The Future of Aid for Trade

Session II: Increasing the Effectiveness and Impact of Aid for Trade

Panel II: Infrastructure Development and Trade Facilitation

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FERDI

OUTLINE

❑ The road to quantitative results

❑…adopting results chains (MfDR)

❑ Approaches to getting results

❑ Logic models for improved road quality

❑ Gravity model to meet the political need for macro impacts

❑ Some gravity Estimates

❑Transport Prices and Costs Along 4 African Corridors

❑Price Effects of Reductions in costs differ across corridors

❑Rural Road Investment in Malawi

❑ Knowledge and myths about road transport in SSA

❑Corruption Displacement Reforms in Mozambique

❑Corruption Patterns in Mozambique

❑Challenges ahead

❑ Messerlin et al. (2010) meta evaluation (word count) of 162 AFT projects in Ghana and Vietnam: Trade impact not considered, nor mention of WTO…rather mention of poverty reduction, gender)

❑ Folletti-Newfarmer (2011) case-study review: less than 50% [25%] of 269 cases had output [outcome] indicators. 4 cases reported on econometric studies…

❑For both studies, 5 times more reference counts to exports than to imports….

❑ Outcome of Third Global Review (2011): Adopt "Management Frameworks for Development Results ("MfDR")

❑ MfDR= 'Results Chains': Inputs → Activities → outputs →outcomes→ LT impacts

❑ Quest for results might bias towards what is measurable and easy to evaluate (e.g. health interventions rather than trade)

❑ Outputs can be attributed to projects (km of roads) but attribution of observed outcomes to project remains.

❑ Indicators at all levels (input, activity, output and outcome) applied to a "logic model"

❑ Indicators (extensively used in cross-country gravity regressions)

❑ Randomized samples to compare treatment and control groups (Road usage in rural Malawi, tariff reform in Mozambique)

❑ Model-based results (road reform in SSA)

❑ Next slides: Examples from hard and soft infrastructure (roads and ports)

