REGIONAL WORKSHOP ON INTERNATIONAL MERCHANDISE TRADE STATISTICS

Strengthening Data Compilation and Analytical Capacity

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Session C1:
Principles of Trade –
Analysis & Rationale of TradeSift

What do we use trade statistics for?

1. Evaluating past impact of trade policies

2. Possible future impact of changes in trade policies

3. Diagnostic / descriptive statistics
   - Overview / snapshots of trade by country or sector (key partners, key products, competitiveness, trade concentration, trade similarity...)
   - Export opportunities:
     - In which sectors / products might there be unexploited export opportunities in the world, or in specific markets?
     - In which destination markets might there be unexploited export opportunities in sector "x"?

4. Responding to specific requests
   - What are the top 10 products exported by the UK to China?

Formal techniques / modelling:

- Past impact of policies (ex-post) primarily on the basis of econometric modelling:
  - Most popular technique used by trade economists is gravity modelling
  - Also substantial literature using firm level data (productivity, diversification, quality upgrading…)
- Aim of models is to provide as close an identification as possible of causality
- Models limited according to data and techniques applied
  - Time-series v cross-section
  - Sample selection bias
  - Use of dummy variables
  - …

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Formal techniques / modelling:

- Future impact of policies (ex-ante)
  - Could use information from what happened in the past to predict what might happen in the future
  - Partial equilibrium modelling. This involves:
    - Looking just at one product at a time
    - Setting up a mathematical just for that product
    - Use the model to simulate what might happen if you change policy
    - Model needs good data on trade and (sometimes) production
  - General equilibrium modelling. This involves:
    - Looking at all product markets…
    - … and factor markets (eg. the labour market)
    - … and taking into account linkages between intermediate and final goods markets
    - Setting up mathematical model for ALL these markets simultaneously
    - Model needs really good data on trade, production, input-output relations, factor markets….

Data Consistency

- Trade data is not always available for all countries and there tend to be 'holes' in some years (data not reporter). A common 'fix' to this problem is the use of '**mirror flows**'.

- Because trade flows are a 'closed system', i.e What is exported by a country must be imported by another country, one can use the counterpart flows to resolve this issue

- However, there are important issues to consider
  - CIF/FOB valuation of imports respect to exports
  - Differences in how countries report leading to big differences between mirror flows.
  - Missing mirrors: If the rest of the countries are not reporting as well, the reliability of the measure decreases.
  - Contraband
  - Intentions to export that are not realised

Stories you can tell with trade data....

Types of stories

1. Broad evaluations of trade policy:
   - What might be the economic impact of signing an FTA with country "x"
   - Identifying missed export opportunities (or mixed import opportunities) with partner countries
   - Identifying offensive (or defensive) interests in a trade agreement

2. Specific focussed requests:
   - My minister is going on a trade mission to country "x" and wants to know what goods we trade with that country.
   - What are the tariffs on imports of goods x, y, and z?
   - What tariffs do we face on our principal export products?
   - How important is a particular country for my trade?

Examples

Suppose you want to identify:

- Tariff structures across countries: how does Maldives compare to South Africa
- Tariff structure for a given country: eg. what share of trade has a tariff greater than 10%?
- How to evaluate strategic interest in a Free Trade Agreement eg. with the UK for India
- In which products does South Africa have "missed" or unexploited export opportunities?
- What has been the change in Maldives exports by country?
- Does India export more skilled labour or unskilled labour intensive goods?
- UK trade with the EU – how successful?

How to identify your interest in a free trade agreement?

How interested is India likely to be in a free trade agreement with the UK?

1. How much trade does India do with the UK?
2. Which products does India mainly trade with the UK?
3. For which products is the UK an important market for India?

Responding to claims (Civitas)

Argument is that single market had no positive impact on UK trade with the EU; and that the US increased its' trade more successfully than the UK

UK Import and Export Share with EU27
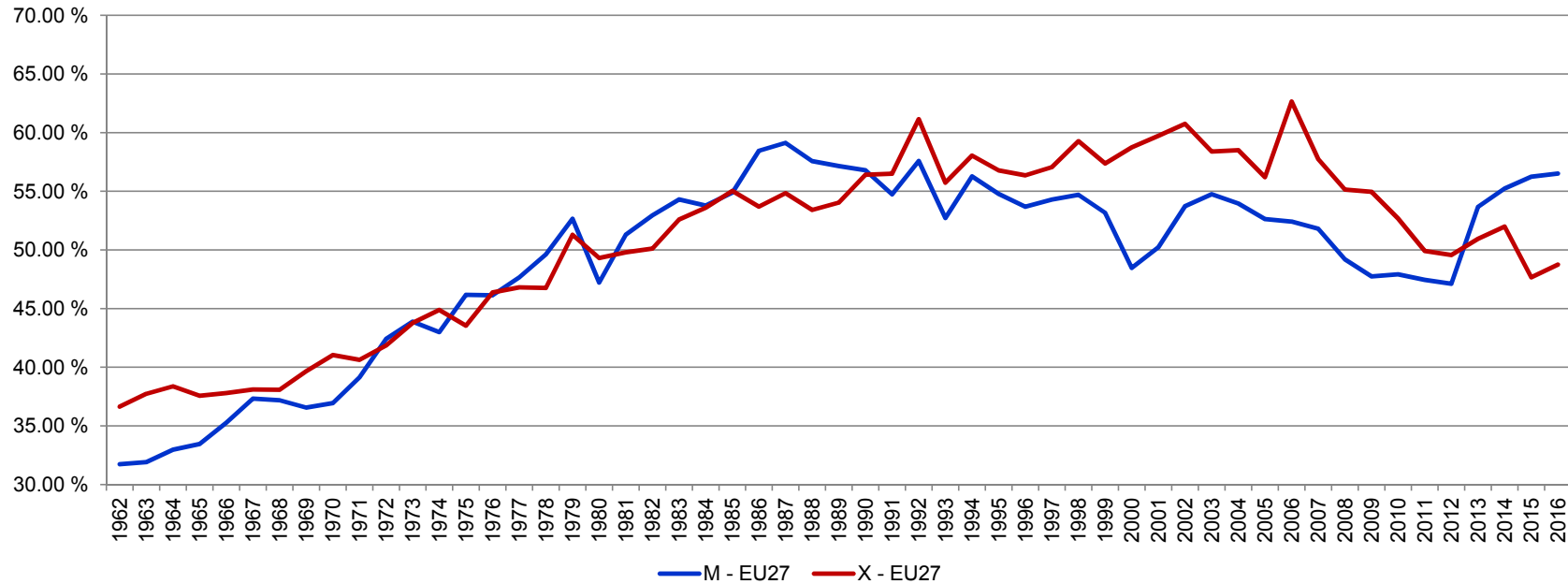
Responding to claims (Civitas)

Compare the share of exports with the UK's trade intensity with the EU
(i.e. normalising by how much the world exports to the EU)

UK trade with the EU27: Export Share and Export Trade Intensity Index
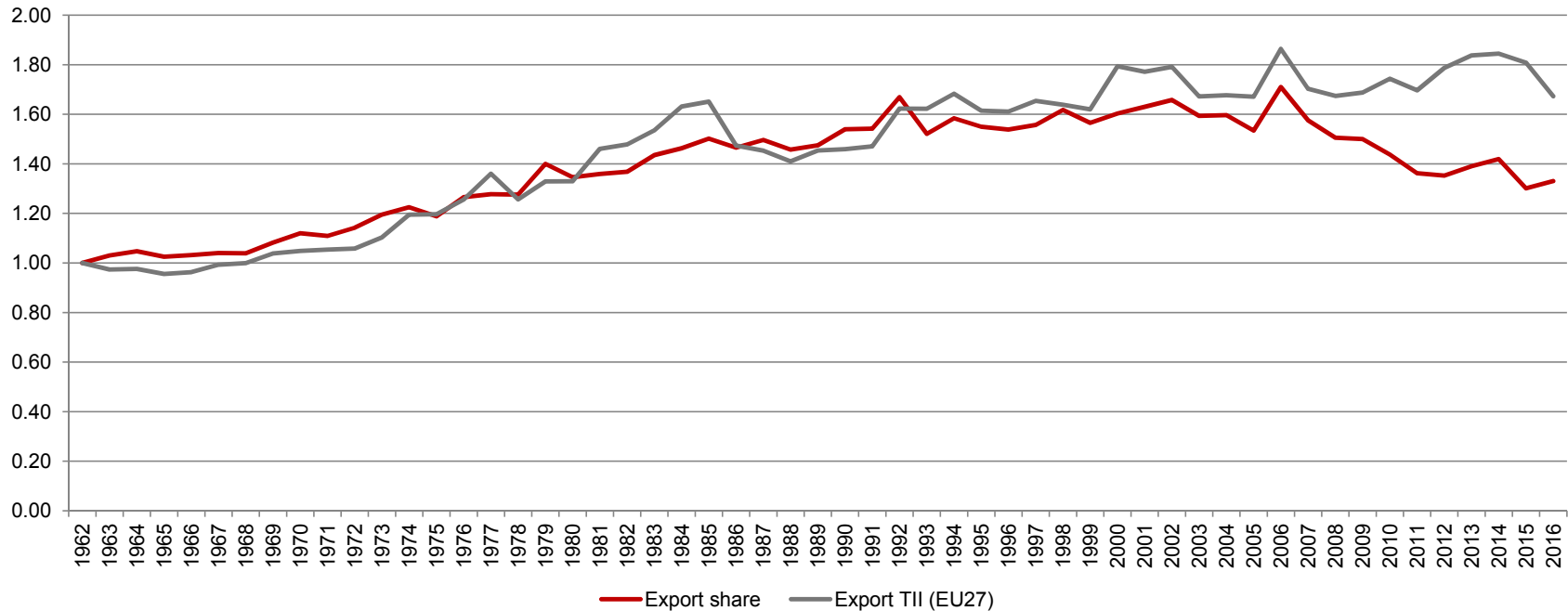
Responding to claims (Civitas)

And now compare the UK's trade intensity with that of the US. Now there does appear to be a UK single market effect

UK trade with the EU27: Export Share, Export TII, and Export TII relative to the US

Legend: Export share — Export TII (EU27) — EU/US (TII)
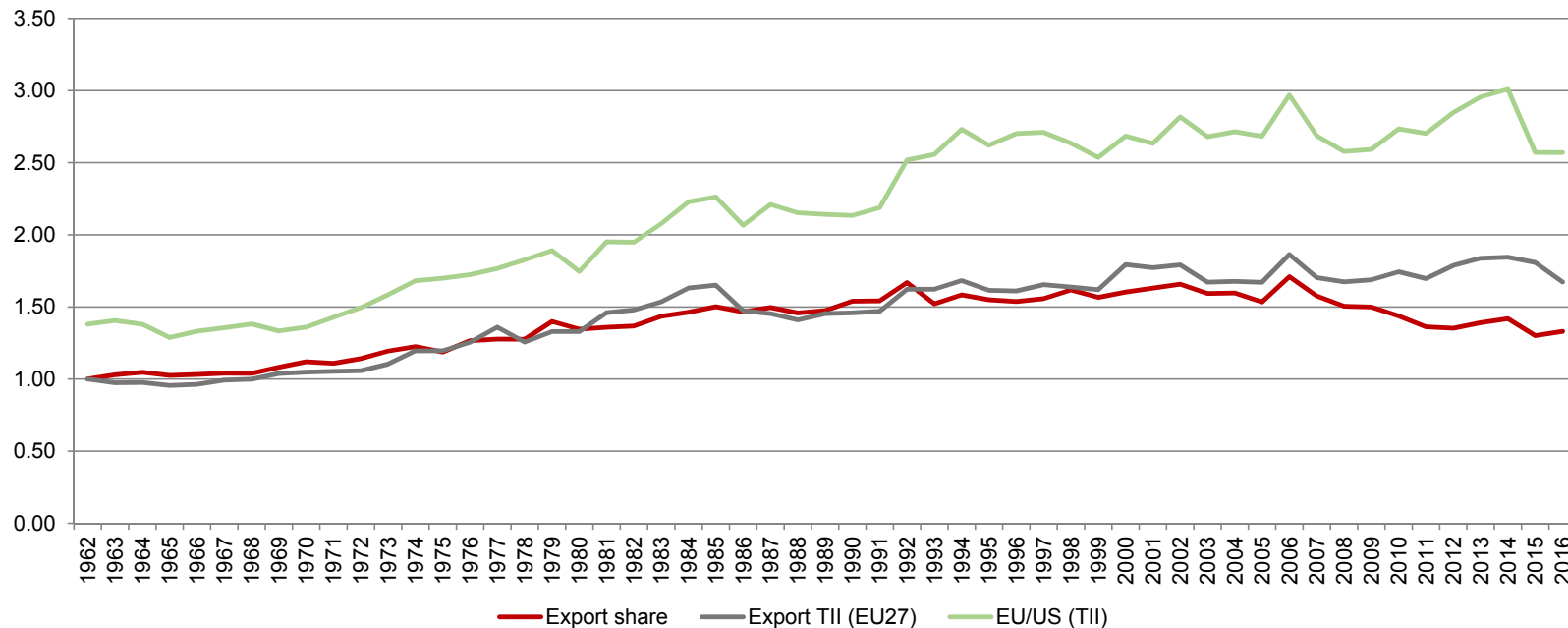
Overview & Introduction

This session explains the rationale underling TS

1. Background and context
2. The conceptual basis in trade economics and the "Sussex Framework"
3. How it compares with model-based approaches
4. Key features

History of TradeSift

- TradeSift emerged from a series of reports and was designed to simplify the analysis of international trade and trade policy.

- 2006 Report for DFID developed Rules of Thumb and "Sussex Framework".

- The Framework was applied to EU-India, EU Egypt, EU Cariforum, EU Russia/Armenia/Georgia, and since then in a wide range of other contexts.

- Evident desirability of 'commodification', ie a standardised package.

- Support from the UK government and Sussex University with the first course held at the World Bank Institute, USA.

TradeSift: The Underlying Theory

- Our approach is based on a clear understanding of the potential gains from trade - comparative advantage, economies of scale, pro-competitive effects, dynamic gains...

- Trade allows relatively strong sectors to expand and weaker ones to contract

- Expansion of efficient sectors will bring net gain to economy

- But shrinking of inefficient sectors will cause hardship and requires either acceptance of this or compensatory social policy

- Important for policy makers to know which sectors are likely to expand and which likely to contract – and not just at an aggregate level.

National gains from trade

- Gains from trade arise when output of industries with relatively low productivity is reduced and resources transferred to activities with greater productivity:
  - In the 1970s the UK car industry was good at making sports cars and luxury 4x4s and bad at cheap saloon cars; investing in cheap saloons rather than importing them was bad for the future of the industry

- Dynamic gains arise when industries increase their productivity by expansion from economies of scale.
  - Competition from efficient foreign producers is like to stimulate innovation

- Protection is likely to increase the output of protected, possibly inefficient sectors at the expense of other parts of the economy

Comparative Advantage

- The principle draws on the concept of opportunity cost.
- It shows that the gains from trade arise from differences in relative costs and not from differences in absolute costs.
- Even if a country (or firm) is the lowest cost producer of **all** goods it will pay it to specialise in producing those good where its cost advantage is greatest relative to its competitors...
- ...and allow the competitors to supply the other goods even though their absolute costs are higher.
- This is an extremely powerful concept: while a country/firm can have an absolute advantage in nothing, it must have a comparative advantage in something.
- There is a potential gain for all producers from opening up to trade provided that resources can move relatively easily from one use to another.

Simple example: gains from specialisation

- Suppose Sony's Japanese workers are on average 5x as productive as its Chinese workers, wages in Japan will tend to be 5x Chinese workers.

- So
    - Products where productivity differential exceeds 5 will be profitable in Japan
    - Products where differential is less than 5x will be profitable in China

- Free trade will reveal which industries are viable and which not

- "Revealed Comparative Advantage" (RCA) is a tool / indicator to identify those sectors in which a country seems to have a comparative advantage.

Comparative advantage:

- Countries will specialise in the good(s) at which they are relatively better at producing. Trade will therefore be *inter-industry*

- Note: even if one country is more efficient at producing all goods in comparison to another country, comparative advantage and the gains from trade still apply.

- Sources of comparative advantage:
  - Difference in relative factor endowments (eg. capital and labour)
  - Differences in technology
  - Differences in tastes

- Comparative advantage is not static and evolves over time

- Gains from trade are the gains from specialisation

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Other reasons for trade

- Even if all countries have the same amounts of capital and labour and have the same technology and hence no basis for comparative advantage, trade could still take place…
    - … in goods which are *differentiated* (cars, detergents, white goods…)
    - … where consumers like variety
    - … where firms produce with economies of scale
- The gains from trade are:
    - Pro-competitive gains
    - Economies of scale (ie greater efficiency)
    - variety

What if you allow for 'heterogenous' firms?

- In the preceding trade would take place and there would be gains from trade even if all firms in an industry were identical
- If firms are not identical than there may be additional gains:
  - More efficient firms more likely to be able to export
  - More efficient firms more likely to be able to withstand competition from import
  - So as you open up to trade you would expect more efficient firms to enter and/or grow bigger; and less efficient firms to decline and/or exit the market.
  - If the share of more efficient firms is going up and the share of less efficient firms is going down then productivity on average must be going up.
- These are all gains from intra-sectoral specialisation

Gain (losses) from Trade

- The gains from reallocating resources towards what you are relatively good at can be inferred from actual data

- Gains from economies of scale and deep integration: harder to infer but clues can be found in data.

- Tariffs and other barriers distort trade and tend to lead to national welfare losses

- Changes in prices from changes in demand, or from changing prices of intermediates, lead also to impacts on welfare, poverty, and the distribution of income.

- This is also true or regional trading agreements, where there mayh also be '**trade creation**', '**trade diversion**' and '**preference erosion**'

What if market prices don't reflect 'true' costs?

- Usual analysis assumes market prices reflect value to buyer and true costs to producers

- Suppose however there are positive or negative spillovers, which we call externalities (e.g. pollution costs)

- The correct policy solution is normally to target the distortion by using taxes to curb disadvantageous activities and subsidies to promote advantageous ones
  - But note: a tariff is the equivalent of a tax on consumption plus a subsidy to production, so rarely sensible

- The biggest distortion is likely to occur when tariffs lead to overstating the value of domestic output and exaggerating the cost of imports

So why tariffs and quotas?

- Supporters of free trade argue that:
  - Tariffs prevent countries / firms gaining from comparative advantage
  - Allow firm to shelter behind tariffs becoming inefficient – especially if they are able to persuade governments to set tariffs to guarantee their profits
  - Encourage firms to waste resources to seek protection

- Quotas allow those allocated the quotas to make monopoly profits or "quota rents".

- Trade agreements (WTO or RTAs) allow the government to tie its own hands which helps give firms and investors predictability

- Krugman said (1987) "We now have a sadder but wiser case for free trade in a world whose politics are as imperfect as its markets"

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If trade is so good why do we have "so much" protection?

