



Measuring the Competitiveness of the Trinidad and Tobago economy: *“A Competitive Advantage Approach”*



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Outline

I. Motivation

II. Literature review

III. Methodology

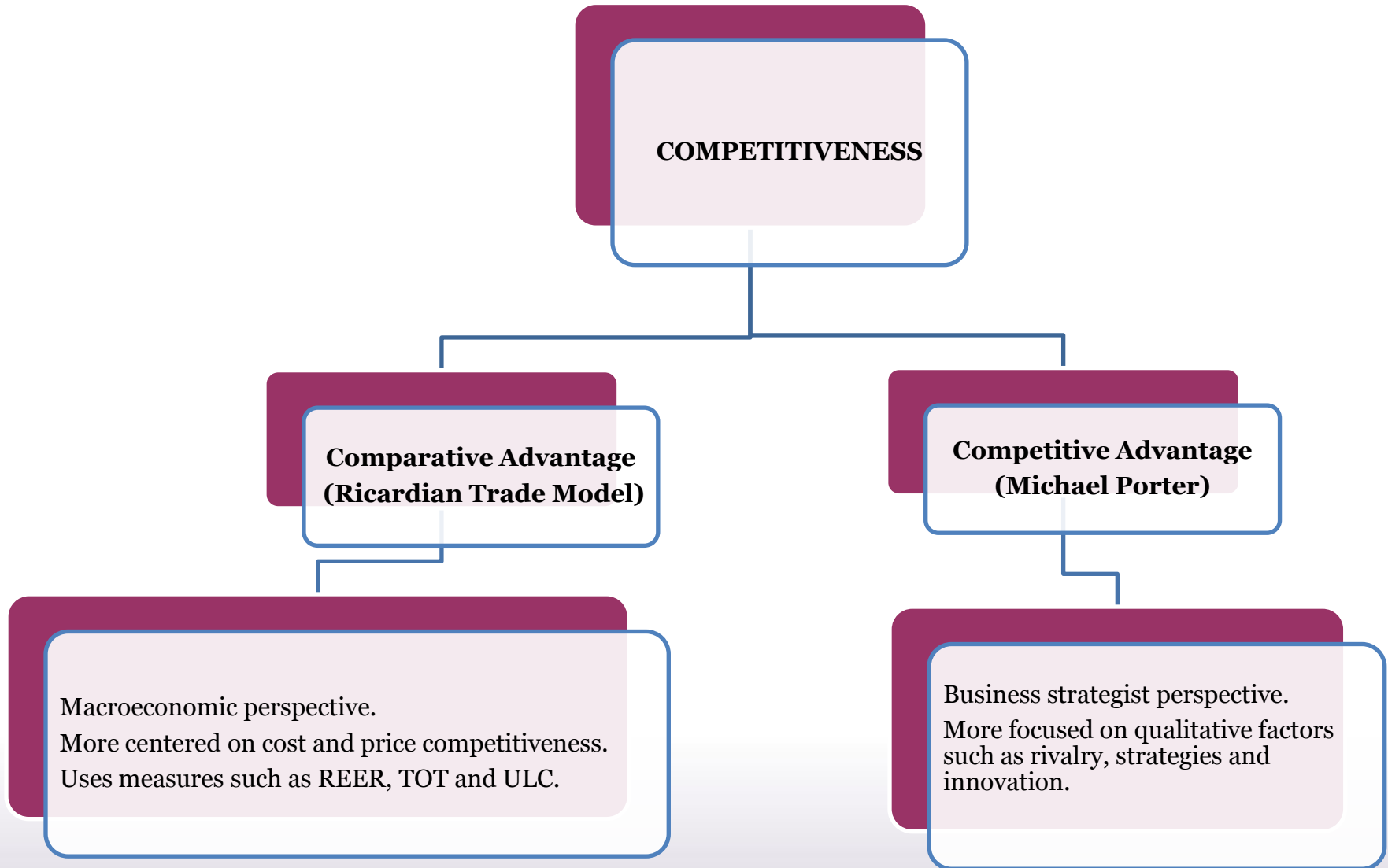
IV. Results

V. Preliminary findings

I. Motivation

- The revisiting of the topic of competitiveness comes at a time when the thrust of the nation is towards economic stability, growth and sustainability.
- This paper builds upon earlier work completed by Des Vignes and Smith (2005).
- Additionally, much of the research on the financial services sector in Trinidad and Tobago has been focused on particular aspects of the sector for example, the capital markets and the banking sector with less emphasis on a framework to evaluate the competitiveness of the financial services sector as a whole.
- **Objectives of the study:**
 - ✓ Develop an index which seeks to broaden the scope of the competitiveness measures in Trinidad and Tobago beyond price and cost to *innovativeness* and *human capital*.
 - ✓ Examine competitiveness from the sectoral level and the financial services sector in particular as a potential growth sector for the domestic economy.

II. Literature Review



II. Literature Review

Competitive Advantage:

“The central thesis is that national prosperity is created, not inherited. It does not grow out of a country’s natural endowments, its labour pool, its interest rates, or its currency’s value as classical economics insist. A nation’s competitiveness depends on the capacity of its industry to innovate and upgrade.” **(Porter, 1990)**

II. Literature Review

Financial Services Sector:

The financial services sector is typically made up of banks, trust and loan companies, credit unions, life and health insurance companies, property and casualty insurance companies, securities traders and exchanges, investment fund companies, pension funds, finance and leasing companies, insurance agents and brokers, and a myriad of auxiliary service providers, such as independent financial advisors, actuaries, and intermediaries.- **World Trade Organization**

II. Literature Review

Levels of Analysis of Competitiveness in the Caribbean:

National level :

- ❑ Boamah and Campbell (1992); Henry (2001); Samuel and Mounsey (2002); Bennett (2002); Des Vignes and Smith (2005); Worrell, Greenidge and Lowe (2012).

Industry Level (Financial Services):

- ❑ Bourne (1997); Guiseppi (2005)
- ❑ **Note:** The academic literature on competitiveness at the level of the firm is limited.

III. Methodology

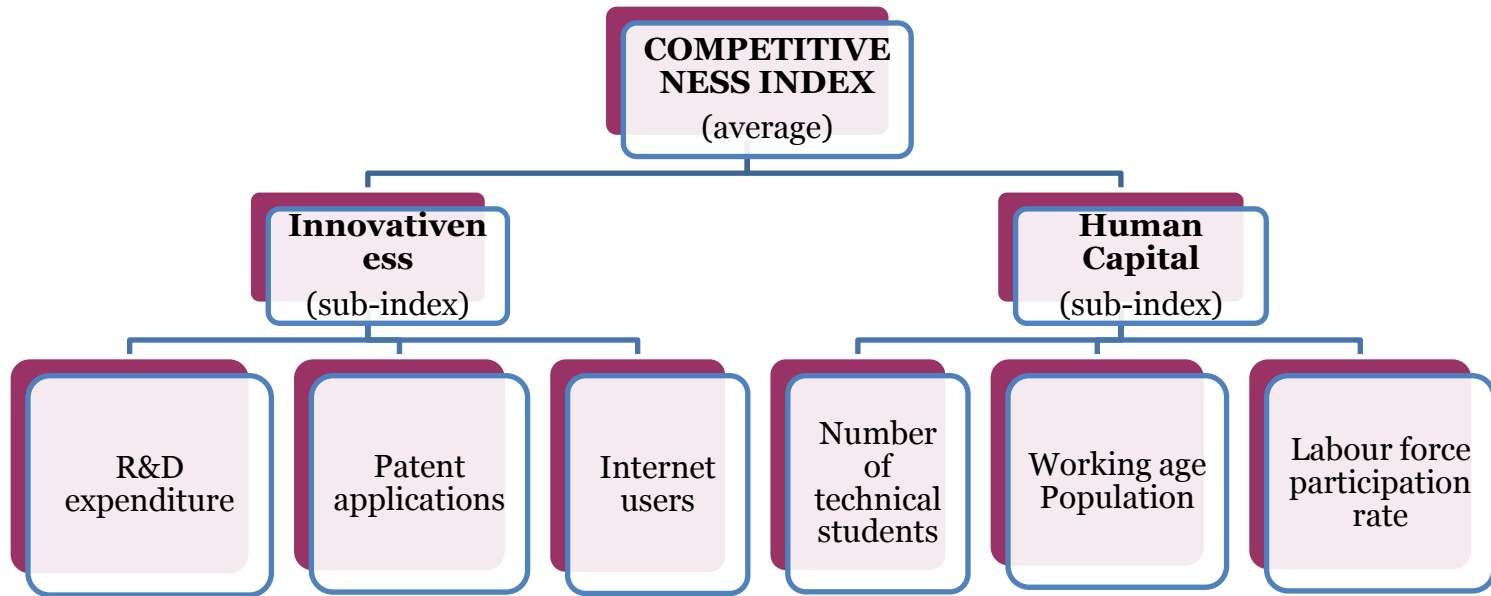
The methodology involves two steps:

- I. **Construct a new Competitiveness Index for T&T** that captures two important components of competitiveness as advanced by Michael Porter, that is: innovativeness and human capital.

- II. **Construct a Financial Services Competitiveness Indicator** that reviews the movement in a comprehensive range of financial service indicators as well as broader indicators of competitiveness that impact on the location of financial services in the Trinidad and Tobago economy.

III. Methodology

The Competitiveness Index



III. Methodology

Competitiveness Index Indicators

Indicators	Measurement	Sources
R&D expenditure	Expenditure on research and development (TT\$M).	NIHERST Survey of Science and Technology Indicators.
Patent applications	The number of patent applications filed in Trinidad and Tobago.	Registrar General Department, Intellectual Property Registry.
Internet users	The number of internet users per 100 people.	World Bank.
Number of technical students	The number of technical students registered in local universities and college.	NIHERST Survey of Science and Technology Indicators and Ministry of Tertiary Education and Skills Training.
Working age population	The labour force (thousands of persons).	Central Statistical Office.
Labour force participation rate	The labour force expressed as a per cent of the non-institutional population (%).	Central Statistical Office.

III. Methodology

The Competitiveness Index Computation

$$\text{Indicator} = X_i = \frac{x_i}{b} \times 100$$

where x_i is the current year's value and b is the base year's value.

$$\text{Sub-index}_j = \prod_{i=1}^k \text{indicator}_i^w$$

where w is the weight assigned to each indicator. Recall, w is the same for each indicator in the sub-index since equal weights are being used. The data used represented the period 2005-2012 (quarterly).

III. Methodology

Limitations:

- Proxy indicators.
- Data availability.
- Equal weights.
- Unilateral approach.

III. Methodology

The T&T Financial Services Competitiveness Tracker

- ❑ Patterned after the UK Competitiveness Tracker.
 - The drivers of competitiveness of the Trinidad and Tobago FSCT were grouped into six categories and consist of eighteen (18) indicators explaining the drivers of competitiveness.
 - Choice of the drivers were influenced by Martin et. al (1991); Porter (1990).
 - Changes or positive signs in each of these indicators were reflected as either: upward, downward or neutral movements in the Trinidad and Tobago FSCT.
 - The movement of the tracker in a respective quarter was calculated as the balance of indicators rising and falling.

III. Methodology

Financial Services Indicators

UK Competitiveness Tracker Indicators	T&T Competitiveness Tracker Indicators
UK Financial Services Indicators	
Volume of business	No
Employment	Yes
Trade balance	Yes
New authorisations of firms	No
New authorisations of people	No
Financial Market Indicators	
European IPOs	No
European M&A	No
European turnover UK equities	Yes
UK equities FTSE 250	Yes
Credit availability to corporates	No
Derivatives turnover	No
Forex turnover	No
Central London Indicators	
GFCI	Yes
New City job vacancies	No
Office take up	No
Measures of UK Competitiveness	
Sovereign risk rating	Yes
Ease of doing business	Yes
Business tax paid % of profits	Yes
FDI inflow	No
Corruption perceptions index	Yes