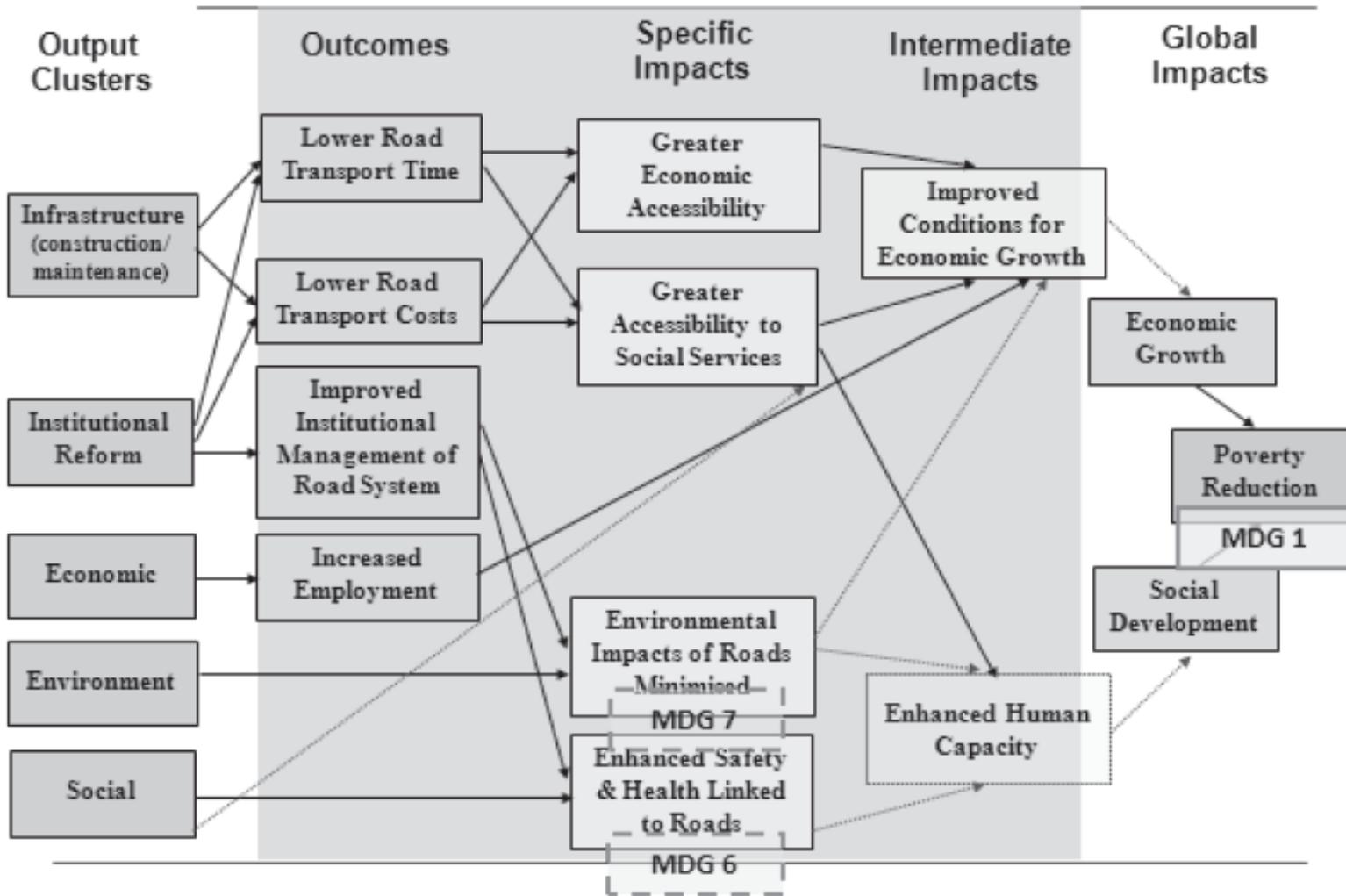**Figure 1.2. Millennium Challenge Corporation logic model for improved road quality**
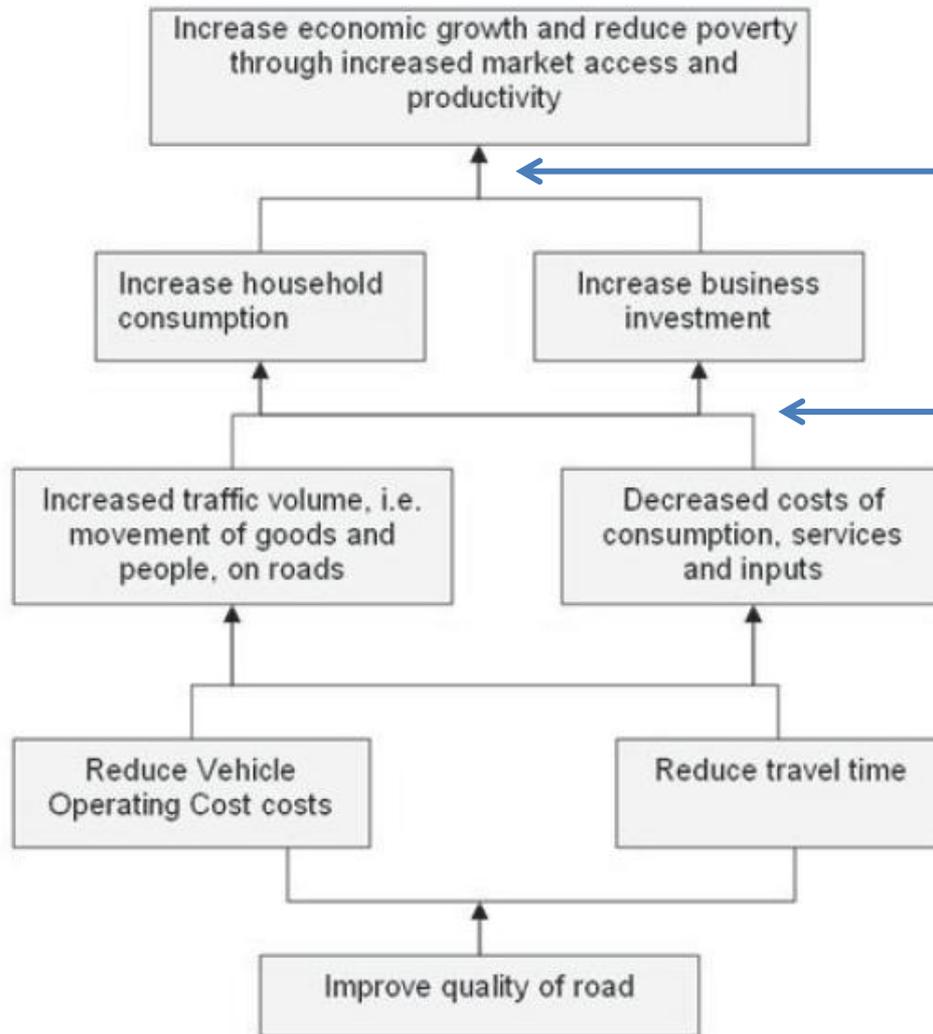
Review of 97 studies: Impact of aid on growth is not significant…

If trucking is a cartel as in West and Central Africa, cost reductions will not result in price reduction (see below)

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Figure 1.3. EU intervention logic model for improved road quality

"Xmas tree Approach" under SAL?