- Though good for the economy as a whole, not necessarily true for all **within** a given country:
  - Impact by sector
  - Impact on factors of production
  - Therefore trade leads to **winners and losers**
  - May well therefore have an impact on poverty
- Leads to calls for protection by affected sectors (eg because of fear of unemployment), who typically find it much easier to organise and impact on policy
  - Farmers in the EU, India
  - Steel industry in the UK

Trade modelling

- Based on working out trends from past data (**ex post**) – "econometrics"
  - based on the premise that observing the data allows you to infer by extrapolation the nature of underlying trends so you can work out what happens if e.g. barriers to trade are removed
- Based on simulating what might happen from a base year (**ex ante**) - Computable General Equilibrium (CGE), partial equilibrium.
  - Models assume that we can use existing data, and fixed parameters of behaviour to calculate what might happened when policy variables change
- Models necessarily take existing data and extrapolate
- A model based analysis will predict expansion of those sectors where comparative advantage is relatively high and shrinkage of those where it is low

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Partial Equilibrium models

- Can be used to simulate the impact effects of changes in trade policy on particular product markets and sectors

- The equations are applied to data from the countries being modelled, behavioural parameters are either assumed or adapted from estimates elsewhere.

- Each product or sector is modelled separately

- Can be used to estimate the impact of non-tariff barriers if these can be turned into tariff equivalents

- They do not allow for second or third order effects such as changes in exchange rates, or change in factor prices or the price of intermediates

- Typically allow for much more disaggregated analysis than CGE models (see for example the World Bank's TRIST model)

CGE models

- Simulate microeconomic behaviour in multiple markets of one or more economies, computing equilibrium values or changes due to specified policies.

- The equations are also applied to data from the countries being modelled, behavioural parameters are either assumed or adapted from estimates elsewhere.

- Unlike partial equilibrium models they allow for all of the knock-on effects needed to bring every part of the economy back to equilibrium (equilibrium is assumed to be its natural state) when one sector experiences a shock.
  - The modeller must choose which of a number of parameters (eg total employment, the current account) are to be held constant in the equilibrium
  - Typically highly aggregated industrial structure

- **Final calculations depend very much on second and third order effects the model generates to restore equilibrium**

Econometric models

- Normally based on an underlying model which attempts to *explain* past patterns of trade & production, and hence can be used to estimated (future) changes in those patterns.

- The econometric model takes past behaviour as a predictor of the future

- models generate statistical tests as to the reliability of the results

- In practice identification of the key economic variables is difficult so such models resort to **dummy** variables to capture difference between "with integration" and "no integration" observations

- Can be the basis for estimating demand elasticities (the proportionate response of trade quantities to changes in prices)

- For example, "gravity models" often used to try and understand the determinants of (changes in) trade.

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Gravity models

- Have become more popular in recent years, in particular with the acceptance of the underlying theoretical basis.

- Basic idea is that the trade flows between any pair of countries can be explained by:
  - the GDP of partner and reporting country, GDP per capita of both countries,
  - distance, language, contiguity
  - Policy variables: FTA, common currency, trade costs

- The gravity model indicates what flows of trade "would" be like if flows between any pair of countries conformed to the "average"

- methodology focusses very much on flows of bilateral trade rather than welfare effects

- Can be applied to any "flow" between countries: trade in goods, grade in services, FDI, migration

Sussex Framework

- Central idea is that sensible evaluations of trade and trade policy can be done by intelligent analysis of trade data using key diagnostic indicators

- Provides the ability to work at a very disaggregated level

- The diagnostic indicators are based on robust economic theory and experience, and tell us the likely direction and magnitude of outcomes

- Uses rules of thumb to predict balance of outcomes and likely orders of magnitude not exact values

- Recognises that gains and losses do not cancel out.

- Gives results that are intuitively understandable

- Allows the analyst to focus on the issue of key interest

TradeSift

- Based on the analytics of the Sussex Framework – readily understandable economic insights with no formal modelling

- Designed to complement more formal approaches – CGE, PE, econometrics. Unlike these approaches TS does not provide simulation / prediction of outcomes

- Allows easy calculation of indicators at whole economy level *and* at detailed product level. Winners and losers can be separately identified and considered

- Can be used by any international trade analyst to provide rapid, cost-effective yet accurate analysis

- **Works offline once data downloaded**

TradeSift – what you can do

- Allows descriptive presentation of trade and tariff data etc, to allow ranking, graphs, tables, trends etc to be shown
- Provides the ability to analyse the data flexibly and to interrogate the data at greater levels of detail.
- From these data, quick calculation of analytical indicators, such as revealed comparative advantage etc; and the ability to generate analytical tables.
- Can use all trade classifications, and various sources of data
- Most calculations can be done within the programme but includes built in spreadsheet
- Allows for the easy writing of reports with built in word processor.
- Output can be exported directly to standard formats (e.g. Excel, Word), or PDF etc) if desired

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Session C2:
Trade Policy, the Sussex Framework and TradeSift's Core Indicators

Introduction

- This session explains how TradeSift can be usefully applied in a range of contexts:
    - Trade negotiations e.g. at the WTO
    - Regional Trade Agreements
        - Impact on partner countries
        - Impact on excluded or third countries
    - Unilateral liberalisation
    - Contextual information about regionalism, globalisation and trade patterns
    - Identifying export opportunities
    - Snapshots of trade of countries / sectors / products
- Provides a reminder of the assumptions and a review of the key indicators

Liberalisation (usually) benefits those who open markets

- History suggests that protection is usually given to firms and industries with strong lobbying power, often inefficient, not those whose promotion will benefit the country.

- But opening market creates losers as well as winners

- Market opening is designed to increase competition and force protected sectors to compete or shrink.

- Trade negotiations are designed to mobilise firms who will gain from enlarged export markets to support market opening, though biggest winners are likely to be consumers and users of imports.

WTO: Reciprocity to bind trade policy and create certainty

- Access to export markets creates lobbies in favour of opening home market

- Tariff bindings set maximum levels for tariffs

- MFN (Most Favoured Nation) = non-discrimination
  - All parties gain from any market opening
  - Exception for full blown RTAs and some preferences for LDCs

- Periodic rounds of negotiations

- Limited governance of services and regulations

- Binding Dispute Settlement

Regional Trade Agreements

- Article XXIV of GATT (WTO) says RTAs must be full FTAs or customs Unions (but for "Enabling Clause" exception)

- RTAs must liberalise "substantially all" trade and not raise overall protection

- EU's EPAs designed to meet these rules

- RTA may create trade or divert trade away from non-members, which can harm the country who now must pay higher price for imports

- In 1960s trade diversion was often sought for RTAs with high tariffs against outsiders; failure led to fashion for low trade off RTAs after the 1990s

- Now often contain more detailed "deep" regulatory provisions

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Unilateral preferences

- EU has in the past had a variety of unilateral preferences, for ACPs, GSP, EBA

- WTO rules state they must now be either:
  - Fully reciprocal, or
  - Freely available to all with same status

- If you receive preferences, liberalisation by your partner to others (RTA or WTO) reduces your benefits.

- Risk of Preference Erosion creates opposition to wider liberalisation and fear of trade reorientation

Unilateral liberalisation

- Traditional economics tells us that cutting your own trade barriers can be a good policy even if others do not as it drives specialisation

- Many developing countries have done this – eg India which has cut tariffs since the last WTO negotiations

- But market opening is likely to be politically easier and more effective if export markets also open up

EU agreements and tariffs

- EU has a mix of bilateral FTAs (eg. EU-Korea); regional free trade agreements (eg. EU-Cariforum)

- As well as a system of unilateral preferences (GSP)

- Most EU trade partners are not under MFN:
  - Only Australia; Canada; Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu; Hong Kong, China; Japan; New Zealand; Singapore; and the United States have no preferential arrangements with EU,

- …but these include very large partners.

EU trade agreements

THE STATE OF EU TRADE

FEBRUARY 2016

- EU & Customs union (Andorra, Monaco, San Marino, Turkey)
- European Economic Area (Norway, Iceland, Liechtenstein)
- Preferential trade agreement in place (FTA, EPA, DCFTA)
- Preferential agreement awaiting adoption/ ratification
- Preferential trade agreement being negotiated
- Potential for free trade partnership
- Stand-alone investment agreement being negotiated
- Preferential agreement in the process of modernisation

ec.europa.eu/trade

@Trade_EU
#EUtrade

EU tariffs (from WTO trade profile)

Part A.1   **Tariffs and imports: Summary and duty ranges**

Summary		Total	Ag	Non-Ag	WTO member since			1995
Simple average final bound		5.0	12.5	3.9	Binding coverage:		Total	100
Simple average MFN applied	2014	5.3	12.2	4.2			Non-Ag	100
Trade weighted average	2013	3.6	22.3	2.3	Ag: Tariff quotas (in %)			11.3
Imports in billion US$	2013	1,996.5	128.7	1,867.8	Ag: Special safeguards (in %)			23.9

Frequency distribution		Duty-free	0 <= 5	5 <= 10	10 <= 15	15 <= 25	25 <= 50	50 <= 100	> 100	NAV in %
		Tariff lines and import values (in %)								
Agricultural products										
Final bound		32.3	10.2	16.3	12.7	11.7	9.7	3.7	0.6	32.0
MFN applied	2014	31.7	10.1	17.5	13.5	11.4	8.7	3.4	0.8	31.2
Imports	2013	46.1	11.9	13.3	7.3	7.3	3.1	4.9	6.0	24.6
Non-agricultural products										
Final bound		28.4	37.1	26.6	6.9	0.9	0.0	0	0	0.6
MFN applied	2014	26.5	37.5	27.1	7.3	1.5	0.1	0	0	0.6
Imports	2013	60.7	22.1	10.6	5.5	1.0	0.0	0	0	0.5

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Surge in RTAs since the early 1990s.

- As of 1 February 2016, some 625 notifications of RTAs (counting goods, services and accessions separately) had been received by the GATT/WTO.

- Of these:
  - 431 notifications were made under Article XXIV of the GATT 1947 or GATT 1994;
  - 41 under the Enabling Clause;
  - 153 under Article V of the GATS.
  - Of these 625 RTAs, 419 were in force.

- Of these RTAs, Free Trade Agreements (FTAs) and partial scope agreements account for 90%, while customs unions account for 10%.

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Evolution of Regional Trade Agreements in the world, 1948-2016
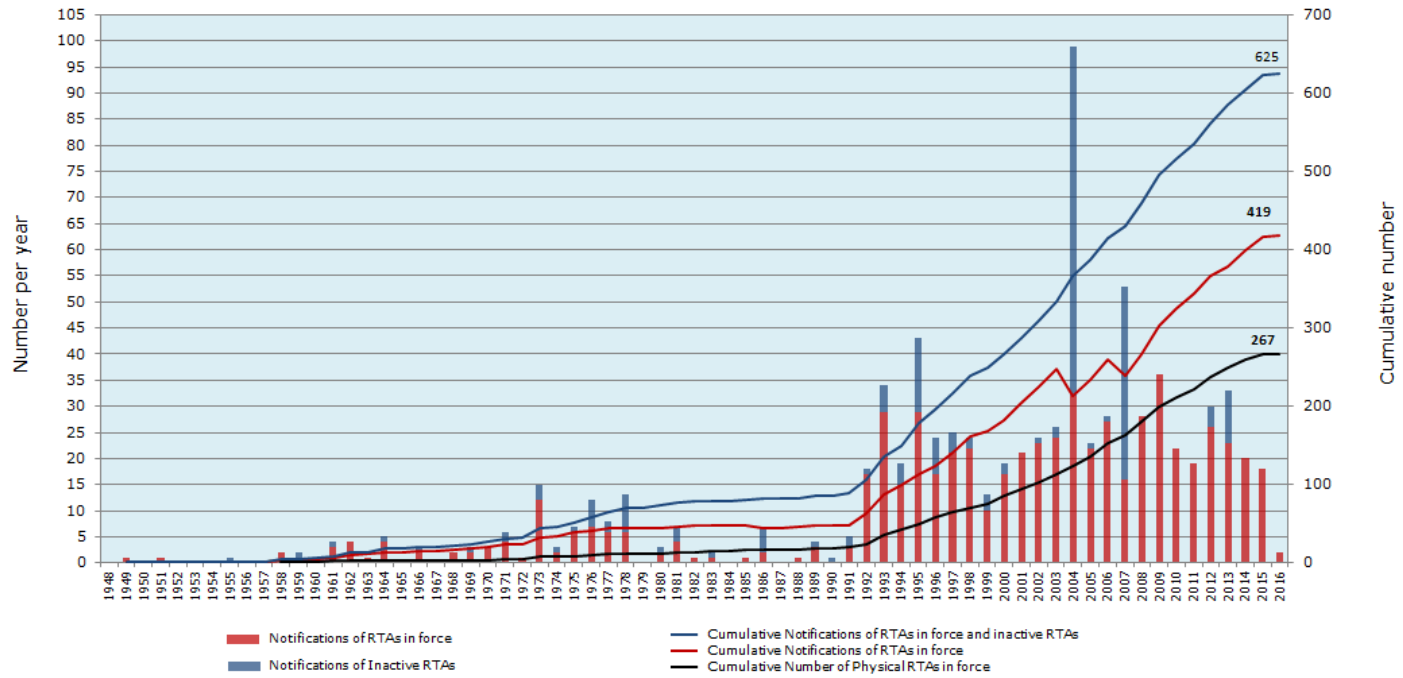
Note: Notifications of RTAs: goods, services & accessions to an RTA are counted separately. Physical RTAs: goods, services & accessions to an RTA are counted together.
Source: WTO Secretariat.

WTO Participation in Regional Trade Agreements
https://www.wto.org
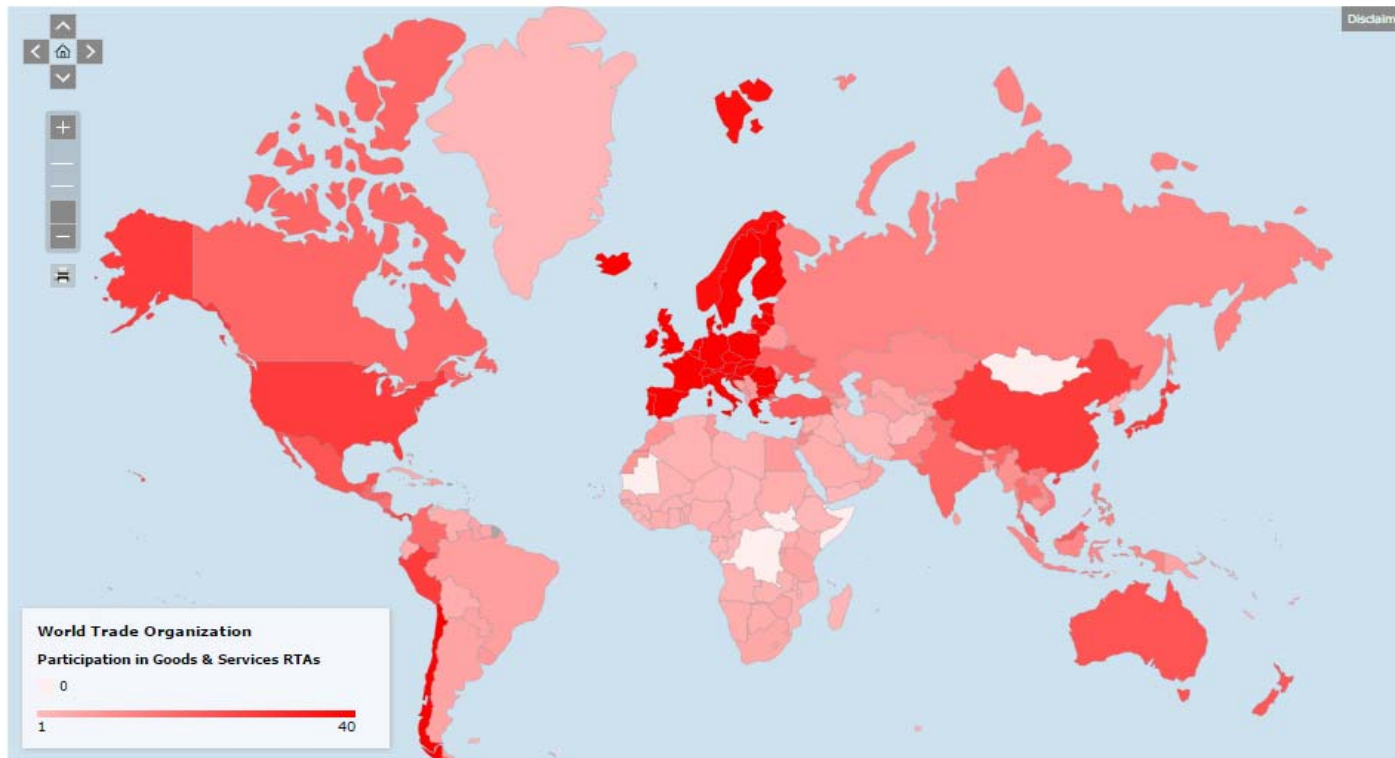
Note: WTO statistics on RTAs are based on notification requirements rather than on physical numbers of RTAs. Thus, for an RTA that includes both goods and services, we count two notifications (one for goods and the other services), even though it is physically one RTA.

Figure B.1a: **Average number of PTAs in force per country, 1950-2010, notified and non-notified PTAs, by country group**
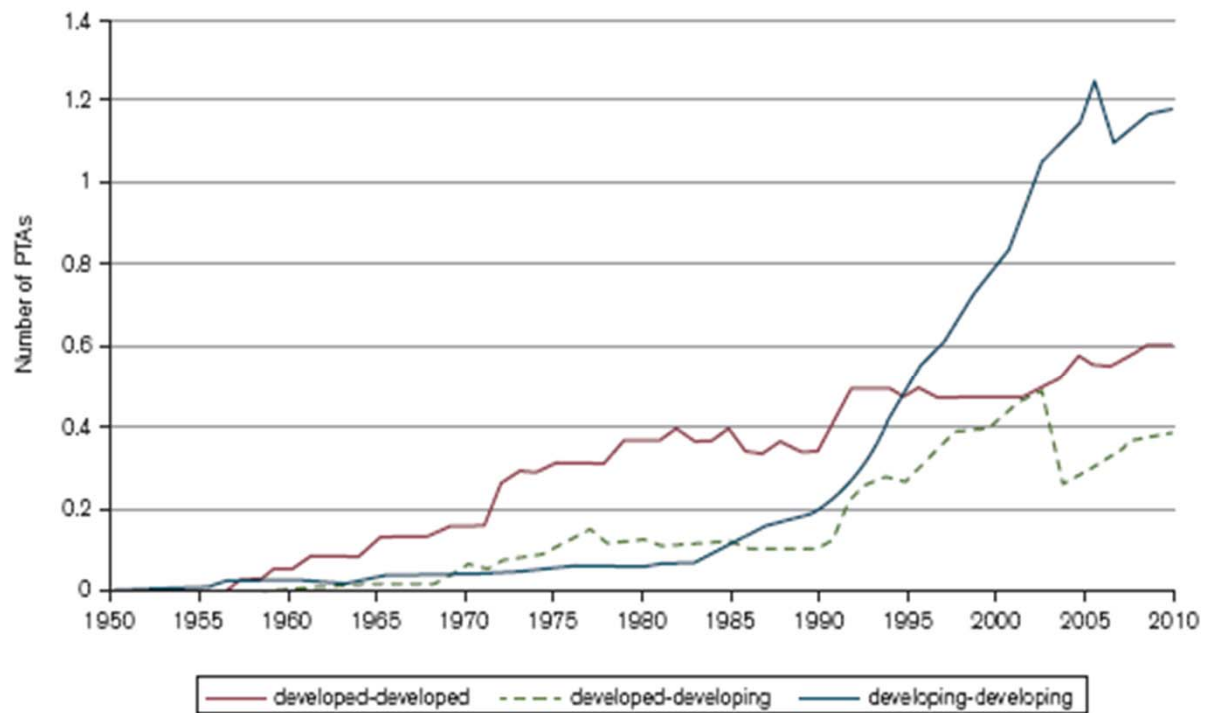
Note: In this figure the total number of PTAs is divided by the present number of countries in the respective groups.