The T&T Financial Services Competitiveness Tracker introduced some new variables including:

- ✓ Output per worker- Productivity
- ✓ RTGS & ACH transactions - Tech.& Innov.
- ✓ Internet banking - Tech.& Innov.
- ✓ Trade in Fin. Services – Product
- ✓ Regulatory Burden – Costs
- ✓ Fin. Transactions tax rate – Costs
- ✓ Fin. Services (Cr.) – Demand

III. Methodology

Financial Services Competitiveness Tracker

Drivers	Indicators	Explanations of Movements	Data sources
I. Output and Productivity	1. Real GDP growth (Finance)	+’ve ↑; -’ve ↓	CSO
	2. Social Science Undergraduates	+’ve Δ↑; -’ve Δ↓	UWI
	3. Persons employed in the FSS	+’ve Δ↑; -’ve Δ↓	CSO
	4. Output per worker*	+’ve Δ↑; -’ve Δ↓	Computed
II. Technology and Innovation	5. RTGS and ACH - Volumes	+’ve Δ↑; -’ve Δ↓	CSO
	6. Internet banking - Volumes	+’ve Δ↑; -’ve Δ↓	CBTT
III. Product	7. Trade in Financial Services	+’ve ↑; -’ve ↓	CBTT
IV. Costs	8. Regulatory Burden	Inverse (+’ve Δ↓; -’ve Δ↑)	CBTT
	9. Corporation tax (%)	Inverse (+’ve Δ↓; -’ve Δ↑)	BIR
	10. Personal income tax rate (%)	Inverse (+’ve Δ↓; -’ve Δ↑)	BIR
	11. Financial Transactions tax rate (%)	Inverse (+’ve Δ↓; -’ve Δ↑)	BIR

III. Methodology

Financial Services Competitiveness Tracker

Drivers	Indicators	Explanations of Movements	Data sources
V. Demand Conditions	12. Stock Market Turnover ratio	+ 've ↑; - 've ↓	Computed
	13. Financial Services (Cr.)	+ 've Δ↑; - 've Δ↓	CBTT
	14. TTSE Composite Index	+ 've Δ↑; - 've Δ↓	TTSE
VI. Global Competitive ness	15. Ease of doing business (Y-o-Y)	Lower rank ↑ improved competitiveness (vice versa)	Doing Business Report
	16. Financial Market Development (Y-o-Y)	Higher rank ↑ Lower rank ↓	Global Competitiveness Index
	17. Sovereign Risk Rating (S&P)	Improved rating ↑ Lower rating ↓	Standard and Poors
	18. Corruption Perception Index (Y-o-Y)	Higher rank ↑ Lower rating ↓	Transparency International

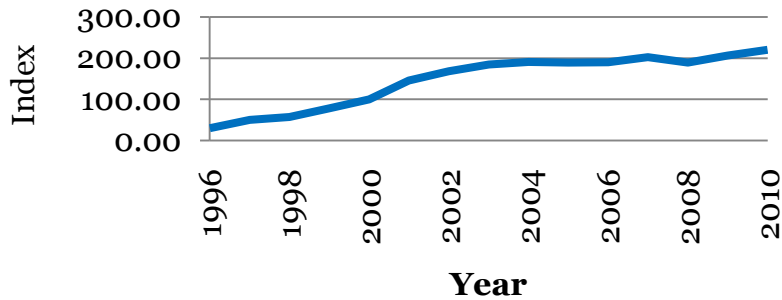
III. Methodology

Limitations:

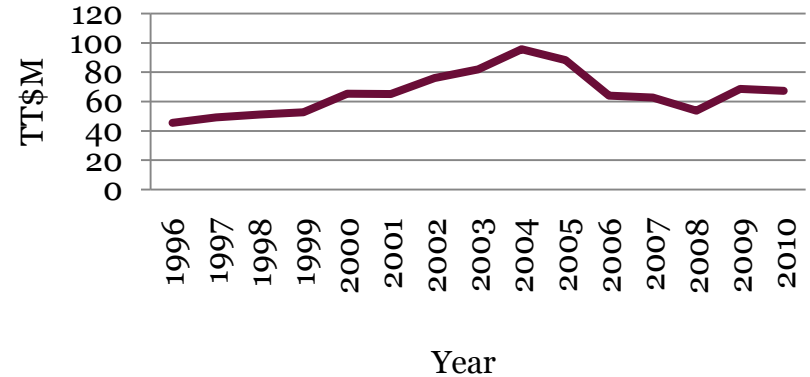
- Proxy indicators.
- Lisman Sandee data method.
- Eclectic approach not firmly grounded in economic theory.
- Unilateral approach.