OECD report "these are simplified tools but not templates…

.. certainty of impacts falls as one moves along chain or results"

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$(TRD_{od}) = (GDP_o \times GDP_d)/TCOSTS_{od}$] [CONTROLS] (o= origin; d= destination)

$TCOSTS_{od} =$ b_o (...) $(TARIFF_{od})$ $(DISTANCE_{od})$ b_d(...)

Administrative, legal, infrastructure

CONTROLS: landlocked, RTA, common language, common border…
(…) includes: WB DB indicators; author-constructed indices of infrastructure, time
to trade std. Container. (Indicators are often composite, on an integer scale based
on data that is a mix of objective and subjective)

Typical exercises:
(i)   Effects of improvement of b_o from bottom to middle or top quartile on TRD
      and relative importance to a reduction in tariff or tariff equivalent of NTBs
(ii)   Effects of AfT disbursements on b_o
(iii) Also helps detects that aid may be tied

…gravity is useful but many problems (akin to cross-country growth regressions):
measurement, omitted variables (e.g. RER), two-way causality (AFT could be
directed to countries with fast growing exports, etc…)

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DELAYS

❑ Each day in transit reduces trade volumes by 1% (signature delays = adding 70 km to distance between factory and final market)

❑ LIC: Move the logistics and trade facilitation performance of LIC (as measured by the World Bank's LPI and DB 'cost of trading' indicator) closer to MIC levels would increase trade by 15% double what would be achieved by converging on MIC average import tariffs. ..but how?

TRADE FACILITATION

❑ Effects of TCB in SSA based on AVE of improvements in trade indicators: cutting trade costs to twice Mauritius' level would have a greater positive impact on trade flows than substantial tariff cuts.

Ethiopia: Reducing logistics costs in Ethiopia to twice Mauritius' costs would be roughly equivalent to a 7.6% cut in the tariffs faced by Ethiopian exporters in all their foreign markets.


Though countries differ, improvements in infrastructure often have the highest pay-offs in export growth...

Africa: Average increase in exports by improvements to half the level of the best performing countries
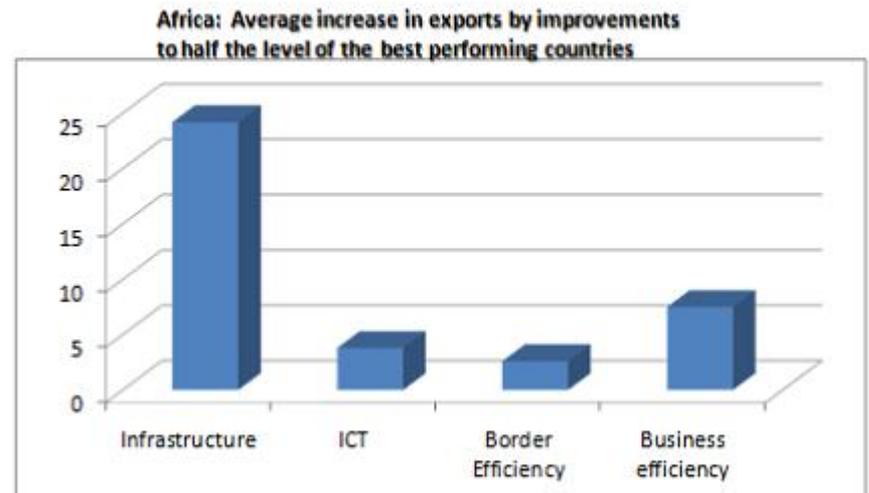
Source: Calculated from Portugal and Wilson, 2009

❑ Trucking survey + interviews and field visits to collect data on
    ❑ Vehicle operating costs
    ❑ Transport prices incurred by end-users
    ❑ Transport costs incurred by commercial transport providers
❑ Simulations using a Highway Development and maintenance model-(HDM-4)