Source: WTO Secretariat.

Regionalism: building bloc or stumbling block?

- GATT limited preferential liberalisation to full
  - Free Trade Areas: no trade barriers among members and no common external tariff
  - Customs Unions internal FTA + common external tariff
- Boost since 1990s
  - EU example
  - More enthusiasm for (some) free trade
- RTAs can be with willing partners and can go beyond WTO ambitions
- Trade between EU, US, China & Japan not under RTAs till TPP
- Supporters say RTAs help WTO liberalisation; opponents say they fragment

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Globalisation

- **Globalisation is concerned with:**
    - increased flows of goods, services, capital and labour (?)
    - Increased flows of information,
    - with the increased speed of those flows, and
    - with increased interdependence
- **One can identify a number of causes or driving factors behind this process:**
    - The liberalisation of barriers to trade and mobility
    - Developments in technology, and esp. information technology. This allows for both more communication / information + also increased speed of that communication
    - Increased focus on "deeper integration" ie not just removal of barriers, but also harmonisation of for example: standards, legal frameworks (eg. IPR regimes), institutions (eg. democratisation), and policies (eg. acquis communautaire)
    - Rise in vertical fragmentation of production

Fragmentation of production: the example of the Boeing 787 Dreamliner

Wing box: Mitsubishi Heavy Industries (Japan)
Wing ice protection: GKN Aerospace (UK)

Centre fuselage: Alenia Aeronautica (Italy)

Forward fuselage:
Kawasaki Heavy Industries (Japan)
Spirit Aerosystems (USA)

Escape slides: Air Cruisers (USA)

Vertical Stabiliser: Boeing Commercial Airplanes (USA)

Rear fuselage:
Boeing South Carolina (USA)

Doors & windows:
Zodiac Aerospace (USA)
PPG Aerospace (USA)

Flight deck seats:
Ipeco (UK)

Lavatories:
Jamco (Japan)

Raked wing tips: Korean Airlines Aerospace division (Korea)

Flight deck controls:
Esterline (USA),
Moog (USA)

Horizontal Stabiliser:
Alenia Aeronautica (Italy)

Engines: GE Engines (USA),
Rolls Royce (UK)

Aux. power unit: Hamilton Sundstrand (USA)

Centre wing box:
Fuji Heavy Industries (Japan)

Engine nacelles: Goodrich (USA)

Tools/Software: Dassault Systemes (France)
Navigation: Honeywell (USA)
Pilot control system: Rockwell Colins (USA)
Wiring: Safran (France)

Passenger doors:
Latécoère Aéroservices (France)

Cargo doors: Saab (Sweden)

Landing gear: Messier-Dowti (France)
Electric brakes: Messier-Bugatti (France)
Tires: Bridgestone Tires (Japan)

Prepreg composites:
Toray (Japan)

Final assembly: Boeing Commercial Airplanes (USA)

Source: www.newairplane.com

Intra-regional trade flows high for Europe, Asia & North America (as % of their total merchandise exports in 2013)

Destination							
Origin	North America	South and Central America	Europe	CIS	Africa	Middle East	Asia
North America	**49.2**	8.9	15.2	0.8	1.7	3.2	20.7
South and Central America	24.2	26.6	16.4	1.2	2.7	2.5	24.1
Europe	7.6	1.9	**68.6**	3.8	3.3	3.3	10.0
CIS	4.2	1.2	52.2	19.1	1.7	2.5	17.8
Africa	8.9	4.9	35.8	0.3	16.2	3.0	26.6
Middle East	8.2	0.8	10.6	0.5	2.8	10.1	52.2
Asia	17.5	3.3	14.8	2.2	3.3	4.7	**53.3**

a.Refer to the appendix for the composition of regional aggregates
Source of Data: WTO International trade statistics 2014

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Sussex Framework

- Has been used in numerous studies,
    - EU agreements with a range of countries (Egypt, India, Armenia,Georgia);
    - to analyse "3rd party effects" e.g. of EU-India on Pakistan.
    - Relative advantages of COMESA and SADC for selected partners
    - Impact of changes in GSP schemes
    - Impact of TTIP on developing countries
- Based on "Rules of Thumb" for specific analyses, linked to indicators that can be calculated by TradeSift:
    - Impact of an RTA on partner countries
    - Impact of an RTA on excluded countries
    - Unilateral liberalisation
    - identifying export opportunities
    - Country-level trade "snapshots
    - ...and more to follow over time

Example: RTA Rules of Thumb

1. The effects will be greater the higher are the initial tariffs
2. The higher the percentage of trade with potential partners the more likely the RTA is to be welfare enhancing.
3. The greater the number of partners the more likely it is the agreement will be welfare enhancing
4. Wide differences in comparative advantage likely to lead to a welfare improving RTA provided the initial tariffs are not too high and these differences are not already exploited.
5. There is more scope for trade creation gains between countries currently exporting similar products but with scope for specialisation.
6. Trade diversion is more likely when potential partners and excluded non-preferential partners are close competitors (export similar goods)
7. The greater the possibilities for supply chain integration the greater the likely gains

RCA (Revealed Comparative Advantage)	Indication of which products have a higher or lower share in country X's trade than in world trade (or another comparison flow)	Shows strengths and weaknesses in world or particular markets – which are likely to profit or lose if trade expands
RMA (Revealed Market Access)	Shows market access by product in one market compared to a baseline –	Can be used to infer existence of (non tariff) trade barriers
FK (Finger-Kreinin)	Similarity of trade patterns between countries	The more similar countries' trade patterns are the more scope they have to specialise
IIT (Intra-Industry Trade)	Simultaneous import and export of products in same category	Indicates niche within part of an industry and if rising suggests scope for scale economies from fine specialisation
TII (Trade Intensity Index)	Share of country X's trade with a partner compared to world trade of that partner	Indicates if countries are "natural" trading partners hence scope for RTA gains
TCI (Trade Concentration Index)	Shows how concentrated a countries exports are by commodity	The more diverse exports are the easier it is likely to be to gain extra export market shares without having to cut prices
RECPI (revealed Export Competitive Pressure index	When compared to another country's exports, this shows how much of that country's exports compete with yours	Can be used to assess the significance of a preference being given by one of your partners to a 3rd party

Session C3:
TradeSift – Diagnostic Indicators

Introduction

- Much can be learnt from looking at patterns of trade flows and tariffs.

- Indicators reveal qualitative information about the likely effects of trade agreements and changes in trade policy; but can be equally used to gather information about a particular country's trade profile.

- TradeSift facilitates the calculation of a wide array of trade related indicators.

- TradeSift also allows for the cross-classification of information to assist in the analysis

- It is important to understand how these indicators are calculated, how they work and what tell us.

Trade and Tariff Data

- Evolution of imports and exports over time by destination (world, key partners) in levels and shares.

    - Identification of key export markets and key suppliers; emerging / declining partners

- Evolution of imports and exports over time by sector / product in levels and shares

    - Identification of key products exported; of emerging / declining sectors;

- Analysis of who are the main competitors for "key" products.

- Tariffs, tariff peaks etc by partner country and by product

Indices

- Revealed comparative advantage (RCA)
  - Bilateral RCA
  - Normalised RCA and BRCA
- Revealed Market Access (RMA)
- Intra-Industry Trade (IIT)
- Finger-Kreinin (FK)
- Trade Intensity Index (TII)
- Trade Concentration Index (TCI)
- Relative Export Competitive Pressure Index (RECPI)

Notation for indicators

- We use standardised notation throughout:
  - m = Imports per good
  - M = Total imports
  - x = Exports per good
  - X = Total exports
  - i = reporting country
  - j = partner country
  - w = world
  - k = product

Openness

- = trade (measured as exports plus imports) as a share of GDP

$$OPN_i = \frac{X_i + M_i}{GDP_i}$$

- GDP should be expressed in current values.
- Sometimes expressed as exports / GDP.
- The indicator ranges from zero (completely closed economy) to infinity (a completely open economy).
- In general, large countries tend to have a low openness indicator (the US, for example), while small economies exhibit larger values. NB export values include incorporated imports so Singapore, for example, can have an openness indicator above 1.
- If trade is a small share of GDP, any increase likely to bring gains

Revealed Comparative Advantage (RCA)

- The Balassa index considers "Revealed Comparative Advantage" with respect to total world trade:

$$RCA_{iw}^{k} = \left(\frac{x_{iw}^{k}}{X_{iw}}\right) \Big/ \left(\frac{x_{ww}^{k}}{X_{ww}}\right)$$

- It shows the share of product *k* in total country *i* exports relative to the share of product *k* in total world trade.

- A country has a "revealed comparative advantage" when the share of exports of a good in its trade exceeds the equivalent share of exports of the world.

- It ranges from zero (no exports in that product) to infinity.

- If RCA > 1, the country has a revealed comparative advantage in the product

- It is likely to have extremely high values when countries are very specialised. However, cross-country comparisons and cross time can be misleading.

Normalised RCA

- The index is suitable for cross country comparisons, but it does have to be used carefully when making cross sectoral comparisons and over time.

- An alternative version of the index therefore is:

Normalised RCA = (RCA-1)/(RCA+1)

Bilateral RCA1

- Compares one country's competitiveness with another country's in their exports to the world

- Uses as denominator the exports of a selected comparator country - country *j* for product *k* as a share of their exports to the world

- The RCA is calculated by comparing the share of exports of country *i* to the world, to the share of exports of country *j* to the world.

$$BRCA1_{ijw}^k = \left(\frac{x_{iw}^k}{X_{iw}}\right) \bigg/ \left(\frac{x_{jw}^k}{X_{jw}}\right)$$

Revealed Market Access (RMA)

- For a given country, the RMA compares the level of market access into one economy with the level of access into a second comparator economy for a given product *k*

$$RMA^k_{i\,j_1 j_2} = \left(\frac{x^k_{ij_1}}{x^k_{ij_2}}\right)\left(\frac{GDP_{j_2}}{GDP_{j_1}}\right)$$

- E.g the indicator compares the level of UK exports to two markets: Korea & Japan
- As the level of exports will be related to the size of demand, we need to control for this issue – either by using GDP, or by using total partner imports.
- If the RMA=1, it suggests that exports of product k are explained by the size of the partner economies, and/or no differences in barriers between both partners.
- If the RMA<1, it implies that exports to country j2 are larger than, in relative terms, those to country j1; perhaps indicating presence of some sort of barrier

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Finger-Kreinin Index (FK)

- The FK index reveals the degree of similarity between the overall structure of the exports (or imports) of any two countries.

$$FK_{i_1 i_2 j} = \sum_k min \left[\left(\frac{x_{i_1 j}}{X_{i_1 j}} \right), \left(\frac{x_{i_2 j}}{X_{i_2 j}} \right) \right]$$

- It ranges between 0 and 1.
  - If 0, the two structures are completely different. Countries don't export any of same products
  - If 1, the two structures are identical. Both countries export the same products and with the same intensity – however countries may differ in size.
- If two countries signing an RTA have a similar structure of trade, trade creation will be more likely.
- If they are very different, a preferential agreement may be more likely to lead to "trade diversion"
- It can also compare similarity of one country's exports to 2 different partners

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Finger-Kreinin Index (FK)

FK by destination:

Reporter 1, i_1

Reporter 2, i_2

Destination, j

FK by source:

Source, i

Partner 1, j_1

Partner 2, j_2
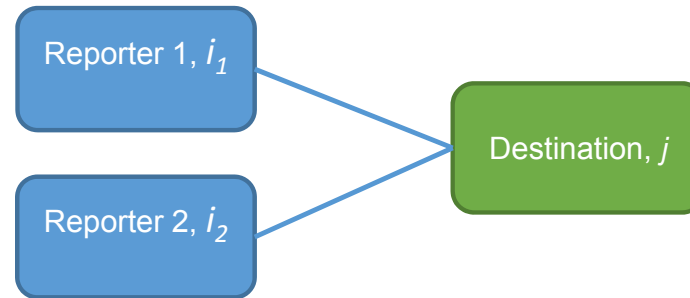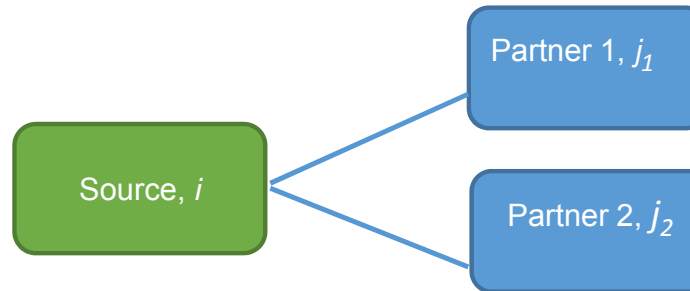
Trade Intensity Index (TII)

- The Trade Intensity Index helps to identify the extent to which a given country's trade with a particular partner is more concentrated in comparison to its trade with the rest of the world

$$TII_{ij}^k = \left(\frac{x_{ij}^k / X_i^k}{x_{wj}^k / X_w^k} \right)$$

- It compares the share of country j in total country i exports and the share of country j in total World exports

- If TII is above 1, the trade of country i is biased or specialised towards country j.

- It is particularly useful to analyse the trade bias within members of an agreement. If trade is specialised towards members of an FTA, for example, this suggest less scope for trade diversion

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Trade Concentration Index (TCI): by product

- The TCI measures the degree of concentration of a given country exports in terms of either the products being exported or imported

$$TCI\ by\ Product_{ij} = \sum_{k}\left(\frac{x_{ij}}{X_{ij}}\right)^2$$

- When the TCI = 1, it implies that a given country is exporting only a single product. The closer the TCI approaches to zero, the more diversified is the export structure

- It is sensitive to the level of aggregation. The lower is the number of products, the higher will be its value

- It is helpful in terms of considering how narrowly or broadly focussed a country is in its export both to the world and to particular partner countries

Trade Concentration Index (TCI): by country

- The TCI measures the degree of concentration of a given country exports in terms of the number of partners either with respect to exports or imports.

- When the TCI = 1, it implies that a given country is exporting to only a single country. The closer the TCI approaches to zero, the more diversified is the number of export destinations

- It is helpful in terms of considering how narrowly or broadly focussed a country is in the number of countries its trade is focussed on.

Relative Export Competitive Pressure Index

- The relative export competitive pressure index (RECPI) explores the average degree of competition from a competing country (supplier) a given country faces in a particular market

- It does so by taking into account both the structure and level of the competing countries' trade in the destination market

- Suppose country j's exports to market A were twice as big as country k's but in totally different products. Countries j and k do not then compete in market A and the RECPI would be equal to 0

- Now suppose that j's exports to A are exactly the same as k; and that for every product, country j was selling twice as much as k. The structure of j's exports would be the same as k (which suggests that they have a very similar comparative advantages) and country j is larger (by a factor of 2) than country k, hence country j would clearly see country k as a competitor in its exports to market A.

- In terms of the RECPI the measure would then be equal to 2.

Intra-Industry Trade (IIT)

- Intra-Industry Trade occurs when there is simultaneous import and export of differentiated goods within an industry between countries and is traditionally calculated using the Grubel-Lloyd indicator

- This is a key indicator for shedding light on the extent and potential for deeper integration

$$GL_{ij}^k = 1 - \left(\frac{|x_{ij}^k - m_{ij}^k|}{x_{ij}^k + m_{ij}^k} \right)$$

- IIT varies between zero (no simultaneous import and export of products within an industry) and one (complete overlap between the level of imports and exports)

- It can capture both 'niche' specialisation and also participation in value chain activity

Session C4:
Analysing RTAs with TradeSift

Overview

- This session explains in detail the use of TradeSift to analyse RTAs

- Types of RTAs are discussed

- We then look at a checklist of questions including non-statistical indicators

- TradeSift principles
  - - TradeSift "rules of thumb" are outlined
  - - Each rule is examined in depth and we discuss which indicator is relevant

Principles of TradeSift

- A set of rules of thumb based on many decades of theory and modelling

- In the first instance designed to distinguish cases when trade creation (i.e. new trade) more likely versus trade diversion (exclusion of efficient partners)

- Also designed to identify which products / industries most likely to be affected

- And when scope exists for value chains or niche specialisation

- Assumes specialisation not mercantilism is aim (i.e. the aim is not simply to maximise exports)

Types of RTA

- **Preferential Trade Agreements** – tariffs are reduced but not abolished between partners and no common external tariff is created – not allowed by GATT Art XXIV, but allowed under the enabling clause

- **Free Trade Agreements** – tariffs are abolished between partners but no common external tariff is created. GATT Art XXIV allows if "substantially all trade" is freed but this is not legally defined

- **Customs Union** - tariffs are abolished between partners and common external tariff is created. "Substantially all trade" must be freed

- **Common Market** – a CU with free movement of factors (people and capital)

- NB many "Customs Unions" and "Common Markets" fall short of the ideal and retain barriers

Conceptual Framework

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3+1 types of RTAs

1. ***Bloc formation agreements****: (EU, NAFTA and MERCOSUR)* Such agreements have followed the establishment of major trade among members of the bloc and can be seen as validating strong underlying economic trends rather than driving the process.

