. The Tea Board could support this type of differentiation, and the Chairman has made statements in support of such an approach.[7]

- Supporting the economic diversification of tea-growing areas and better job opportunities – When smallholder tea growers exit tea production in favor of better job opportunities, this is good for the individuals and for producers as a whole given the oversupply. When plantation workers have alternative job opportunities, this is also a positive for individuals, although it presents a problem to companies that are reluctant to downsize operations. A primary role of the government in responding to the struggles of tea-producing regions must be to support the emergence of new industries. This should be done through targeted public investment and location-specific investment promotion strategies that involve local stakeholders. There is an ongoing expansion of tourism into tea-growing regions, but the regions would benefit from greater diversification in agriculture, services and manufacturing as well. For plantations that find it economically desirable to downsize, the

[7] See https://www.oxfordbusinessgroup.com/interview/shaping-brand-obg-talks-rohan-pethiyagoda-chairman-sri-lanka-tea-board

government can work with such companies to incentivize the use of land for more productive economic activities. The government can also support the movement of individuals into new opportunities through training programs and potentially through SME grants.

- Gradual shifting of public goods and services from plantations to other forms of management and ownership – The antiquated role that tea companies play in the provision of public goods no longer serves the interests of the companies, workers or other residents of tea-growing areas. It is costly for companies while at the same time leaving residents underserved and disconnected from opportunities outside the tea industry. For services, such as health and education, a transition to government responsibility may be easier. But for other public goods like transportation and electricity infrastructure, and potentially private goods like housing, the issues are likely to be thornier. The only feasible way forward to modernize this arrangement is to develop a process that allows government, companies, workers and other residents to explore options for reshaping the system.

- New approaches for innovation in technology and practice – Sri Lanka benefits from the strong foundation of the Tea Research Institute (TRI) as a public institution for research and development. However, TRI's modes of research could be criticized as overly academic and rigid in comparison to the needs of the tea industry. There could be scope for the TRI to partner more widely with the private sector, technical universities, and research institutions in other countries to explore innovations with the potential to transform productivity in the sector, especially through new technologies that allow for greater automation.