❑ Transport environment
- freight sharing schemes (cartels with large fleets of old trucks as outsiders cannot break in)
- Large markups = high profits and low utilization rates
- Financing costs
- Truck overloading (gives higher profits + leeway for bribes)
- Road conditions do not add much to operating costs

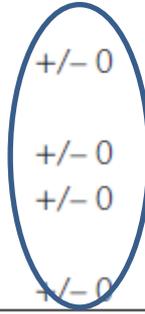Figure 2.1   Average Transport Prices: A Global Comparison in 2007

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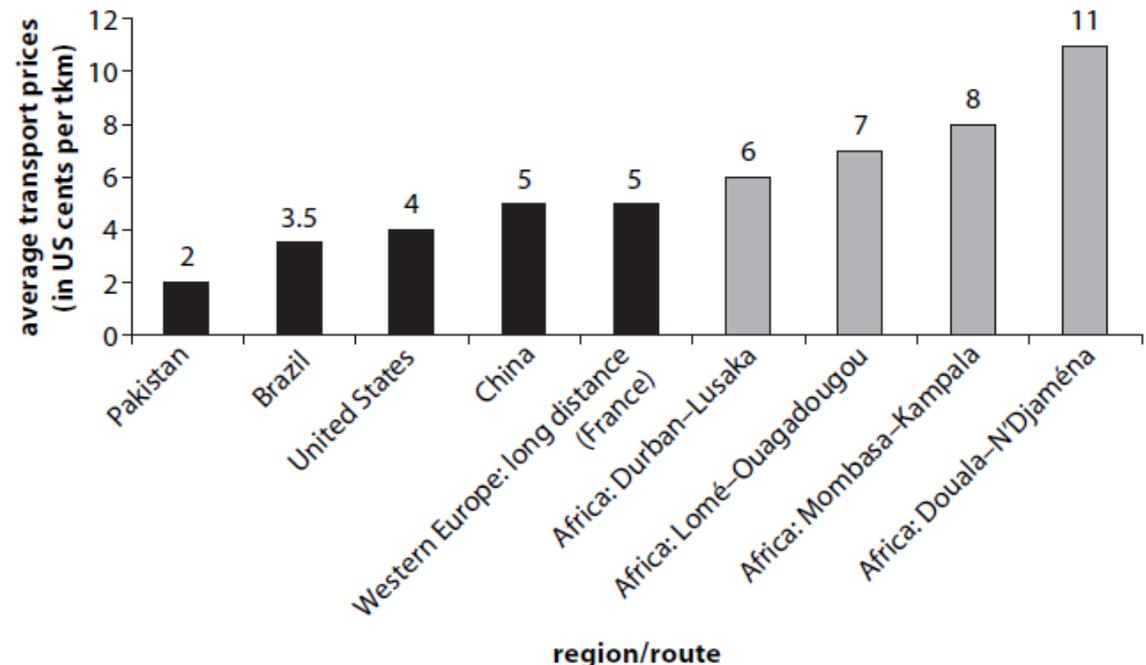
PRICE EFFECTS OF REDUCTIONS IN COSTS DIFFER ACROSS CORRIDORS

Table 1.1 Measures and Outcomes in West and Central Africa

Measures	Decrease in transport costs (%)	Increase in sales (%)	Decrease in transport price (%)
Rehabilitation of corridor from fair to good	−5	NS	+/− 0
20% reduction of border crossing time	−1	+2 to +3	+/− 0
20% reduction of fuel price	−9	NS	+/− 0
20% reduction of informal payment	−1	NS	+/− 0

Source: Study team estimation based on trucking survey data.
NS = Not significant

Decrease in transport costs would not lead to reduction in prices so reform cartels (… a political and social issue)

Competitive markets: Rehabilitate road, reduce fuel price and reduce informal payments all have strong effect on price

Table 1.2 Measures and Outcomes in East Africa

Measures	Decrease in transport costs (%)	Increase in sales (%)	Decrease in transport price (%)
Rehabilitation of corridor from fair to good	−15	NS	−7/−10
20% reduction of border-crossing time	−1/−2	+2/+3	−2/−3
20% reduction of fuel price	−12	NS	−6/−8
20% reduction of informal payment	−0.3	NS	+/−0