2. ***Bloc expansion agreements:***

    EU enlargement and CAFTA; ASEAN+ plans

3. ***Market access agreements:*** Most of the recent trade agreements under discussion. Many of them involving bilateral agreements between either the US or EU and particular developing countries – "domino theory" once a bloc begins everyone wants to join – especially Chile

4. *And finally China: with NZ and Norway to learn about negotiation!*

Conceptual Framework

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Checklist to review an FTA

- **Nature of Economic Relationship**
  - 1 Trade analysis – can be done within TradeSift
- **Type of RTA**
  - 2 WTO compatibility
  - 3 FTA or Customs Union?
- **Complexity**
  - 4 Overlap with other agreements
  - 5 Ease of Negotiation
- **Completeness**
  - 6 Nature of Barriers to trade being removed
  - 7 Deep Integration?
- **Other Issues**
  - 8 Role of Donors

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Checklist 1: Nature of economic relationship

1. There are a number of issues which can be explored in TradeSift, and which often comprise the core of the analysis:

- - Size of partners
- - Symmetry or asymmetry in trade and structure of trade,
- - Competitiveness
- - Tariff levels, tariff peaks etc.
- - Intra-industry trade
- - Concentration of trade
- - Cost differences

Checklist 2 & 3: Type of RTA

2. WTO compatibility

- Notification under Art. XXIV GATT or the Enabling Clause?
- Does the RTA cover substantially all trade?
- GATS: if services covered, does it satisfy GATS Article V (equivalent to GATT XXIV)

3. FTA or Customs Union?

- If formally a CU, how harmonised is the proposed CET tariff?
- What customs measures will remain between partners?
- How are customs revenues to be collected/shared?
- If an FTA what is the nature of the rules of origin (ROOs)?

Checklist 4 & 5: Complexity

4. Overlap with other agreements

- Type/extent of overlap - how many other RTA does country have, and with whom?
- Is there any inconsistency with existing agreements? eg in ROOs?

5. Ease of Negotiation

- Are there large numbers of opponents or supporters, domestic or in partner countries, on the import or export side?
- Are there a small number of large exporters who are supportive?
- What is expected negotiation and ratification time?
- Are these timescales already specified?
- Is negotiation team sufficiently experienced and large enough? If not is there technical assistance available.

Checklist 6 & 7: How complete?

6. Nature of Barriers to trade being removed?

- Full Removal of bilateral tariffs?
- Removal of bilateral non-tariff barriers - full or partial?
- What is the coverage of agreement?
- Contingent Protection abolished/allowed? esp anti dumping
- Rules of Origin - how severe/complex?

7. Deep Integration?

- Regulatory approximation (eg. product standards, testing & certification, investment)
- Competition policy/subsidies alignment
- Services/Movement of "natural persons" (people)
- Institutional framework
- Financial/Customs/budgetary arrangements

Economic impact: Trade creation

- **Trade Creation:** Additional trade that occurs between members of a preferential trading arrangement that replaces domestic production

- It leads to welfare improvement for the importing country by reducing the cost of the imported good. It is assumed that unemployed domestic resources can be more productively employed elsewhere.

- There may be distributional effects as well as overall gains

Economic impact: Trade diversion

- Additional trade that occurs between members of an RTA that replaces what would have been imports from a country outside the RTA.

- It leads to welfare reduction for the importing country since it increases the cost of the imported good. It also leads to welfare loss to the excluded exporter unless it can sell the same goods for the same price in the world market.

- There may also be distributional effects

- Many early RTAs (eg LAFTA) were driven by producer interests seeking trade diversion but fell apart as costs appeared

- Modern RTAs still involve "market seeking" but avoid TD by keeping external tariffs low

Economic impact: Trade reorientation

- "Preference Erosion" as a result of an RTA

- This occurs when as a result of trade liberalisation imports are switched from a previously preferred partner to a more efficient supplier within the PTA

- This can be seen as reversing trade diversion which may have previously occurred with respect to the preferential partner

Rules of Thumb For RTAs

1. The effects will be greater the higher are the initial tariffs
2. The higher the percentage of trade with potential partners the more likely the RTA is to be welfare enhancing.
3. The greater the number of partners the more likely it is the agreement will be welfare enhancing
4. Wide differences in comparative advantage are likely to lead to a welfare improving RTA provided the initial tariffs are not too high and these differences are not already exploited.
5. There is more scope for trade creation gains between countries currently exporting similar products but with scope for specialisation.
6. Trade diversion is more likely when potential partners and excluded non-preferential partners are close competitors (export similar goods)
7. The greater the possibilities for supply chain integration, the greater the likely gains

1: The effects will be greater the higher are the initial tariffs

- The higher are the tariffs the more protected the economy is, and the more scope there is for liberalising trade and therefore with bigger effects

- But if the PTA has high external tariffs there is a risk of Trade Diversion

- The height of the tariffs and hence, the extent of the tariff cuts between FTA members can be examined through TradeSift's tariff data viewing and graphing facilities.

- TradeSift's RCA index can also be used to test whether the country of interest has a RCA in the products where tariff cuts will be greatest

#2: The higher the percentage of trade with potential partners the more likely the RTA is to be welfare enhancing.

- A higher percentage of trade with the future RTA partner suggests that the partner is already the competitive supplier.

- Lowering the barriers to that trade is therefore more likely to result in trade creation and the less risk there is of trade diversion.

- This can be assessed by looking at:
  - the share of imports from the potential partner(s) as well as other key suppliers, including the rest of the world.
  - Trade Intensity Indices- the extent to which a particular country's trade is more concentrated with a particular partner

#3: The greater the no. of partners the more likely the agreement will be welfare enhancing

- The more partners there are the less likely it is that an efficient supplier will be excluded and trade diversion risked (at the limit if all countries were included than the most efficient supplier would be included).

- The same indicators as used for Rule 2 can be used here and in particular the trade shares with partner(s).

- Also the revealed comparative advantage in key products of the excluded countries can also be calculated, as well as the RECPI indicator.

#4: Wide differences in Comparative Advantage

- Partners can profit if they are currently selling the same things but have different underlying comparative advantage

- Partners should be currently competitive but potentially complementary

- Gains from trade occur when relative costs differ across countries, which implies different relative levels of competitiveness. If your future partner(s) are fundamentally very similar to you than there is less scope for this.

- The RCA index and correlations of partner countries' RCAs is a useful way of exploring such differences and similarities.

#5: Production and Export Similarity:

- If you produce and trade a set of goods which are completely different from your partner, then there is limited scope for trade creation (ie from the gains from additional specialisation)

- There is more scope for trade creation gains between countries currently exporting similar products but with scope for specialisation.

- Trade is often used as (an imperfect) proxy for production structures

- The Finger-Kreinin (FK) index measures the similarity of the export structure between any pair of countries and can act as a proxy for underlying production structures: FK by destination shows how similar 2 countries' exports to a given market are (eg world).

#6: Trade diversion is more likely when potential partners and excluded non-preferential partners are close competitors (export similar goods)

- Trade diversion occurs when efficient external suppliers are replaced by higher cost partners

- The Finger Kreinin indicator can be used to assess similarity of partners and outsiders

- The RCA index can be used to examine RCA of partners in products where RTA tariffs will be high

RoT 7: Supply Chain Integration

- Traditional gains from trade come from exploitation of comparative advantage. There are however further "dynamic" gains from increases in efficiency and productivity

- These are more likely to occur with deeper integration often via supply chains, which tends to lead to more intra-industry trade which is the simultaneous import and export of differentiated goods

- This can be a sign of current and potential future deep integration gains

- The Grubel-Lloyd (G-L) Intra-Industry Trade index measures the extent of overlap in imports and exports for the trade between countries; but the level of aggregation matters!

- Also useful to look at the trade by end use: final goods v intermediate goods trade

Session C5:
Deep Integration
& Value Chains

Introduction

- In this session, we look at Deep Integration Issues with particular emphasis on:
    - core elements of deep integration and
    - possible outcomes from deeper integration
- An important issue is that of niche specialisation and participation in value chains
- We present three ways of using the trade data that can help in assessing elements of deep integration between partners and explain the rationale and use of these
    - Trade in intermediate goods
    - Intra-industry trade
    - Value added trade

Deep Integration

- 'Deep' integration involves:
  - Finding the appropriate institutional framework for dealing with externalities and/or
  - Removing 'behind the border' barriers between preferential partners

  …. in order to create a 'common economic space' ('thick' markets)

- Deep integration is important largely because of potential links to productivity gains that go beyond standard analysis of comparative advantage (Smithian gains).

- This means that gains from deep integration can far outweigh gains from shallow integration

How important are non-tariff measures and the role of deep integration in the FTA?

- RTAs are, however, also often the first step to the creation of a "common economic space" through the reductions in tariffs

- Increasingly, however, FTA negotiations and agreements include provisions on a variety of non-tariff measures (NTMs), or 'behind the border' barriers

- Analogously to changes in tariffs, changes in NTMs within a FTA may also likely affect the trade of an excluded country- but this can be hard to assess

- There is no commonly accepted definition of what to include under the category of NTMs but typically these might be provisions on: standards and technical barriers to trade, government procurement, competition policy, trade facilitation, rules of origin, trade in services, investment, migration, labour standards, environment, and intellectual property

Elements and importance of Deep Integration

- **Creation of positive externalities:**
  - External to firm but internal to industry: e.g. standards;
  - External to firm, external to industry, but internal to country: e.g. legal system;
  - External to firm, external to industry, external to country, but internal to region: e.g. compatibility of transport infrastructure; and
  - International externalities: e.g. establishing and maintaining a rule-based international trading system.
- **Possible importance of deep integration:**
  - Investment,
  - productivity,
  - technology transfer,
  - economic growth

Deep Integration: market access vs improving business climate

- Changing domestic rules has 2 impacts
    - Better market access – both ways
    - Better business climate if chosen norms are appropriate

- **Winners:** firms already able to match international rules; firms led to become so; importers; consumers who want international "standards" to apply

- **Losers:** firms who can't comply; consumers who prefer cheap old local system

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"Standards" as barriers or facilitators

- Standards are just standardised definitions (inch, kilogramme, kw)

- As such they should be facilitators

- They are only NTBs when made mandatory by regulations

- Harmonisation of standards or regulations does not guarantee market access without agreement on
  - Conformity assessment
  - Accreditation

- EU requires that all food imports and some processes comply with its rules anyway (e.g. traceability)

- Note also that private standards dominate many sectors

Deep Integration in EU & US FTAs

- Competition policy to prevent local monopolies and cartels undermining new entrants: EU usually asks for this

- Standards: EU asks partners to adopt EU norms BUT soft obligations and compliance does not guarantee mutual recognition of conformity assessment

  - Good if you want to upgrade for domestic reasons

- US rarely calls for harmonisation but imports must meet US standards

- Environment and labour: usually strict enforcement of own laws called for

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Impact of Deep Integration

- Should allow firms better access to value chains
  - South Africa chose to adopt EU Water quality rules to ensure its fruit & veg would be accepted as safe in EU
- But private standards can sometimes achieve this
- Main impact of standards on trade not so much partners being forced to comply with EU or US norms but impossibility to sell into EU or US unless you comply with rules e.g. EU Food and Feed directive. FTAs don't change this, but may prompt reforms
- Cariforum negotiators used EPA as pressure on member states but few other binding DI rules

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Indicators

- Grasping the possible impact of 'deep' integration is less straightforward than quantifying the impact of shallow integration.

- This is because we are moving from a world of perfectly competitive markets to one where we allow product differentiation and economies of scale.

- However, 'deep' integration should result in
    - More trade in intermediate goods
    - Finer 'niche' specialisation across products and countries
    - The creation of (more) stable regional value chains

- Niche specialisation can be captured by way of Intra-Industry Trade (IIT) indicators.

- Value chain activity may be captured by reference to Data on trade in value added (World Input Output Database (WIOD) and the OECD TiVA database)

Key issues

- Value chains involve buying from or supplying to a part of the production process

- Frequently this will be across industry categories eg. supplying plastic parts used in the assembly of a camera

- Standard trade data cannot easily capture cross industry flows – ie there is no way of knowing who or what sector is using the product being sold

- However:
  - GVCs involve trade in intermediate goods, which can be addressed with standard trade data
  - In many industries value chains may be intra-industry
  - Tariff data also relevant here as they impact on costs of inputs.

Trade in intermediate goods: SITC

Code	Definition
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks
881	Photographic apparatus and equipment, n.e.s.
881.1	Photographic (other than cinematographic) cameras; photographic flashlight apparatus and flash bulbs (other than the discharge lamps of subgroup 778.2); parts and accessories thereof
881.11	Photographic (other than cinematographic) cameras
881.12	Flash bulbs, flash-cubes and the like
881.13	Photographic flashlight apparatus (other than the discharge lamps of subgroup 778.2)
881.14	Parts and accessories for the photographic cameras of heading 881.11
881.15	Parts and accessories for photographic flashlight apparatus
881.2	Cinematographic cameras and projectors, whether or not incorporating sound-recording or reproducing apparatus; parts and accessories thereof
881.21	Cinematographic cameras
881.22	Cinematographic projectors
881.23	Parts and accessories for the cinematographic cameras of heading 821.21

From: SITC rev.3

Trade in intermediate goods: SITC

Code	Definition	
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks	*(2-digit)*
881	Photographic apparatus and equipment, n.e.s.	*(3-digit)*
881.1	Photographic (other than cinematographic) cameras; photographic flashlight apparatus and flash bulbs (other than the discharge lamps of subgroup 778.2); parts and accessories thereof	*(4-digit)*
881.11	Photographic (other than cinematographic) cameras	*(5-digit)*
881.12	Flash bulbs, flash cubes and the like	
881.13	Photographic flashlight apparatus (other than the discharge lamps of subgroup 778.2)	
881.14	Parts and accessories for the photographic cameras of heading 881.11	
881.15	Parts and accessories for photographic flashlight apparatus	
881.2	Cinematographic cameras and projectors, whether or not incorporating sound-recording or reproducing apparatus; parts and accessories thereof	
881.21	Cinematographic cameras	
881.22	Cinematographic projectors	
881.23	Parts and accessories for the cinematographic cameras of heading 821.21	

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881.21	Cinematographic cameras
881.22	Cinematographic projectors
881.23	Parts and accessories for the cinematographic cameras of heading 821.21

From: SITC rev.3

BEC: 1-digit level

- SITC is then used as a basis for the BEC (Broad Economic Categories) classification:

No	Product Description
1	Food and beverages
2	Industrial supplies not elsewhere specified
3	Fuels and lubricants
4	Capital goods (except transport equipment)
5	Transport equipment and parts
6	Consumer goods not elsewhere specified
7	Goods not elsewhere specified

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Disaggregated analysis:

- Increasing GVC engagement suggests, either:

- **Increased imports of intermediates used in exports of eg. final goods – backward participation**

- **Increase exports of intermediates which are then used by other countries – forward participation**

- Traditional trade data to try and shed light on whether this may be happening by looking at imports and exports of intermediates

Trade Indicators: IIT

- **Intra-Industry trade:**
  - measures the extent to which the level of imports and exports are the same.
- This trade overlap indicator is traditionally calculated using the Grubel-Lloyd indicator:

$$GL_{ij}^k = 1 - \left(\frac{|x_{ij}^k - m_{ij}^k|}{x_{ij}^k + m_{ij}^k} \right)$$

- The GLI varies between zero (no simultaneous import and export of products within an industry) and one (overlap between imports and exports within an industry is total)
- If within industry backward participation up (or high) would probably expect IIT to go up or be high.

Intra-Industry Trade (IIT)

- Broadly, IIT takes three forms:
  1. The exchange of similar but **horizontally differentiated** goods (the same trade heading) of broadly similar qualities and prices;
  2. The exchange of similar goods of different qualities and prices. First and second categories together are known as *vertical IIT*;
  3. The exchange of goods within a trade classification that could represent a vertically integrated supply chain (parts for finished or part-finished goods). This is known as *vertical specialisation*.

Calculating IIT

- The level of aggregation matters:
    - If calculated on total trade it captures the trade balance between countries
    - If calculated at higher levels of disaggregation it can capture:
        - Niche specialisation
        - Value chain activity

- The higher the degree of aggregation, the higher is any index of IIT.

- At the 6-digit level, we are closer to products and hence more likely to identify niche specialisation

- At higher levels of aggregation we are in the presence of industries and hence more likely to capture vertical specialisation (value chain activity).

- One can differentiate the quality of products by looking at differences in export and import unit values

Interpreting IIT indicators

- We look at IIT indicators for several reasons

- IIT can be used as a proxy for deep integration. More IIT between two countries entails greater degrees of deep integration. IIT indices between European countries (deeply integrated region) are significantly higher than between regions with no elements of deep integration.

- Value chain activity is likely to generate IIT

- IIT indicators can also be useful in giving us an indication of the similarity of factor content embodied in production.

Regulatory Issues

- The RMA indicator can be used to identify products were sold into some partners and not others; if tariffs similar indication of possible NTBs
- Aim is identification of products/sectors where:
  - Partners' standards present obstacles to your industry exploiting their markets – a case for pursuing mutual recognition in RTA but may require upgrading testing and certification facilities (perhaps with aid from trade partners)
  - Your standards diverge from international norms which makes your products uncompetitive on foreign markets.
  - Companies do not have the capability of meeting foreign or even domestic standards – a role for domestic subsidy or development assistance to invest in physical or human capital
  - Government procurement is important source of domestic demand but foreign competition excluded or where standards diverge from international norms thus domestic industry not globally competitive and poorly performing
  - Where domestic regulation presents an obstacle to foreign competition – notably services

Value added and gross trade

- Looking at "gross" exports may be misleading. Need to be able to identify the value added in those exports.

- To do so:
    - … need to identify the intermediates that are used by each industry and
    - … where the intermediates come from: domestic v imported → input-output tables.