IV. Results

Trinidad and Tobago Innovativeness Sub-Index, 1996-2010
2000=100



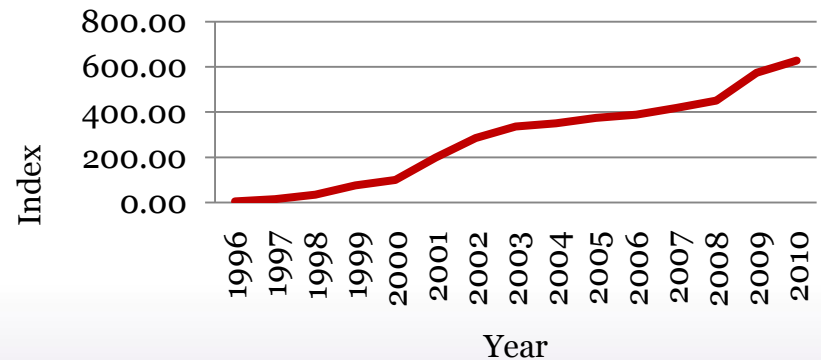
Research and Development Expenditure in Trinidad and Tobago, 1996-2010



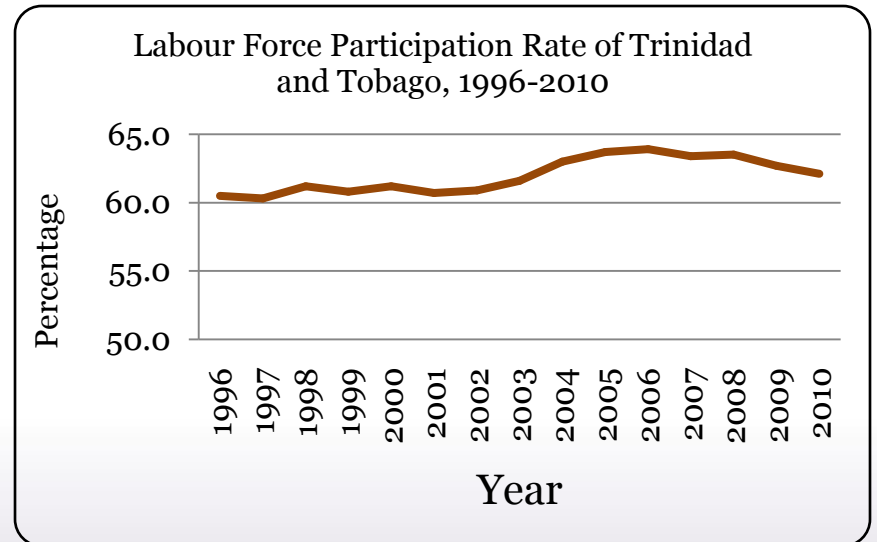