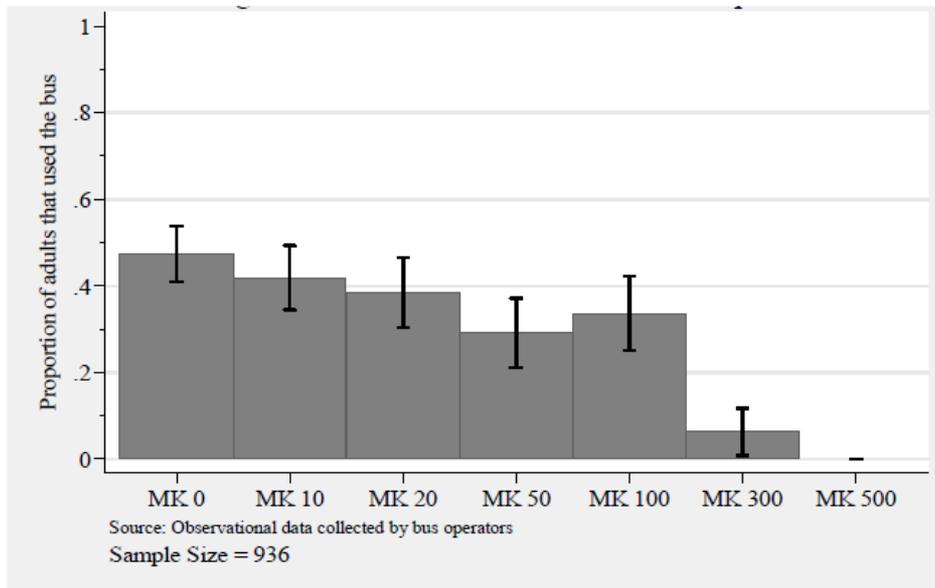*Source:* Study team estimation based on trucking survey data.
NS = Not significant.
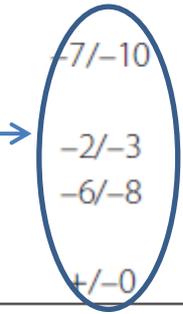
☐ Lottery on willingness to pay for bus service to a village in rural Malawi (price s below drawn from bucket for entire population (500 families)

☐ Sharp fall in uptake at price of 75 cents (MK=300)

• Fixed costs Carrying the first passenger costs $75; MC of 2 to 3 passengers 35 cents)

• From estimated demand via survey, a $75 subsidy per day necessary to break even with ….1 bus

☐ So lack of competition is not the problem with need to mix subsidies with road investments/maintenance.

☐ Difficult to execute second phase of road maintenance initiative in SSA ("bringing roads into market place")

Figure 1: Bus Service Take-up according to Prices[12]

Source: Observational data collected by bus operators
Sample Size = 936

MK= Malawi kwacha 500MK= $3.6

- ❑ Roads 75% of passengers and freight. Maintenance= 2/3 of construction of costs. 20% of spending from foreingn funding. Huge under-maintenance costs up to $1.9billion per year in rehabilitation ….
- ❑ Rehabilitation continues to be preferred spending by donors (easier to meet accountability) along with trunk over rural roads

Myths (Raballand et al.)

- ❑ Construction costs are high because contract procurements are not honored (audit on road defects in Zambian road). High construction costs could be partly avoided.
- ❑ Roads are not in much worse condition than elsewhere in developing world and for LL most of transport delays are at the port rather than en route.
- ❑ In SSA over 60 percent of population at less than 5 km from a road
- ❑ One-stop- border posts to reduce border-crossing time may not do the trick as most clearance time is taken by customs officials (or alternatively, that trucker cannot get money from his boss- "just-in-time vs. Just-in-sequence"
- ❑ …which brings in bribes and their location (see Mozambique case)

❑ Mozambique: Exogenous unilateral reduction in tariffs between 2008 and 2012. 120 randomly selected firms fill out a questionnaire on bribe payments. Results

1. Reduction in tariffs reduces probability of paying a bribe to customs officials for tariff evasion (though customs officials then extract bribes for irregularities in documentation. Clearing agents (by law all importer need to use them) then get into the bribe loop.