$10 exports of Mexican cars to the US

India: Sectoral export shares, 1995-2011

Source: WIOD database

India: Sectoral export shares, 1995-2011

Source: WIOD database
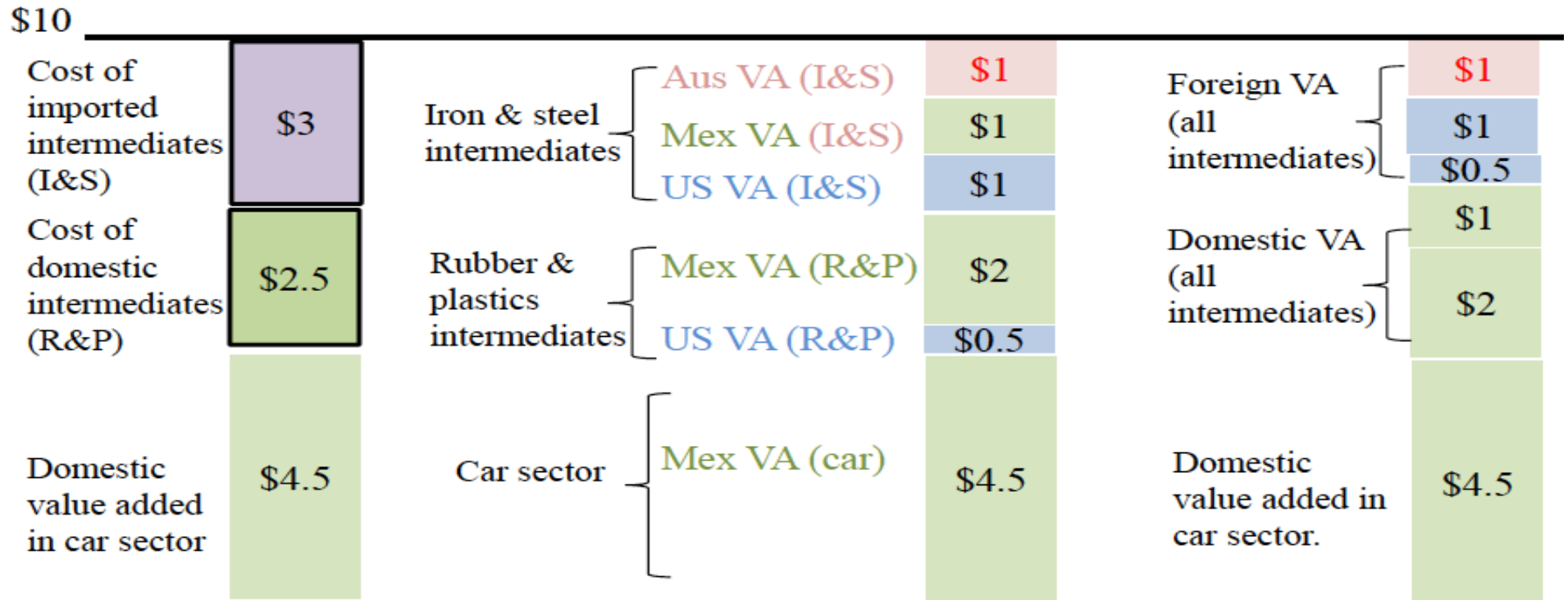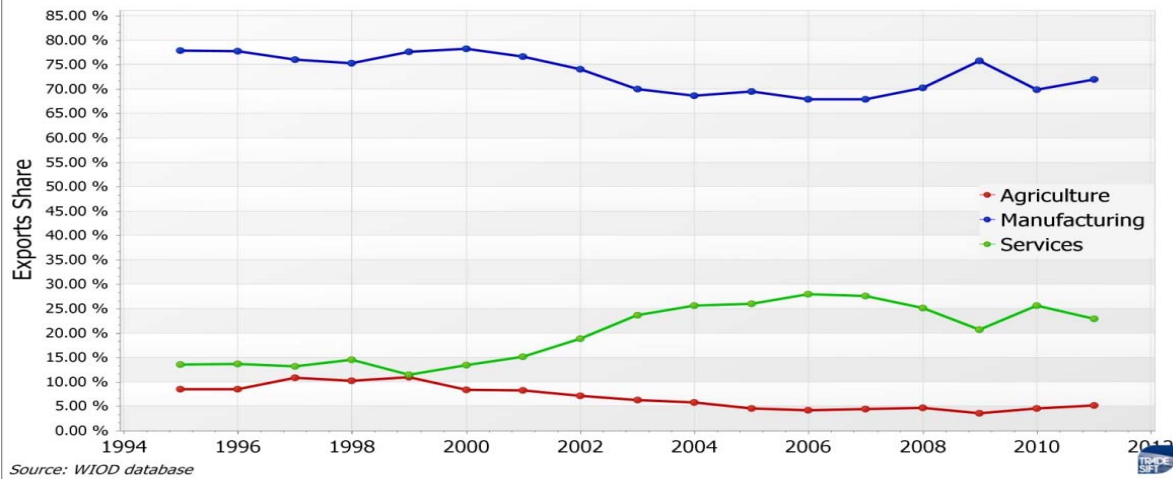
Sectoral Shares in Value Added Exports

Source: WIOD database
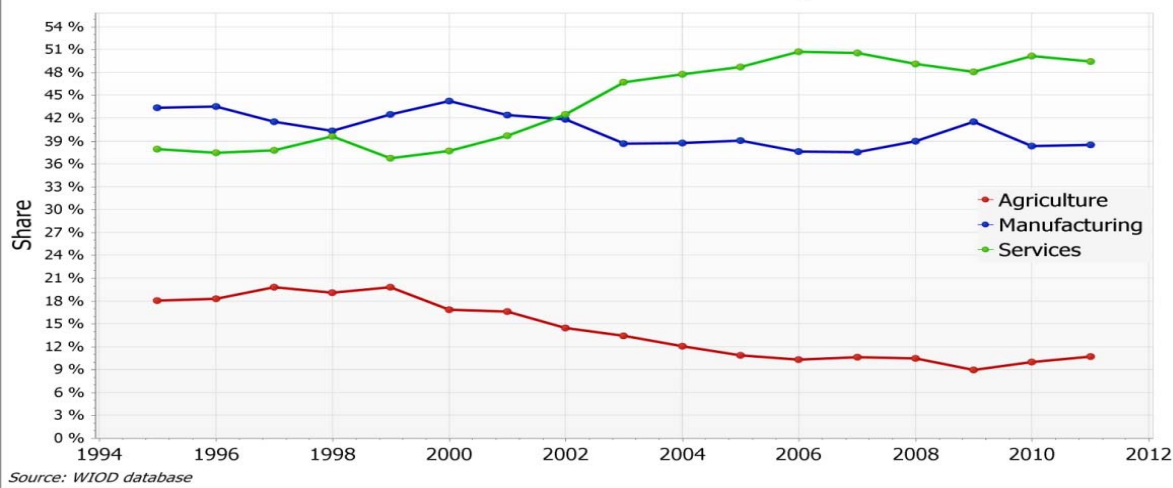
Both gross and value added trade flows matter

- Both gross trade flows and value-added trade flows matter:
    - It is important that India's gross exports of transport equipment in 2011 was c. $21 billion dollars
    - It is also important that Indian value added embodied in those exports was c. $8 billion
- Competitiveness in final goods depends on your use of intermediates and therefore where they come from
- Just because your gross (i.e. final) exports in an industry may be high does not mean that your value added embodied in those exports is high
- Just because your gross (i.e. final) exports in an industry may be "low" does not mean you do not export significantly in that industry; as your exports may be embodied in other industries
- … and maybe embodied in other countries exports

What issues are raised by trade in value added?

- What are the changing patterns of trade – both gross and value added?
    - What data is available?

- What is driving those changing patterns?

- What is the impact of these changes on…
    - Employment
    - Output
    - Productivity → growth

- Implications for policy
    - Is it desirable to "move up the value chain"?

Data: TiVA & WIOD

- TiVA (trade in value added)
  - Produced by the OECD
  - Indicators for 18 sectors – manufacturing and services
  - 57 economies (OECD + others)
  - 1995, 2000, 2005, 2008, 2009
- WIOD (world Input Output Database)
  - Produced by a consortium of EU universities
  - Provides detailed (input-output) tables for 36 sectors
  - covers 27 EU countries + 13 other countries
  - period 1995-2009.
  - Includes information on the employment by skill type (high medium & low) embodied in trade and production

Key calculations using such data:

- Gross exports and imports: this is equivalent to the traditional way of measuring trade value

- Final exports/imports & intermediate exports/imports: end use is measured precisely whereas without input-output tables the best that could be done was to try and allocate products to end use (eg. BEC)

- VA content of exports: domestic and foreign

- Services value added content of exports

- Foreign value added embodied in domestic final demand

- Domestic value added embodied in foreign final demand

- Standard "indicators", such as revealed comparative advantage can then be calculated using this new data.

- Employment associated with value added trade

Changing patterns: Every picture tells a story….

Domestic Value Added Embodied in Gross Exports
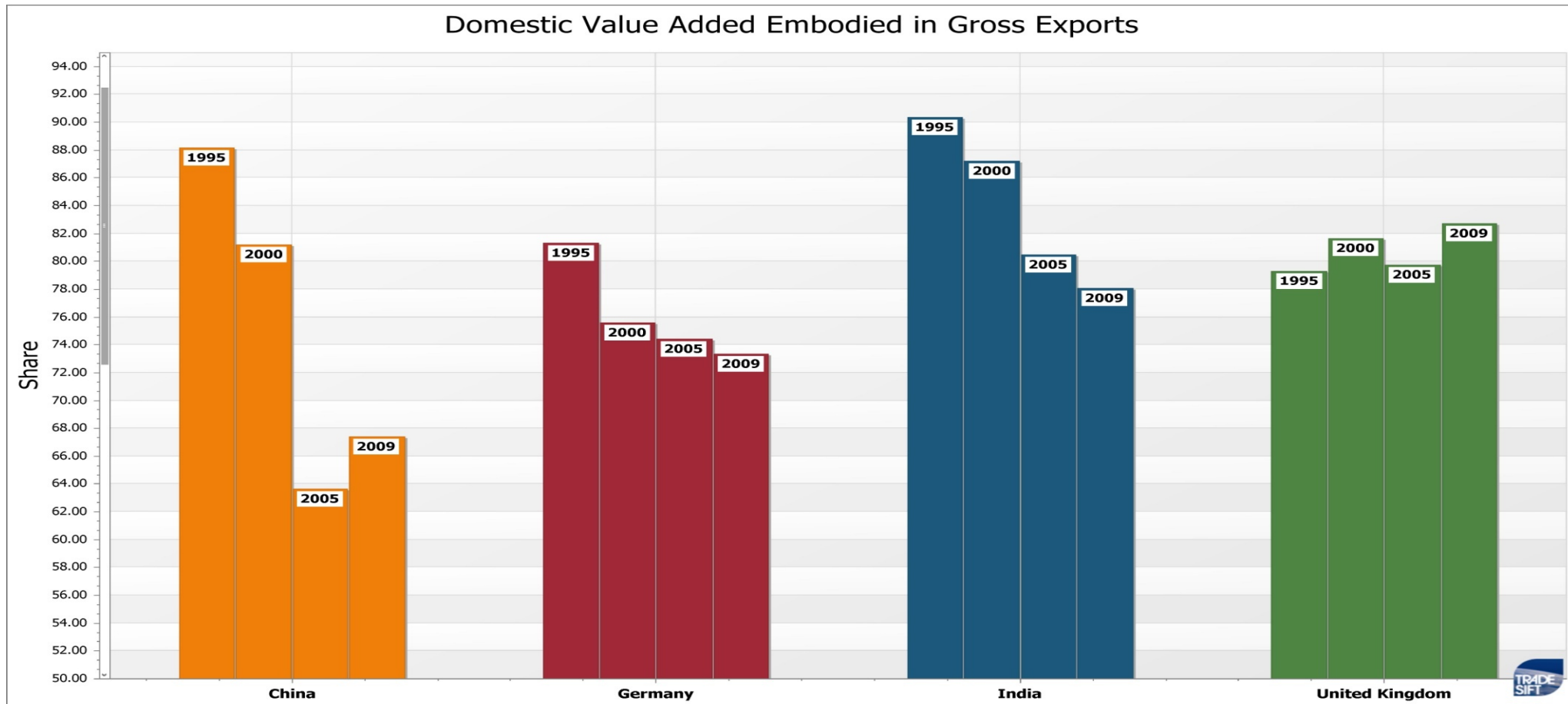
Value chain activity varies widely by sector

Top 10 China Products Exported to World 2009
Comparison of gross exports with value added trade (millions of $)
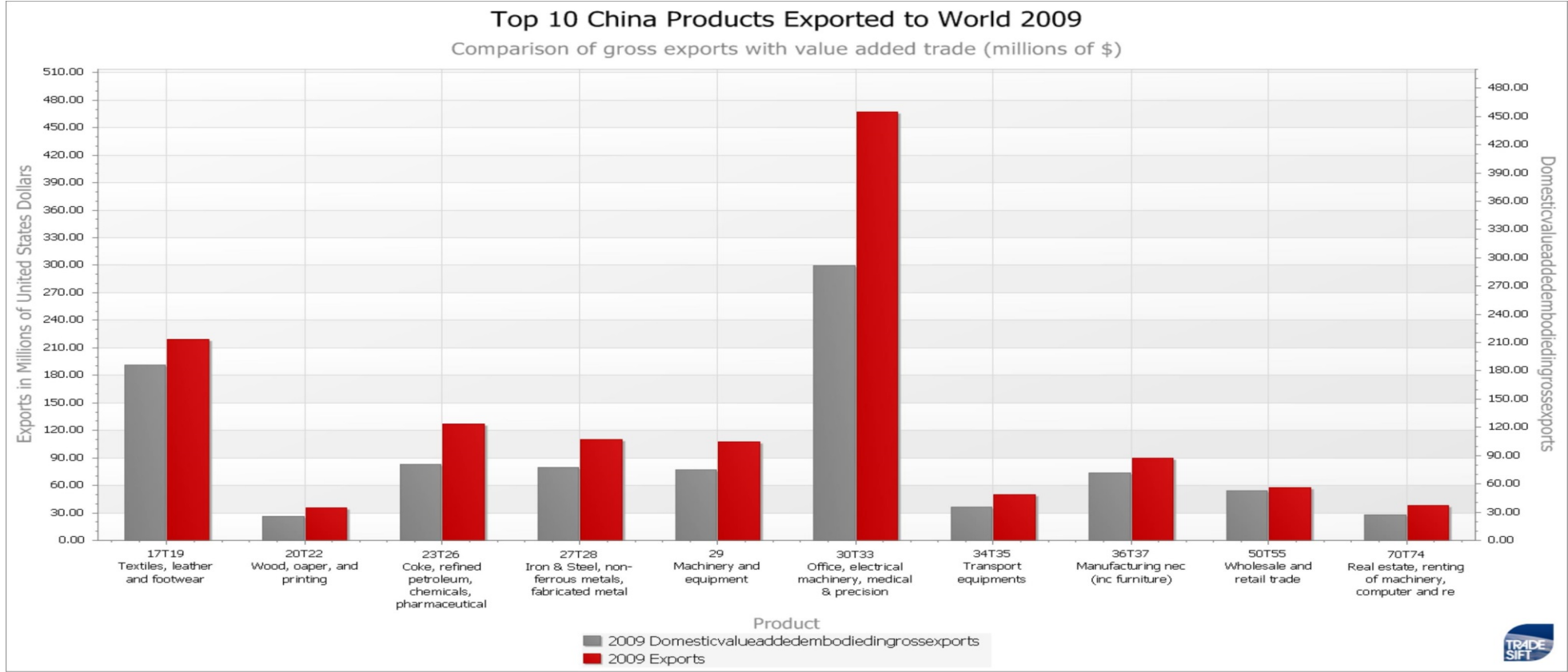
Drivers:

- Lower ICT costs making things like communication (emails, VOIP), electronic payments, monitoring and inventory control, just in time production, supply of services overseas etc easier.

- Greater complexity of goods requiring a greater range of inputs – though note this is likely to be endogeneous. i.e the easier it becomes to vertically fragment production the easier it may be to design and produce more sophisticated goods.

- Lower transport + logistics costs, trade facilitation. Matters more as goods cross boundaries more often.
  - Note however distance still matters → Baldwin's "regional factories. The idea that the "world is flat" is far from true.

- Further reductions in tariffs, regional trading agreements

- Reduced barriers to investment

- Greater standardisation + harmonisation + other elements of deeper integration; possibly around RTAs but not only.

- Externalities / spillovers between firms which are more important within fragmented processes

Impact

- Vertically fragmented trade allows countries to specialise in much finer bits of the production process.

- That specialisation can be driven by comparative advantage in those finer bits

  - the gains are therefore gains from comparative advantage but at finer degrees of specialisation, thus allowing for "Smithian" gains.

  - Plus the trade and the gains may be driven by externalities / spillovers between firms and industries.

- This form of specialisation may be easier to achieve where integration is "deeper" – ie where non-tariff barriers between countries are lower.

Impact - productivity

- May lead to productivity changes
  - Economies of scale
  - Tech transfer
  - Managerial know-how transfer
  - Greater incentive for innovation and/or R&D
  - Greater incentives for investment
  - There may be positive externalities from having a specialised workforce in a given specialisation → inter-firm externalities
  - there may also be intra-supply chain externalities as above to do with technological transfer + managerial know-how transfer.

Moving up/along the value chain

- Does it matter where an industry / country is in the value chain? Much talk about developing countries wanting to "move up the value chain"

- Greater integration in value chains likely to lead to higher demand for higher skilled workers = one way of moving up the value chain

- Smile curve:
  - depicts the share of stages of production in value added.
  - Share of fabrication (assembly) has gone down as it has become commoditised
  - While share of pre-and post fabrication stages (services) requires flexible higher skilled workers.
  - In rich nations factory jobs have become "bad" jobs, while pre and post-fabrication services have become "good" jobs (Baldwin and Evenett, 2013)

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Value chain activity and level of development

Figure 2: The smile curve, good and bad stages in the value chain.
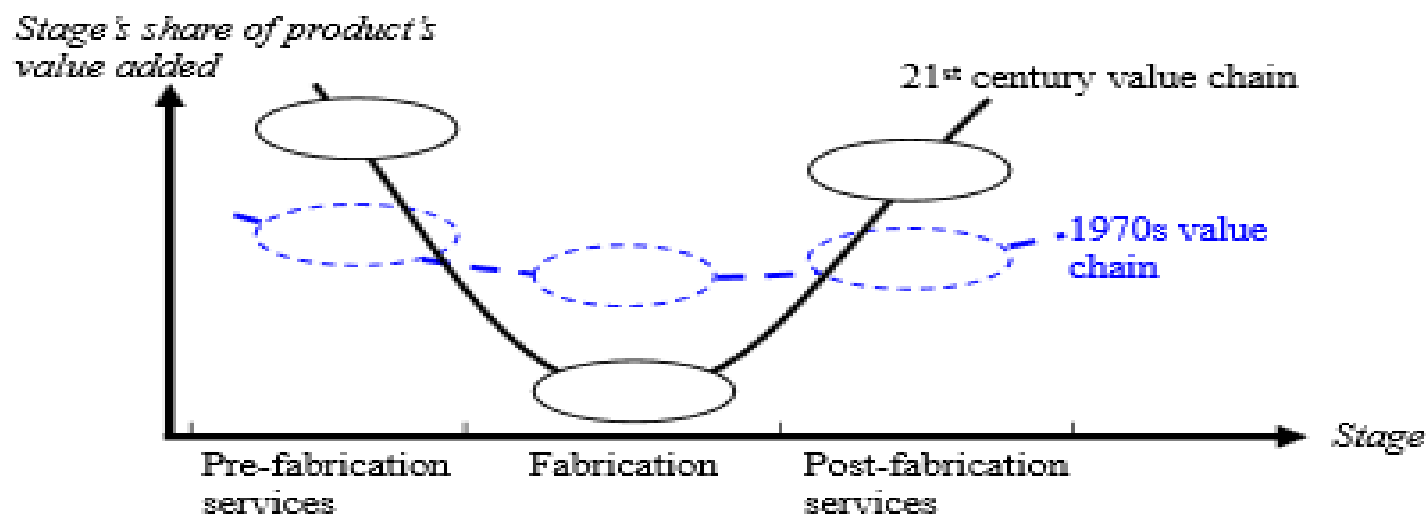
What does it mean to move up the value chain?