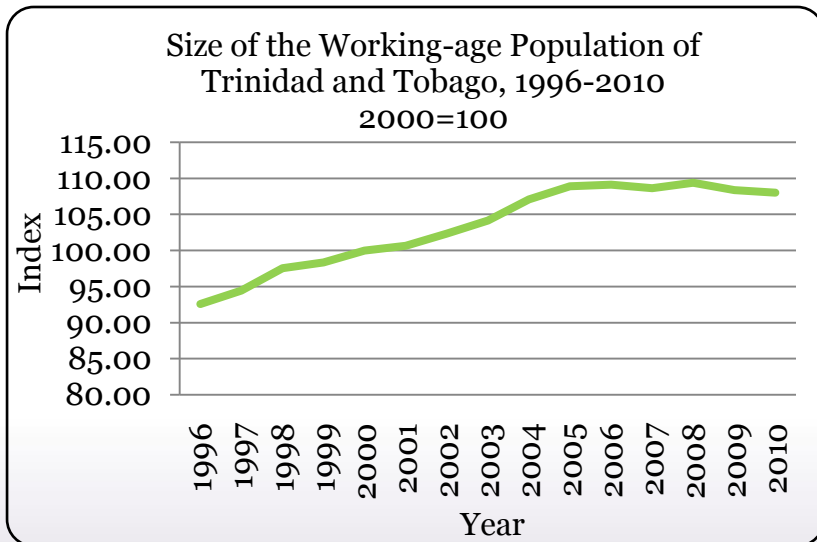
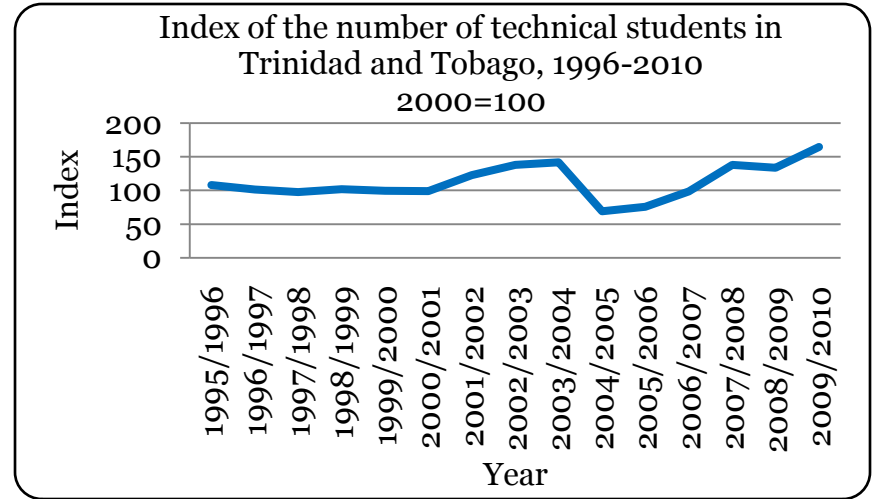
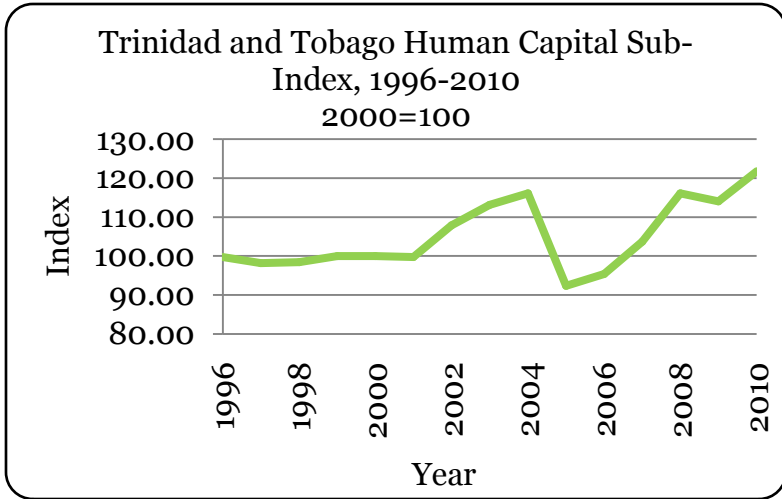
Number of Patent Applications Filed in Trinidad and Tobago, 1996-2010
2000=100