2. Next slide shows clear shift of bribe-paying from customs officials ("collusive" welfare-increasing bribes) to clearing agents ("coercive" costly welfare-decreasing bribes)

3. For firms relying on imported inputs, shift to domestic sourcing
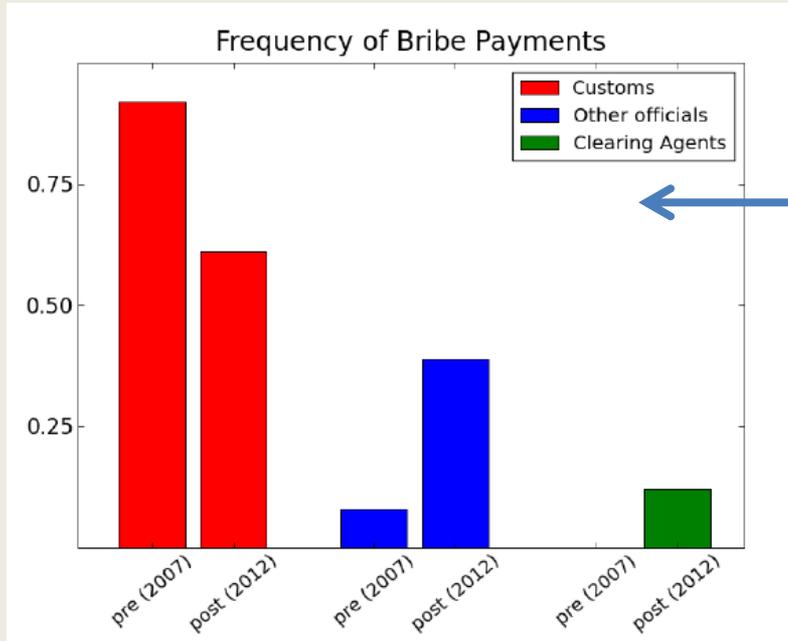
Changes in the frequency of bribe payments by type of agent along the import chain

Distribution of bribe payments before and after tariff change: Customs (collusive), other agents (coercive)
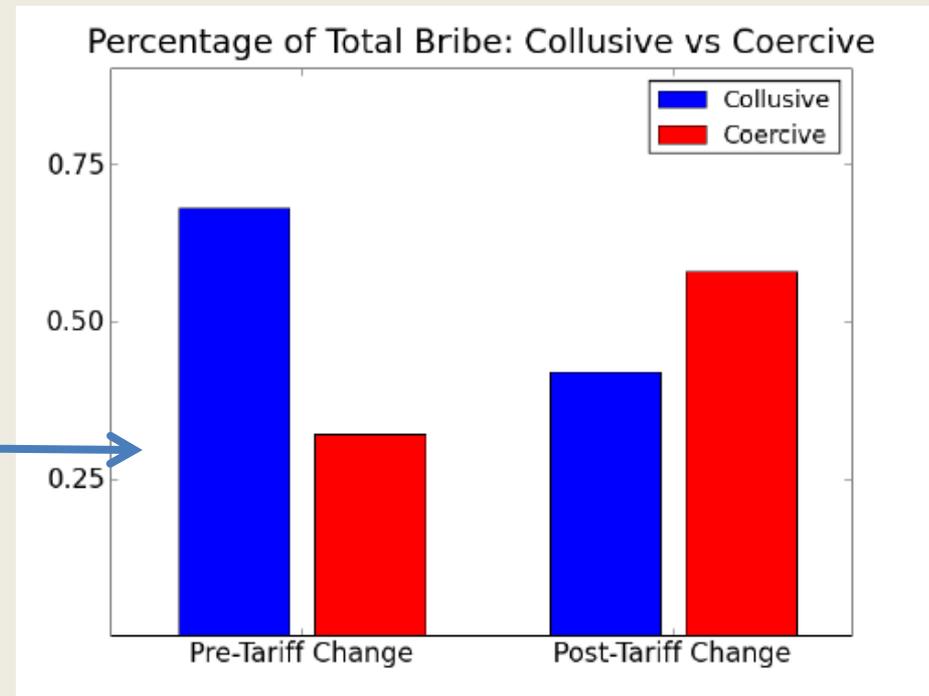
❑ Accumulate (examples here show that well-designed data-intensive case studies should lead to better/simpler 'logical' frameworks than those presented above when it comes to quantifying AfT).

❑ Case studies to alter the paradigm towards greater emphasis on 'soft' rather than 'hard' infrastructure.

❑At the border, how much infrastructure (shift towards clearing prior to reaching the border) to avoid being burdened by excessive infrastructure.

❑ …and keep in mind that "Not everything that can be counted counts and not everything that counts can be counted"…. Einstein quote in OECD (2011)