- Doing what you do already, but doing it better i.e. becoming more productive therefore getting a higher payment, e.g. getting better at assembly / production of garments (process upgrading)

- Improving the quality of what is being produced (product upgrading)

- Changing the mix of activities produced by the firm: moving into new higher value-added activities e.g. not just producing micro chips, but doing semi-conductor design (functional upgrading)

-

Why would you wish to move up the value chain?

- As a form of specialisation and exploiting comparative advantage at finer levels

- Moving into higher value added activities implies moving into more productive activities (assuming factors are paid their marginal revenue products)

- Because there are more spillovers associated with higher value added activities which can lead to higher growth (from technology transfer, investment...)

But...

- Is it better to do a small amount of higher value added activity or a lot of lower added value activity? Does it matter for China that there is less then 5% of Chinese value added in the iphone or ipad?

- Moving up the value chain implies:
  - Either producing a higher domestic share of value added, at the limit 100% and is this sensible?
  - Or, shifting out of other, lower value added activities, which are presumably labour intensive, and therefore there may be clear distributional implications.

Policy implications

- GVC analysis suggests competitiveness depends on the way you interact and integrate with other industries
  - Being a competitive automobile producer requires being able to source designs, marketing and distribution (services), and parts, and to organise the production process.
  - Being competitive in parts (eg engines) requires being able to meet the technical standards demanded of the automobile producer and sourcing the right components competitively
  - Being competitive in design requires being able to liaise with the producer and with upstream parts manufacturers
  - ….

  - Some of this you can do at "arm's length" e.g. by producing to ISO / international standards, but other elements might be easier with closer upstream and downstream relationships

Policy implications – trade costs

- Tariffs, NTMs, barriers on investment, etc impact on foreign suppliers but also on domestic producers.

- If domestic producers import intermediates than making those more expensive, reduces their competitiveness.

- Integration in value chains depends on being able to ship goods/ideas easily between units. So anything that makes that more difficult is problematic.
  - As goods cross borders several times raises the importance of customs procedures and efficiency of port logistics → trade facilitation
  - OECD estimates suggest that cost reduction of all trade facilitation measures could be up to 15% for low income countries, 16% for lower middle income; 13% for upper middle income, and 10% for OECD countries.

- Also raises importance of the logistics chain: transport, logistics, finance, communication → need for necessary business and professional services to move goods and coordinate production ie services inputs are an increasingly important part of successful exporting

Policy implications - firms

- Potentially makes it easier for small and medium sized firms to be part of a global supply chain as component or service suppliers

- However, also creates additional demands – need for information, coordination and traceability between producers between countries (standards, reliability, lean inventories)
    - May have to produce to different standards to different markets
    - Need for certification

- Therefore importance of regulatory cooperation / coordination, possibly mutual recognition of standards

Back to economic (deep) integration

- Gains may be stronger if countries cooperate (gains from regulatory cooperation / harmonisation; recognition of qualifications; less constraining rules of origin) → regional agreement, plurilateral and multilateral agreements.

- Free Trade Agreements might help to lock-in policies

- The more such agreements can go beyond goods trade liberalisation the more likely it is that they will address some of the constraints to GVC participation. Hence include areas such as: services, investment, competition, intellectual property, temporary movement of workers

- Gains may be stronger where networks are important (between firms; between R&D and industry) – possible role of clusters?

- Clearly complementary policies also matter: labour market, social policies, infrastructure which help build supply side capacity etc

Session C6:
Preference Erosion and The Effects of an RTA on Excluded Countries

Outline

- Introduction

- Basic concepts
  - Trade diversion
  - Trade reorientation
  - Political economy issues
    - Domino & Juggernaut effects

- Rules of thumb

Introduction

- Little attention is given to the effects on 3rd parties excluded from an RTA who may
  - lose market shares or
  - have to cut prices to stay in the market and suffer "terms of trade losses"
- Excluded countries may have been
  - efficient suppliers who suffer "trade diversion"
  - inefficient suppliers who suffer from trade re-orientation (preference erosion)
- Exclusion creates domino effect demand for membership
- FTA Members suffer from trade diversion but gain from trade reorientation

Trade diversion

- Trade diversion occurs when an efficient supplier of a product is excluded from the market of an FTA partner who then buys within the FTA.
  - It is a minor inconvenience if the excluded partner can switch exports at the same price to the world market
  - It will cause terms of trade losses from price cuts if the excluded country has to reduce its price to find an external market or to match the advantage the partner now has
- The importing FTA partner loses from having to pay higher prices and loss of tariff revenue
- The FTA partner gaining market share gets higher prices within the FTA – but at possible expense of long term uncompetitive investment
- USA is typically "victim" of trade diversion under EU FTAs (or enlargements) – eg if cut out of CARIFORUM market after EPA

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Simple Arithmetic of Trade Diversion

Efficient third country supplier	Proposed Partner Before agreement		Efficient third country supplier after agreement	Proposed partner after agreement
Price at Frontier $90	Price at Frontier $100		Price at Frontier $90	Price at Frontier $100
MFN tariff 20%	MFN tariff 20%		MFN tariff 20%	tariff 0%
Landed price $108	Landed price $120		Landed price $108	Landed price $100

TRADE SIFT

Trade Reorientation

- Similar to "preference erosion" – countries with preferences or FTA membership will lose relative benefits both under FTAs they are not in and from multilateral liberalisation by their partners.

- An initial preferential deal (eg GSP) may have allowed now to be excluded country market access to partner in newly created FTA, but only because of preferences. Loss of preferences makes new FTA partners relatively more competitive so previously favoured countries will lose market share.

- Typical example: Mauritius with free access to EU market for some of its sugar and its clothing loses if EU opens to others

- Pakistan is worried about losing its relatively favoured status under GSP if India gets FTA with EU

- Preferences may just redistribute trade among preferred partners

Ambiguous effects

- Not always easy to distinguish Trade Diversion and Trade Reorientation.

- Need to be able to predict competitiveness of previously successful exporters in face of additional competition

- Excluded country needs to look at its competitiveness in third countries to explore likely costs of exclusion: did Mauritius only export clothing due to EU preferences?

- Need to distinguish
  - overall impact and specific sectoral impact
  - Amount of trade affected vs size of preference margin

Political economy: "Domino & Juggernaut Effects"

- Included countries see exclusion of 3rd countries as a source of gain.

- Included countries may resist expansion of bloc: or further external liberalisation (eg Mexican doubts about China's accession to WTO).

- Excluded third countries may demand to join FTAs they have been left out of. Market seeking "Domino Effect" (see Baldwin), eg Chile. If India has EU FTA Pakistan wants one too.

- As uncompetitive import-competing industries within a country decrease in size their protectionist power diminishes (Baldwin: "Juggernaut effect"). And pro-export lobbies grow.

- But remaining protected industries may be very deeply entrenched and further opposed to liberalisation in their sector towards 3rd countries.

Rules of Thumb 1-3

1. The greater the importance of the FTA partners for the exports of the excluded country, the greater will be the impact of being excluded from a preferential agreement.

2. The height of tariffs. The higher are the initial tariffs between A and B the larger the impact of any agreement on their bilateral trade, and the greater the likely impact on country C.

3. Similarity of composition in trading structures. The more similar are the excluded countries in their trading structures to the signatories of the agreement, the larger the scope for the preferential agreement to cause trade diversion or trade re-orientation in these third countries.

Rules of Thumb 4-6

4. Similarity in competitiveness. A country excluded from an FTA may face less adverse pressure on its exports where its underlying comparative advantage is in different products.

5. Height/existence of non tariff measures. If NTMs are high but are not removed the RTA will have less impact on 3rd parties.

6. Terms of trade impacts. There is a greater likelihood of adverse terms of trade changes for the excluded country if: goods are more homogenous; there is larger market share between FTA members; there are larger tariff cuts intra-FTA or there is a greater overlap in exports of the excluded country and an FTA partner.

Rule 1: The Importance of Respective Markets for Third Parties

- **Trade Shares**
  - TradeSift can identify the top "n" products which are exported by country C to any particular market, to show the share of total trade that country C represents. The top "n" industries can then be saved as an industry selection, which can then be used in the calculation of further indices g.g:
    - Revealed comparative advantage and Finger-Kreinin indices show how competitive excluded countries are and how similar their trade is to FTA members'.
    - It is also important to look at the evolution of these shares and indicators over time.

- **Trade Intensity Indices**
  - The importance of particular markets can also be assessed by calculating Trade Intensity Indices (TIIs). The TII provides information on the extent to which a country trades more with particular partner countries in comparison to the rest of the world.

Rule 2: The Height of Tariffs

- **Viewing Tariffs**
  - The height of the tariffs and hence the extent of the tariff cuts between FTA members can be examined
  - Industries with the highest tariffs or zero tariffs can be sorted and saved, and these selections can then be used to explore the importance of these sectors in the excluded countries trade by looking at market shares and the competitiveness of the excluded country by looking at:
    - Indices of revealed comparative advantage
    - Finger-Kreinin Indices
    - RECPI

Rule 3: Similarity of Composition in Trading Structures

- **Finger-Kreinin Indices**
  - This will tell us how similar excluded country exports are compared to partners'
  - The more similar they are, the more the adverse effects on the excluded country, in terms of market shares and prices cuts needed to stay in the market, meaning greater scope for trade diversion or re-orientation for excluded countries.

Rule 4: Similarity in Competitiveness

- An excluded country may face less adverse pressure on its exports if its comparative advantage is in different products to those of FTA members. Hence, one can analyse:

Bilateral RCAs
- By first looking at standard RCAs (w.r.t. World) and identifying an excluded country's most competitive products, one can then look at bilateral RCAs in these 'strong' products to establish whether there's a competitive advantage over FTA members, and therefore see if tariff cuts are likely to affect exports.

Relative Export Competitive Pressure Index (RECPIs)
- This index adjusts the similarity of overall trade patterns to allow for the importance to the excluded partner of products potentially subject to discrimination. It is therefore designed to show the average degree of competition country j faces in country A's market from country k, specifically in the products exported by country j to A.

Rule 5: Height/Existence of Non Tariff Measures/Barriers? (NTM/NTB)

Revealed Market Access Indicators

- This can show how far market shares in a region differ from those in "similar" regions and indicates possible NTBs

Intra-Industry Trade

- The greater extent of deep integration also implies that it is easier for companies to source components and services internationally as fewer barriers exist. A third party will need to know how far its involvement in value chains may be affected by a new agreement

Vertical Intra-Industry Specialisation

- Can shed light on a country's involvement in international supply chains regarding the type of goods a country imports from one partner and those it exports to another

How Important are Non-Tariff Measures and the Role of Deep Integration in the FTA? (Rule 5 cont'd)

- RTAs are often the first step to the creation of a "common economic space": with elements of 'deep' integration. Increasingly, FTA negotiations and agreements include provisions on a variety of non-tariff measures (NTMs), or 'behind the border' barriers

- Analogously to changes in tariffs, changes in NTMs within a FTA may also likely affect the trade of an excluded country- but this can be hard to assess

- There is no commonly accepted definition of what to include under the category of NTMs but typically these might be provisions on: standards and technical barriers to trade, government procurement, competition policy, trade facilitation, rules of origin, trade in services, investment, migration, labour standards, environment, and intellectual property

Rule 6: Terms of Trade Impacts

- Excluded countries may have to cut prices to stay in the FTA market

Finger-Kreinin Index

- Similar trade patterns High FK indices and large tariff changes in the FTA formation may mean greater likelihood of the need to lower prices to keep market share within the FTA.

Trade Shares

- the higher the share of the included countries in each other's market the more any increase in their sales is likely to depress prices
- It is important to distinguish between shares at the aggregate level, vs. particular sectors and products

Is the FTA likely to impact on the price of country C's exports? (Rule 6)

- Country C may find that it can still sell into countries A and B but in order to remain competitive with respect to intra-FTA suppliers, it may need to lower its prices to keep up export volume

- The impact on the terms of trade is then likely to be greater if country B already has a large share of A's market, or vice-versa, due to greater scope for price declines

- If country C's products are very similar to those of B, it will have to cut prices more to keep its market share, less so if its products are differentiated, e.g. different quality

Session C7:
Using TradeSift for Export Opportunity Analysis

Introduction

- Aim is to identify future possible export opportunities / unexploited potential

- In order to do so, important to look at:
  - the performance of the country in question across products and in different markets;
  - but also important to look at performance of (possible) competitors.
  - Look at development of demand in international markets

- Four steps to doing this...

Identify areas of current and emerging strength, particularly in promising markets

- To identify export opportunities we wish to establish in which markets a country has unexploited potential, which could be:
    - (a) unexploited opportunities in existing products and existing markets;
    - (b) unexploited opportunities in existing products but in new markets;
    - (c) unexploited opportunities in new products and new markets.
- Broadly speaking there are two possible drivers of increases in exports:
    - either an increase in productive capacity / efficiency,
    - or an increase in demand.
- These could occur independently or simultaneously and indeed could be linked – higher productivity could lead to lower prices and increased demand.
- Identifying export growth opportunities should therefore involve identifying both sides of the story.

4 stages

- Use TradeSift to:
- Identify areas of current and emerging strength, particularly in promising markets
- Look at performance:
    - look for weaker performances in similar markets or products
    - Look at evolution of demand for products and/or in particular markets
- Then:
    - Use detailed market knowledge to work out if there really is an unexploited opportunity, e.g. a trade barrier or lack of exploitation
    - Consider whether any action is needed beyond alerting market participants

Identify areas of current and emerging strength, particularly in promising markets

- Filter through export products (at 6-digits) for ones with a series of positive indicators overall e.g:
  - Strong and rising RCA
  - Large trade surplus
  - Fast growth – especially in promising markets, and compared to rivals
  - Rising market shares
  - Do this for different categories of trade

- Use the Analytical Tables in TradeSift to categorise exports into: retreat, missed opportunities, declining star and rising star

Analytical Tables: Trade Monitor

		Change of product share in world imports (= change in relative world demand)	
		Negative	**Positive**
Change in share of the product in A's exports	**Negative**	**Retreat** (Decline in declining mkt)	**Missed Opp.** (Decline in growing market)
	Positive	**Declining Star** (Success in declining market)	**Rising Star** (Success in growing market)

TRADE SIFT

Look for weaker performances in similar markets or products

- Use RMA index to see if there is a variation in the performance among similar markets, e.g. is our growth of exports to the EU matched by that in the US?

- Look at similar products in the same 4-digit class (as the identified 6-digit class) to see if there are any others where there is a positive and growing trade balance but limited or uneven volumes

Use detailed market knowledge to work out if there really is an unexploited opportunity, e.g. a trade barrier or lack of exploitation

- Next step outside TS is to use detailed market knowledge to investigate whether there are in fact differences in market conditions that can explain the discrepancies, e.g. does the EU have a regulation that others do not have?

- Or is there a competitor with preferential market access?

- Or is there a simple supply constraint?

Consider whether any action is needed beyond alerting market participants

- If it appears that there is an unexploited opportunity it may simply be enough to inform market participants.

- It would not be sensible to use TS to call for subsidies to a group of producers

- It may be that government action is needed eg:
  - More active joint marketing work
  - Opening discussions with a trade partner
  - Action to open supply bottlenecks

Session C8:
Unilateral Liberalisation

Conceptual Context 1

- By unilateral liberalisation we mean the total or partial removal of some or all tariff and non tariff barriers (NTB) to imports of goods and services from some or all sources, and which is not accompanied by requiring reciprocity from trade partners.

- Unilateral liberalisation does not imply zero tariffs or NTBs.

- It is under direct national control over the pattern, degree and timing of liberalisation.

- It has been the main means of liberalisation among developing countries post-1950.

Conceptual Context 2

- The key attribute of unilateral liberalisation is that it is at the expense of the uncompetitive incumbent supplier protected by the trade barrier

- It generates either
    - **trade creation** (it displaces uncompetitive domestic producers)
    - or **trade reorientation/preference erosion** (it displaces uncompetitive preferential trade partners)

Winners from Unilateral Liberalisation 1

- **The economy overall** as resources move to more efficient domestic uses as competition from imports increase

- **Consumers** who get some combination of lower prices/higher quality /more choice for some or all goods

- **Workers generally** who see a fall in the cost of living and an increased real wage (the size of this will depend on the degree and coverage of the liberalisation)

- **Domestic producers** who get lower cost/higher quality imported inputs and less cost pressure from domestic inputs and notably wages as upward pressure on the price level is reduced by cheaper imports

Winners from Unilateral Liberalisation 2

- **Government revenue** *may* increase where MFN tariffs remain positive and:
  - trade diversion losses from preferential agreements are converted back into tariff revenue
  - price elasticities are high so total value of imports may increase proportionately more than the unit tariff falls thus increasing revenue;
  - pre-liberalisation tariffs are so high as to prohibit trade then a cut that allows some trade to take place will generate tariff revenue where previously there was none;

- **Efficient foreign MFN suppliers** who gain market share

Losers from Unilateral liberalisation

- **Domestic producers of import competing goods** whose output prices fall; input prices may also fall but not enough to compensate for the loss in sales revenue

- **Workers who are made unemployed** and do not quickly get replacement jobs at the same or higher wages

- **Government revenue will *probably* fall from lower MFN tariffs**. If all tariffs were zero then there would be no revenue. Other taxes would have to rise to compensate. The impact of this would depend on whether the alternative tax was more expensive to collect, what impact it had on the efficiency of resource use in the economy not just compared with tariffs but more widely (eg a tax on employment as opposed to taxes on consumption or income or natural resources/externalities), and who paid

- **Foreign suppliers with preferences** who see these eroded and lose the gains from trade diversion

Drawing the balance

- Economic theory suggests that unilateral liberalisation always leads to an overall net gain in economic efficiency through trade creation and reorientation.

- But there are losers as well as winners and a process of adjustment; winners seldom make as much political noise as losers

- And in some cases the losses and the adjustment costs are large and/or highly concentrated by industry or region or gender or ethnic group, all of which raise the level of opposition.

- Without reciprocal opening of foreign and markets it is harder to find domestic supporters for the liberalisation among export industries.

- It is therefore important to identify likely losers and adjust the selection of targets and implementation timetables and to consider flanking policies to help losers (for example retraining, infrastructure investments to help affected regions, subsidies to maintain environmental externalities generated by protected industries)

Motives for unilateral liberalisation

- The motives for unilateral liberalisation in the order of least domestic gross cost i.e. implicitly from easiest to most difficult:
  - to reduce the costs of trade diversion from existing preferential liberalisation – *foreigners have no votes*
  - to tackle inefficiencies in specific sectors eg with monopolistic structures – *hitting fat cats*
  - to reduce costs of inputs for export industries – *going for export led growth*
  - to reduce discrimination among domestic industries arising from tariff peaks or industry or product specific NTB – *giving new, high growth, industries a level playing field*
  - to improve the efficiency of the economy overall and reduce the domestic price level – *going for broke*

Foreigners have no votes

- **Reducing the cost of trade diversion**
    - In a free trade area (but not a customs union) a member losing from trade diversion can reduce the terms of trade loss by reducing the MFN tariff and the preference margin.
    - If tariffs remain positive then tariff revenue may increase.
    - The presence of trade diversion suggests that the domestic industry may be uncompetitive and small so liberalisation should be uncontroversial domestically
    - The preferential partner(s) may complain about preference erosion and may have the ability to retaliate by eg reducing their MFN tariffs in sectors where your exporters make trade diversion gains in the partner's market.
    - The costs of trade diversion will be larger the higher is the tariff (or the tariff equivalent of any NTB) and the lower is the pre-FTA market share of preferential partners

Hitting the Fat Cats

- **Tackling inefficiencies in specific sectors eg with monopolistic structures**
    - High frontier protection, low or zero imports and a small number of domestic firms can give rise to high monopoly profits, restricted output, low quality of provision, high prices, low levels of innovation and excess capacity.
    - Barriers to entry (notably fixed costs and economies of scale) may prevent domestic competitors entering the market. Collusion may also be present.
    - Opening the market to foreign firms will introduce competition and in particular will overcome barriers to entry problems, hence increasing supply, variety, quality and innovation and reducing prices.
    - Where the new tariff is above zero, liberalisation may increase tariff revenue as demand increases and draws in greatly increased imports

Rules of Thumb and TradeSift Indicators 1

- The pay-off to unilateral liberalisation will be higher:
  1. The higher the MFN tariff, the bigger the increase in the trade share of the preferential partner from a given FTA and where there are high tariff peaks. **Indicators: trade shares; MFN Tariff rates**
  2. The more concentrated the sector. **Indicators: Herfindal ratio for domestic industrial structure/trade by sector;**
  3. The higher the levels of protection from tariffs peaks and/or NTM **Indicators: MFN tariffs; NTM**
  4. where barriers are highest among imports of raw materials and intermediate goods. **Indicators: tariffs and NTMs by BEC classification;**

Going for Export led Growth

- Export industries, since they compete on world markets, are likely to be among the most efficient in the economy and likely to contain innovative, fast growth firms and to attract foreign partners – supply chains, technology, FDI.

- Raising the domestic price of their imported inputs and the prices of domestically sourced import substitutes will retard their growth and reduce long term potential growth of the economy as a whole.

- Liberalising imports of inputs (including services) has the potential not only to raise the competitiveness of existing exporters but also bring new firms into exporting. Liberalisation will increase output and exports and hence, profits and employment in sectors that are likely to be high productivity and facing increasing demand.

- A strong export sector will be a potential champion of more open trade policy for its own

Giving new, high growth, industries a level playing field

Tariff peaks

- Discriminate among products and domestic producers.
- Favour some domestic sectors over others thus pulling resources into more highly protected and potentially more poorly performing sectors and away from efficient, innovative and competitive sectors.
- Distort domestic resource use both by raising the cost of imported goods and the demand for domestic factors of production (land, labour, capital) used by activities favoured by high protection at the expense of potentially high productivity uses.
- Can be cut using formulae or quite selectively to protect politically sensitive industries while prioritising cuts to peaks that benefit FTA partners or monopolists or penalise exporters.
- Are easily calculated and can be equally easily ranked.

Uniform Tariffs

- More uniform tariffs will improve domestic resource use and raise efficiency.
- If designed well they need not reduce the overall average level of protection or tariff revenue.

Going for broke – a general liberalisation of Foreign trade

- The key challenge will be to craft a general liberalisation that maximises support and minimises opposition.

- A unilateral liberalisation has one key political advantage over multilateral, plurilateral or bilateral agreements: it is totally in the control of the Government in relation to degree, timing and distributional impacts.

- It can be done in small steps prioritising the most potentially popular and leaving most difficult cases to later

Rules of Thumb and Tradesift Indicators 2

5: Where exporting industries show high and /or growing levels of intra industry trade and vertical specialisation **Indicators: IIT; MFN Tariffs, MTN**

6: Where there are similar structures of production and exports to (or levels of similarity, converging on) successful exporting countries at similar level of development. **Indicators: Finger-Kreinin index**

7: Domestic opposition to unilateral liberalisation will be higher the higher is: the MFN Tariff, the domestic industry market share and its competitiveness relative to preferential partner and the larger is the domestic industry and/ or the more concentrated it is geographically or otherwise: **Indicators; MFN tariff and NTMs (ranked by height of protection), RCA, market share of import substitute sector, imports by BEC classification; IIT;**

8: The preferential partner will object more: the higher is the MFN tariff, the higher is its competitiveness in the product, the more important your market is to it, the more important its market is to you. **Indicators: MFN Tariff, RCA, RMA, export share**

Conceptual Framework

Welcome to TradeSift
Session TS1: Using TradeSift

Data management

- Data first has to be downloaded from eg. WITS or Comtrade
- Important to consider carefully what data you need in terms of:
  - Classification scheme
  - Level of aggregation
  - Reporter and partner countries
  - Years
- TradeSift can then load in the relevant Excel, CSV or TXT files
- Data summary: tells you what data you have loaded
- Loading log: history of the files you have loaded for that project.

Projects

- TradeSift work is designed to be grouped into Projects. Each Project will have a selection of data relevant to your work and your saved graphs, tables and reports

- There is a very large amount world trade data available- hence we organise our work into Projects

- Project management
    - Creating... This is for new projects
    - Opening... This is for pre-existing projects
    - Saving and deleting
    - Loading data into a project... TradeSift does not (normally) come with preloaded trade data. This needs to be loaded into the program either by using standard publically available trade data, or using your own data.

Menus, windows and navigation

- **Main window**
    - Main menu (top of screen)
    - Tool bar (below the main menu bar)
    - Navigation bar (to the left of the main window)
    - Project explorer (to right of the main window)
- **Help facility**
    - User manual
    - Conceptual manual
- **Tabs** as part of main window

Exercise: Projects management

- **Open TradeSift** and create a project
  - Choose Create a New Project and give it a name
  - Click on Next → default settings (leave blank for now)
  - Click on Next then OK.

- **Load Data** into the project
  - Click on Load Data (From Files)
  - Click on Files, find the sample folder on your computer / USB, click on the files (you can use Ctrl-A), then select Open
  - Then click on Load

Exercise: Menu and navigation

- Practice:
  - Closing TradeSift, and restarting
  - Opening a project
    - Find the project you were working on and open the project
  - Navigating around the main window, and hiding / showing panels
  - Exploring the user manual
  - Exploring the reference data

Viewing Trade and Tariff data

- When you open a data or indicator screen you will be typically asked to step through a series of choices. You will then see a row of 5-6 buttons across the top of the screen

- These determine your selection:
  - Nomenclature
  - Reporter (country)
  - Partner (country)
  - Years
  - Industries

- The first time you make a selection you need to go through these sequentially – subsequently you can go straight to any of the options

Exercise: Viewing and Filtering Data

- Practice:
  1. Take Country A as the reporting country: Now find which are the main destination countries for Country A's exports?
     - Hint: you only need to look at total trade data here. Check you have all countries listed as partners.
     - Which country is Country A's principal export destination?
  2. Now look at trade by product: which are Country A's main exports (e.g. at the 6-digit level) for the most recent year?
     - First look at the exports to the world
     - Next look at the exports to Country A's principal destination.

  Summary:
  - Features: Column selection, formatting (pivot), filtering (top 'n')
  - Same principles with tariff data and indicators.

Data selections and the data screen

- For example, total trade by partner countries over time
  - Pivoting the data, by year or by country
  - Showing / hiding column
  - Graphing the selection + the graphing options
  - Exporting the selection
  - Saving / opening selections

Saving Product Selections

- In many instances you will find it useful to carry out further analysis on a sub-sample of products or countries e.g. top exports or imports.

- TradeSift allows you to create and save such subsamples, so that you can easily use them again.

- These can then be used in conjunction with other indicators

- Suppose we want to look at the trade or the comparative advantage in the top exports of Country A to Country B...

Saving Product Selections:
Identifying the Top 10 Export Products

Using your query (from the exercise above) for Country A's main exports at the 6-digit level for the most recent year:
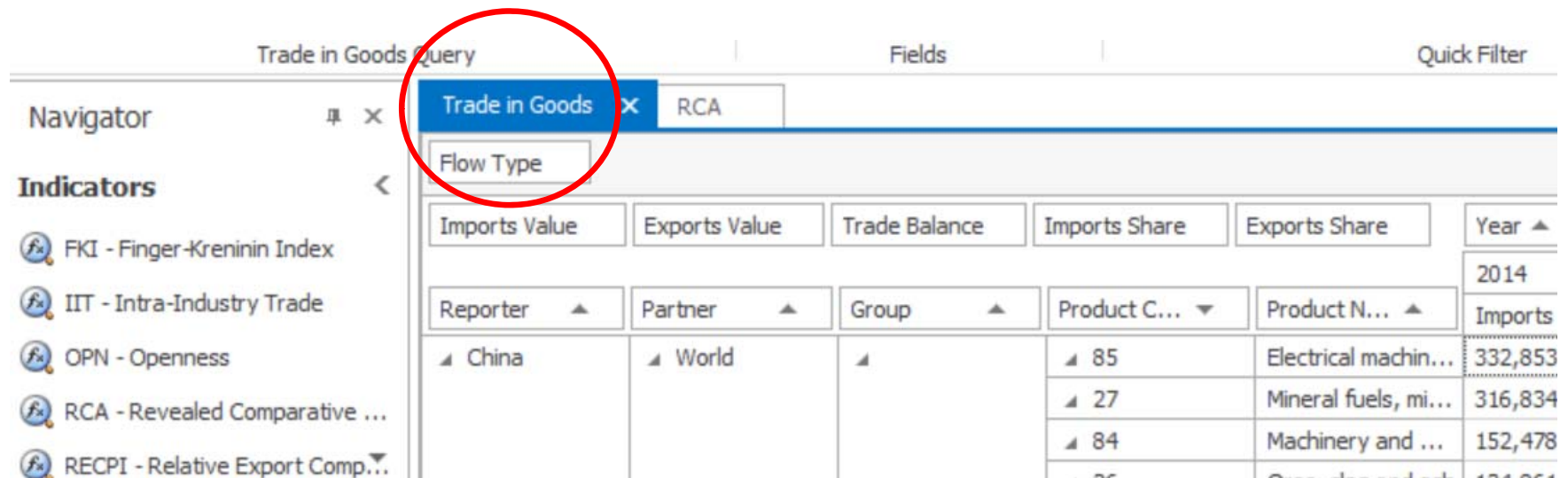
- Select to view only the Export data

- Now click on 'Top Exports' and you will see the top 10 exports [Note: you can equally select the top 15]

- Save the selection by clicking on "save range" in the top menu

- Notice how the name is generated automatically – but you can edit this if you wish

- You have now saved these top 10 products in your project

- These can be used to calculate RCAs or in other queries

Saving Product Selections:
Identifying the RCA for these products

- We have Country A's top 10 exports to the World…Let's now look at Country A's competitiveness in these products (RCA).
  - Open a RCA query
  - Calculate the RCA for Country A for all years at the 6-digit level
  - When prompted to select industries click on the 'Selected Industries' option and then on the 'saved ranges' option.
  - Find your saved selection, then click Next, and Calculate.
  - Graph your results (a line graph is best here)
  - What conclusions can you draw from the graph?

TRADE SIFT

Saving Product Selections:
Looking at the evolution of top 10 exports

- Suppose you want to see how the top 10 exports have evolved over time.
    - Go back to your 'Trade in Goods' tab

Saving Product Selections:
Looking at the evolution of top 10 exports

• Suppose you want to see how the top 10 exports have evolved over time.

    • Click on the 'Year' tab and select all available years, or a sensible range

Saving Product Selections:
Looking at the evolution of top 10 exports

- Suppose you want to see how the top 10 exports have evolved over time.
  - Click on the 'Year' tab and select all available years, or a sensible range
  - When on the 'Industry' tab, click on Selected Industries and again, select your saved selection
  - Click on "refresh data grid on close".
  - Then click again in your main display window

TRADE SIFT

Saving Your Work

- Remember, that TradeSift does not automatically save your work!
- **There are 3 modes of saving**, all accessible from within TradeSift.

1. Save your industry or country selection (see above). This simply asks TradeSift to remember a list of product codes or countries. It does not save the actual trade data.
2. Save your item: Data Selection, Indicator Selection, Table or Chart
   - This can then be recalled from the Project Explorer on the right hand side. If an item does not appear in the Project Explorer then it is not saved.
3. Save your Project.
   - At the top left corner of your screen, or under File> Save Project.
   - This saves all items within your project (providing they too are saved)

Whenever you close an item down TradeSift will ask you if you want to save any items which are still unsaved.

If you close TradeSift it will remember any work which had not yet saved and was still open.

Exporting

- You can also save TS work (charts, tables etc.) in various formats for editing in external programmes e.g. MS Office.

- To export an item, click on home, and then export:
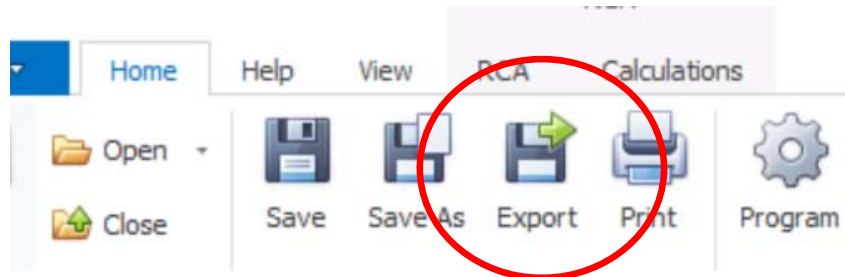
- Exported items are saved by default in your project folder: C:\Users\YOURNAME\Documents\TradeSift Projects\My Projects\Project Name or you can choose another location.

Demonstration Videos

Video 1. Getting started

Video 2. Project Explorer

Video 3. Loading Data

Video 4. Loading Tariff Data

Video 5. Trade Query

Video 6. Sort and Filter

Video 7. RCA

Video 8. FKI

Video 9. TCI

Video 10. Charts

TRADE
SIFT

Session TS2:
Advanced TradeSift Operations

Overview & Introduction

In this session we look at some more advanced TS operations:

1. Graphing options; improving the look of your graphs; multiple panes
2. Table options and improving the look of your tables
3. Finding common lists of products
4. Using the Calculations options
5. Filtering your data
6. Analytical tables
7. Using the inbuilt word processor and spreadsheet facility

Session D1:
Data Sources –
Classification schemes

Introduction

- TradeSift is very powerful in terms of the calculations it can do and the flexible way in which output can be viewed.

- The quality and relevance of the results obtained in TradeSift depend on the suitability and quality of the underlying data which the user supplies.

- Therefore, it is extremely important to know and understand how trade and tariff data is reported and organised.

- It is also important to know about internationally available trade data sources and how to query these so as to get the most out of Tradesift.

Product classifications

- Products or goods are classified and codified according to different classifications. The most widely used are:
    - Harmonised System (HS): It is a harmonised goods classification of trade.
    - Standard International Trade Classification (SITC)
    - Broad Economic Categories (BEC): which is based on the end use of goods
    - International Standard Industrial Classification (ISIC) – Classification by   activity
- There exist other nomenclatures which are country specific:
    - CN (Common Nomenclature) or TARIC: Based on HS and used by the European Union.
    - NACE (Statistical Classification of Economic Activities): Industry based and also used in the EU but based on the SITC.
    - Other country specific systems. Some of them no longer in use but useful for old data

Product classification – The tiered structure

- Classifications schemes have a tiered structure where each product is assigned an exclusive code. The length (number of digits) of the code is associated with the level of description or detail of the product.

- Further levels of disaggregation are then created using a tiered or tree structure. Inside a 2-digit product, there are several four digits products. Inside a four digit product, there will be more 6 digits products. Example (CN in the EU and HTS in the US)

- Example
  - HS 87 – Chapter (HS 2 digits)
  - Vehicles other than railway or tramway rolling-stock, and parts and accessories thereof
  - HS 87.02 – Heading (HS 4 digits)
  - Motor vehicles for the transport of ten or more people including the driver
  - HS 87.02.10 – Sub-heading (HS 6 digits) With compression-ignition internal combustion piston engine (diesel or semi-diesel)

Product classifications – The HS

- The Harmonised System is one of the most widely used nomenclatures and most countries report their trade statistics using it. It is maintained by the World Customs Organisation

- It is updated periodically to take into account developments in trade structure with different revisions such as the HS88/92, HS96, HS02 and the HS07. New revisions tend to add products or further disaggregate existing ones.

- This implies that whilst it is possible to have new data in all versions of the HS, old data is only reported in the original version. For example, you can get trade data from 1996 to 2010 in HS88 and/or HS96; but HS02 will only be available from 2002 onwards (The same applies to HS07 which starts from the year 2007 onwards).

- The first six digits (sub-heading) are common worldwide.

- Starting with the 7th digit, each country can make additions to the system to adapt it to their own trade structure. Hence, for example, the EU HS classification at 10 digits cannot be compared with the US HS classification at the same level of disaggregation.

Product classifications – ISIC

- The International Standard Industrial Classification of All Economic Activities (ISIC) is a United Nations classification of economic data.

- The focus of this classification is the industry (or activity) rather than the product

- Since it is based on economic activity, it is frequently used for employment, output, VA and Input-Output tables

- Where the trade data is concerned, it classifies trade by industry, hence it will give us imports made FROM a chosen industry.

- It is regularly updated as well and each version is called "revision". The latest one is the Revision 4.

- Hierarchy (Example)
  - Section: A – Agriculture, forestry and fishing
  - Division: 01 – Crop and animal production, hunting and related service activities
  - Group: 012 – Growing of perennial crops
  - Class: 0123 – Growing of citrus fruits

Product classifications – SITC

- The Standard International Trade Classification is an alternative classification maintained by the UN.

- The SITC classification is organised more by stages of processing. In this classification, different industries can have different levels of disaggregation depending on the stages of processing.

- Some industries at the most disaggregated level fall into the 4-digit category, and others into the 5-digit.

- Unlike the HS, one can obtain data for 1,2,3,4 and5 digits (HS=2,4,6 digits)

- Therefore, to look at the most disaggregated level for all industries, you will need to select 'SITC 5-digit leaves' data, which covers the final stage of production of all industries.

- Hierarchy (Example)
  - Division: 78 – Road vehicles
  - Group: 783 – Road motor vehicles, n.e.s.
  - Subgroup: 783.1 – Motor vehicles for the transport of ten or more persons, including the driver
  - Basic headings: 783.11 -... With compression-ignition combustion engine (diesel or semi-diesel)

Product classifications – BEC

- It is based on the SITC and classifies trade according to main end use. Compatibility with the SNA.

- It is possible, for example, to identify goods that can be final goods or part of another production process (intermediate products – although caution is advised –Milk?).

- Hierarchy (Example)
  - Category 1: Food and beverages
  - Sub-category 12: Processed
  - Basic category: 121 – Mainly for industry
  - Basic category: 122 – Mainly for household consumption

Product classifications:
Moving between and within system

- Equivalences between systems is not straightforward and require conversion tables although caution is advised.

- Going from a classification that has 'more' products i.e. The HS 6-digit, to one with 'less' i.e. The SITC 5 digit will require some aggregating.

- Moving from a classification with 'less' products to one with 'more' is even more complicated as it is uncertain how to split a product into two or even three new products.

- This is the problem that you will face if you have to move from the HS-02 to, for example the HS-07.

- Nonetheless, conversion tables exist and can be used although ones that move 'less to more' generally arbitrarily use proportions of trade (i.e. 20% of the value of the flow into one product and 80% into another)

- Transformation is generally only advisable on a one way basis. (It is possible to aggregate categories but not to disaggregate)

Data Issues: Mirror flows

- Trade data is not always available for all countries and there tend to be 'holes' in some years (data not reporter). A common 'fix' to this problem is the use of '**mirror flows**'.

- Because trade flows are a 'closed system', i.e What is exported by a country must be imported by another country, one can use the counterpart flows to resolve this issue

- However, there are important issues to consider
  - CIF/FOB valuation of imports respect to exports
  - differences in how countries report leading to big differences between mirror flows.
  - Missing mirrors: If the rest of the countries are not reporting as well, the reliability of the measure decreases.
  - Contraband
  - Intentions to export that are not realised

- The difference between mirrors can be quite pronounced

GDP data

- Some indicators require GDP data.

- TradeSift includes GDP (constant and current) data from 1960.

- World Bank WDI (World Development Indicators) is the source.

- This data can be updated very easily as new information is available in the WDI.

Final tips

- TradeSift greatly eases the burden of calculating indicators and looking at trade data. It is wise to spend some time carefully considering what is the most appropriate data to download

- Take a look at the indicator you wish to calculate and make sure that you have the right data

- Be careful not to try and download too much data (countries, years, and level of disaggregation), and focus on what you really need, sometimes an indicator for the last available year is enough

- Think about the period of your analysis and choose the nomenclature and revision accordingly. (i.e. If you need data before 1988-1992 then perhaps it is better to use the SITC rather than the HS)

- Think about appropriate country/commodities aggregations. It can save you a lot of time

- How many countries are involved in the analysis to be undertaken? How many countries in the RTA? How many third partners I would like to consider? Example: EU-Ghana

- Check data availability. Identify necessary mirror flows

Session D2:
Data Sources –
Obtaining trade data

Getting Trade Data

- TradeSift does not normally come with pre-loaded data. Instead we provide a flexible interface where the analyst can use the data they need and want.

- This includes: freely available international data such as COMTRADE, WITS and Eurostat, own national data, and other international data sources such as the World Trade Atlas.

- In this session we go through the main data sources and explain how to obtain trade data:

  - Integrated interface: WITS
  - Trade Data: Comtrade
  - In-built TradeSift query (for Comtrade subscribers only)

WITS

- The World Integrated Trade Solution (WITS) is an interface through which one can obtain trade and tariff data. It is maintained by the World Bank and UNCTAD,

- Wits is a "front-end" for source data which comes from COMTRADE, TRAINS and the WTO.

- An internet connection is necessary to access the database and the faster the connection, the faster the data download.

Steps in downloading data

1. Prepare your request considering reporters, partners, products and years.
2. Save the request.
3. Submit your request. This is sent to an external server and this server will process it. The processing time depends on the length/size of the requirement.
4. Getting the data in your computer. Once the data has been processed, you can view it online. This is a good opportunity to check that what you have asked is what you need or to check for missing/forgotten data.
5. Transfer the data from the server to your PC. Save it in the TradeSift recognised formats.
6. Make sure the data is not in a zipped folder

Data Files

- TradeSift recognises the data formats that WITS/Comtrade generates. Therefore, once the data has been downloaded, TradeSift will do the rest. No further data processing is necessary.

- Trade Sift can read xls, txt and csv files. We recommend to download data in .txt or .csv files. Excel, even in the latest version, is limited in terms of the number of rows it can handle

- All the data analysis (graphs, tables, descriptive statistics, indicators, etc.) can be done in TradeSift. Do not modify or try to analyse the files that WITS/Comtrade generates. Let TradeSift do the heavy lifting!

- Important to stress again: carefully think in advance what data you need for your analysis. Redundant data takes time to download and occupies space.

- Inevitably, however, you will not think of all the data in advance and you will subsequently want to upload more data into TradeSift. This can be easily done.

Getting trade data – UN Comtrade

- The UN Comtrade is a trade database developed and maintained by the United Nations. Up to 50,000 registers can be downloaded for free.

- It is possible to extract bilateral trade flows (exports and imports) at the HS 6 digit level or higher levels of aggregation. It is also possible to obtain data at different classifications (SITC, BEC, etc).

- The coverage varies by country. For some countries it is possible to trace trade data since 1960 (on SITC); while for others there are holes or data is available in the last years.

- It is possible to create country and product groups for future or recurrent data extractions.

Getting trade data – UN Comtrade

- Regions: Some are already defined but it is possible to create your own groups. When using them, it will report an aggregation of the data for those countries (trade within them included)

- Commodities groups: It is possible to create aggregations of commodities based in the main classification systems.

- All countries vs. World: All countries will report data for all countries separately. World will report aggregated data for all countries. World is only available as a partner.

- Gross and net imports/exports: Gross includes re-exports or re-imports. It is possible to have these flows separately. This can be an issue if there is a lot of transit and transhipment or indeed free-zone activity.

Session D3:
Data Sources –
Obtaining tariff data and using own data

Obtaining Tariff Data and Using Own Data

In this session we demonstrate how to obtain tariff data and how to analyse this in TradeSift. We also show how one can input own country data.

1. Tariff Data: TRAINS
2. Own data

Getting tariff data – UNCTAD Trains

- The UNCTAD Trains database contains data about tariffs, Non-tariff barriers and imports.

- Data is, in its raw format, reported at the national classifications systems (6,8, 10 or 12 digits).

- It is possible to, by using averages, obtain data at higher levels of aggregation.

- If the data has been reported, it is possible to obtain Bound, MFN, and preferential tariffs.

- Some NTB data is available. Not dealt in TradeSift.

- When higher levels of aggregation are chosen, Trains will calculate simple, weighted, std. Deviation of tariff within each product.

Getting tariff data – UNCTAD Trains

- Type of Tariffs:

  - PREF: Preferential tariffs. Applied on bilateral basis (FTAs, GSP, etc.)

  - MFN: Most Favoured Nation. Default tariff applied to all WTO members.

  - AHS: Effectively applied tariffs. Trains calculates it as the lowest of the MFN and the PREF tariff.

  - BND: Bound tariff. Commitment of maximum MFN tariff. Useful for WTO negotiations.

- Data in tariffs presents more holes than trade data.

- Tariff data from TRAINS tends to be <u>compositional</u> meaning that averages are calculated for tariff lines where there are import flows. This means that one can see tariffs change from a given year to the next due to trade compositional effects rather than actual tariff changes.

Tariff Data using WITS – A demonstration

- We will now demonstrate how to download Tariff data from WITS –
- As with Trade data, here we need to choose:
  - Reporter
  - Product
  - Partner
  - Year
  - Tariff
- Users should be aware that the underlying tariff data is reported at the HS level

The HS-Combined Nomenclature

- As its name suggest this nomenclature combines the different revisions of the HS system in different years

- It evolves with the different revisions where the 'native nomenclature' indicates which revision is being used.

- This has implications for the analysis of tariffs across years because it is possible that certain products are re-classified owing to the revisions – Caution is advised.

- Tip: you can still look at total average tariffs but be careful with product tariffs across revision years (i.e. 1996, 2002, 2007)

Using Your Own Data – Why?

- Standard international trade and tariff databases may not be an appropriate source for your analysis

- The quality (and quantity) of the data in these databases may not be ideal

- Some institutions and Governments require the use of official sources for their analysis and reports

- The level of aggregation may not be enough for some particular analysis

- Tariffs vary within 6 digit and an average may not be an acceptable measure due to a large dispersion

Using Your Own Data – TS functionality

- TradeSift is designed to be a flexible tool that you can use for almost any trade analysis. You can use your own trade data if available or if necessary. However, there are some issues that should be considered:

 – If your data is in the same classification system as the international databases, no limitations apply. You can use all of TradeSift's functions and indicators

 – As long as your classification system is similar to any of those used in the international databases, TradeSift can be used as normal

Using Your Own Data - Implications

- If you are using a particular classification system (8 digits, for example), it will be very unlikely that you will have the rest of the countries data in that system
- Some indicators may not be possible to calculate since it is not possible to get world trade data in your particular system and it will not be possible to make comparisons across countries
- All trade and tariff descriptive tools can be used without problems and these can be graphed as normal
- As long as an indicator (or your analysis) does not require data reported by another country (who may not be reporting in the same system as your data), the indicator can be calculated (e.g. TCI, FK and IIT among others)

Using Your Own Data – required steps

- However, some minor editing work will be required before loading your data

- You need to organise your data according to what TradeSift is expecting to read

- TradeSift needs to read that data in a schematic manner. Some variable (column) naming conventions must be followed. This allows TradeSift to identify value of exports, for example

- The data can be in any of the file formats (TXT, CSV, XLS). However, it is also necessary that the format of the data follows the TradeSift conventions

- More details and instructions can be found in the TradeSift User Manual

Using Own data - Preliminaries

- TradeSift can load files for non-standard data, for example 8-digit data, provided that certain conditions are met:

- The column headings must conform to the standards already described.

- The general rules about not mixing digit-levels, product code lengths, etc. are all adhered to.

- The nomenclature must be from a standard classification, eg. HS, SITC, BEC, etc.

- If loading an Excel file all data must be in one 'sheet'

- If you load data for non-standard products, TradeSift will not have any product descriptions pre-loaded for that data

Column Headings

Column	Mandatory	Optional	Also Recognised
Nomenclature	*		Nomen, Classification
ReporterCode			Reporter
ReporterISO3	At least 1 of these 3		
ReporterName			ReporterDescription
PartnerCode			Partner
PartnerISO3	At least 1 of these 3		
PartnerName			PartnerDescription
Year	*		Period
ProductCode	*		Product, Commodity, CommodityCode
ProductDescription		*	ProductName
TradeFlow	*		
TradeFlowName		*	Trade Flow Description
TradeValue in 1000 USD	*		Trade Value ($ '000)
Netweight (kg)		*	Netweight
QuantityUnitCode		*	QtyUnitCode
QuantityUnitDescription		*	Unit, ShortName
Quantity		*	Trade Quantity, Supplementary Quantity
Estimation Code		*	Flag
Currency		*	
Units		*	

ConceptualFramework

TRADE SIFT

Column Headings (con't)

- At a minimum you need to have information on:

- Nomenclature (e.g. H1, S2), reporter (generally neglected as own country!), partner (the name or code), year, ProductCode, trade Flow (import/export), trade value.

- TS will assume that all trade flows are reported in a common currency, namely current dollars so be careful if using data from other sources that is not in national currency

TRADE SIFT

Session D4:
Getting Data Directly from Comtrade

http://comtrade.un.org/db
Select Legacy and choose Legacy Annual

You may get the disclaimer displayed- if so, scroll down, tick the 'I have read…' box, and click 'Continue'

UN comtrade

United Nations Commodity Trade Statistics Database | Statistics Division

Home | Data Query | Data Availability | Metadata & Reference | Subscription & Support | Fast tracks

Home > Readme First

READ ME FIRST (DISCLAIMER)

Every User of UN Comtrade should know the coverage and limitations of the data

Coverage

The United Nations Commodity Trade Statistics Database (UN Comtrade) contains detailed imports and exports statistics reported by statistical authorities of close to 200 countries or areas. It concerns annual trade data from 1962 to the most recent year. UN Comtrade is considered the most comprehensive trade database available with more than 1 billion records. A typical record is – for instance – the exports of cars from Germany to the United States in 2004 in terms of value (US dollars), weight and supplementary quantity (number of cars). The database is continuously updated. Whenever trade data are received from the national authorities, they are standardized by the UN Statistics Division and then added to UN Comtrade.

Limitations

UN Comtrade is available to the general public and should be used with good knowledge of its limitations. Please read the following points very carefully before extracting and using data:

1. The values of the reported detailed commodity data do not necessarily sum up to the total trade value for a given country dataset. Due to confidentiality, countries may not report some of its detailed trade. This trade will - however - be included at the higher commodity level and in the total trade value. For instance, trade data not reported for a specific 6-digit HS code will be included in the total trade and may be included in the 2-digit HS chapter. Similar situations could occur for other commodity classifications. Detailed data processed after 1. January 2006 and published in HS will sum up to the respective totals due to the introduction of adjustment items with commodity code 9999 and 999999.

2. Countries (or areas) do not necessarily report their trade statistics for each and every year. This means that aggregations of data into groups of countries may involve countries with no reported data for a specific year. UN Comtrade does not contain estimates for missing data.

There is a maximum selection allowance for non-subscribers of 50,000 rows. This can be very limiting so make sure your query is not too big. You can always do several queries!

Session D5:
Getting Trade Data

Browser address bar: wits.worldbank.org/about_wits.html

WITS — World Integrated Trade Solution

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About WITS

⇄ Custom Query

INTRODUCTION ▾

The World Bank — in collaboration with the United Nations Conference on Trade and Development (UNCTAD) and in consultation with organizations such as International Trade Center, United Nations Statistical Division (UNSD) and the World Trade Organization (WTO) — developed the World Integrated Trade Solution (WITS). This software allows users to access and retrieve information on trade and tariffs. Below is list of international organizations that compile this data:

The **UNSD Commodity Trade** (UN Comtrade) (UN Comtrade) database contains merchandise trade exports and imports by detailed commodity and partner country data. Values are recorded in U,S. dollars, along with a variety of quantity measures. The database includes information on more than 170 countries, and features statistics that have been reported to the United Nations since 1962. These statistics and data continue to be recorded according to internationally recognized trade and tariff classifications.

The **UNCTAD Trade Analysis Information System** (TRAINS) contains information on imports, tariffs, para-tariffs and non-tariff measures. The data on tariffs, para-tariffs and non-tariff measures are available at the most detailed commodity level of the national tariffs (i.e., at the tariff line level). The data are recorded according to three internationally recognized trade and tariff classifications

The **WTO's Integrated Data Base** (IDB) contains imports by commodity and partner countries and Most Favored Nation (MFN) applied and, where available, data on preferential tariffs at the most detailed commodity level of the national tariffs. The Consolidated Tariff Schedule Data Base (CTS) contains WTO-bound tariffs, Initial Negotiating Rights and other indicators. The CTS reflects the concessions made by countries during goods negotiations (e.g., the Uruguay Round of Multilateral Trade Negotiations). The IDB and CTS are practical working tools and there are no implications as to the legal status of the information contained therein.

The **World Bank** and the **Center for International Business, Tuck School of Business** at Dartmouth College **Global Preferential Trade Agreements Database** provide information on preferential trade agreements (PTAs) around the world, including agreements that have not yet been notified to the World Trade Organization. This resource helps trade policy makers, research analysts, the academia, trade professionals and other individuals better understand and navigate the world of PTAs.

HOW TO USE WITS ▾

Use the WITS site to quickly obtain summary trade and tariff related information without having to execute a query. Key information that can be obtained include:

- Top importing and exporting countries in merchandise trade
- Top product groups that are exported and imported by countries
- Tariffs imposed by countries for merchandise trade
- Trade indicators, such as Revealed Comparative Advantage (RCA), World Growth, Country growth and others
- Top trading partners for countries
- Top product groups exported by countries
- Development Indicators such as GDP, GNI per capita, Trade balance as percentage of GDP and others

For a detailed list of countries and indicators browse the Data Availability and Metadata sections.

If you want to execute custom queries for analysis, **Register** and **Login** to WITS Application to perform the following functions:

- Search, compile and download data by country or product using various product classifications and levels.
- Obtain Non-Tariff Measures information
- Execute trade and tariff queries for multiple reporting and partner countries or country groups and selecting products or product groups in standard (HS and SITC) or derived (BEC, ISIC, GTAP, NACE and more) product nomenclature
- Calculate and compare trade competitiveness of countries.
- Perform single or multi-market tariff cut simulations.

DID YOU KNOW? — VIEW ALL

- How to pivot data in results screen?
- How to sort data in Query result?
- How to rename an Advanced Query?
- How to complete unfinished queries?
- How to download unlimited data?

DISCUSSION FORUM

Post your questions, coments and feedback about the WITS website and the data.Please note you have to register the forum or use your Google user id to post comments. We encourage encourage you to register the email address you use for logging in to WITS with the forum. This will help us better serve you. You can also share your expertise with other users, using this forum.

[Access]

TRADE SIFT

WITS Login

Select your chosen reporters and then click the arrow. Your selection will appear in the right hand side box. When finished, click 'Proceed'

Note there are country group options, and the option to create your own country groups (via the Utilities menu)

Select your trade flows. Remember Gross Exports= Exports + Re-Exports

Wait while WITS processes your request... you can use the refresh arrow to update

Once the save icon appears you can save your data file to your PC. Note you may have to wait a while depending on the size of your request. You can use the refresh arrows again to check the status.

Session D6: Getting Tariff Data
from TRAINS

Be sure that TRAINS is selected as Data source

This is a similar screen to the one we had when downloading trade data. We need to go through the steps of selecting Importers, Products, Exporters, Years and Tariffs.

See WITS for information on AVE methods here.

Ad Valorem Equivalents (AVEs) are calculated using **two methods**:

UNCTAD 1: a three-step method for estimating unit values: (1) from tariff line import statistics of the market country available in TRAINS; then (if (1) is not available) (2) from the HS 6-digit import statistics of the market country from UN COMTRADE; then (if (1) and (2) are not available) (3) from the HS 6-digit import statistics of all OECD countries. Once a unit value is estimated, then it is used for all types of rates (MFN, preferential rates, etc)

UNCTAD 2: Step (3) of the above. This produces unique unit value for each product common to all importing countries and all types of rates. It also preserves the margin of preference in the preferential rates.

Select the tariff rates you wish to use

Products:

HS - Combined (Selected Classification)
ALL3 -- Sub-Heading (all 6-digit HS codes)

<<-Modify->>

Exporters/Partners:

Selected
United States -- USA

<<-Modify->>

Years:

Selected
2011 2012

<<-Modify->>

Tariffs:

Selected
Include Effectively Applied rates Include MFN Applied rates Include MFN Bound rates Include Preferential rates

<<-Modify->>

From here, follow the same steps as with obtaining trade data.

Adjust Years & Submit | Submit | Back

TRADE SIFT