Internet users in Trinidad and Tobago per 100 people, 1996-2010
2000=100

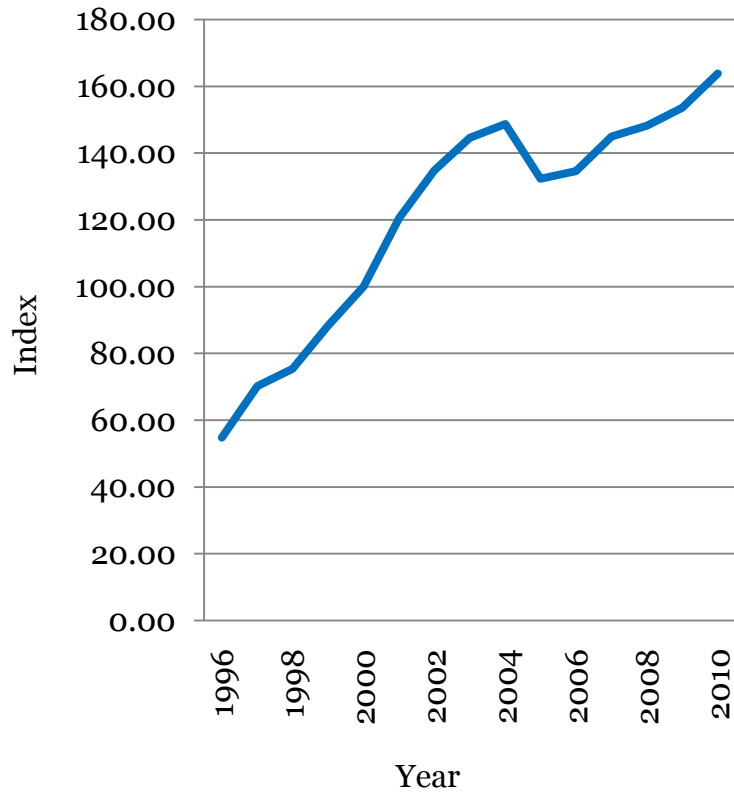


IV. Results

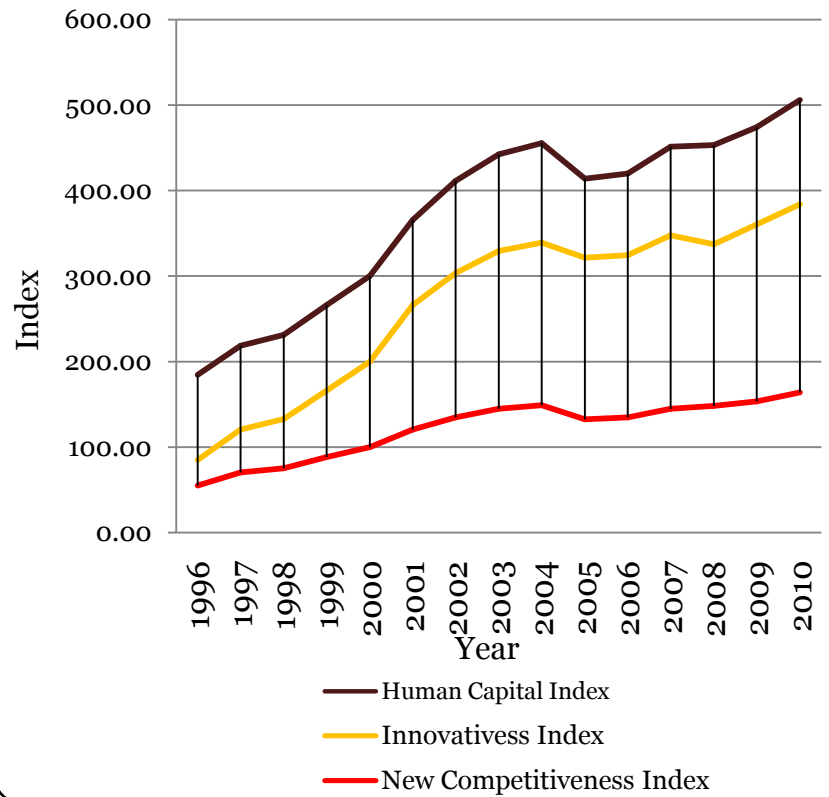


IV. Results

Trinidad and Tobago's Competitiveness Index, 1996-2010
2000=100



Trend in the New Competitiveness Index and the Sub-indices 1996-2010
2000=100



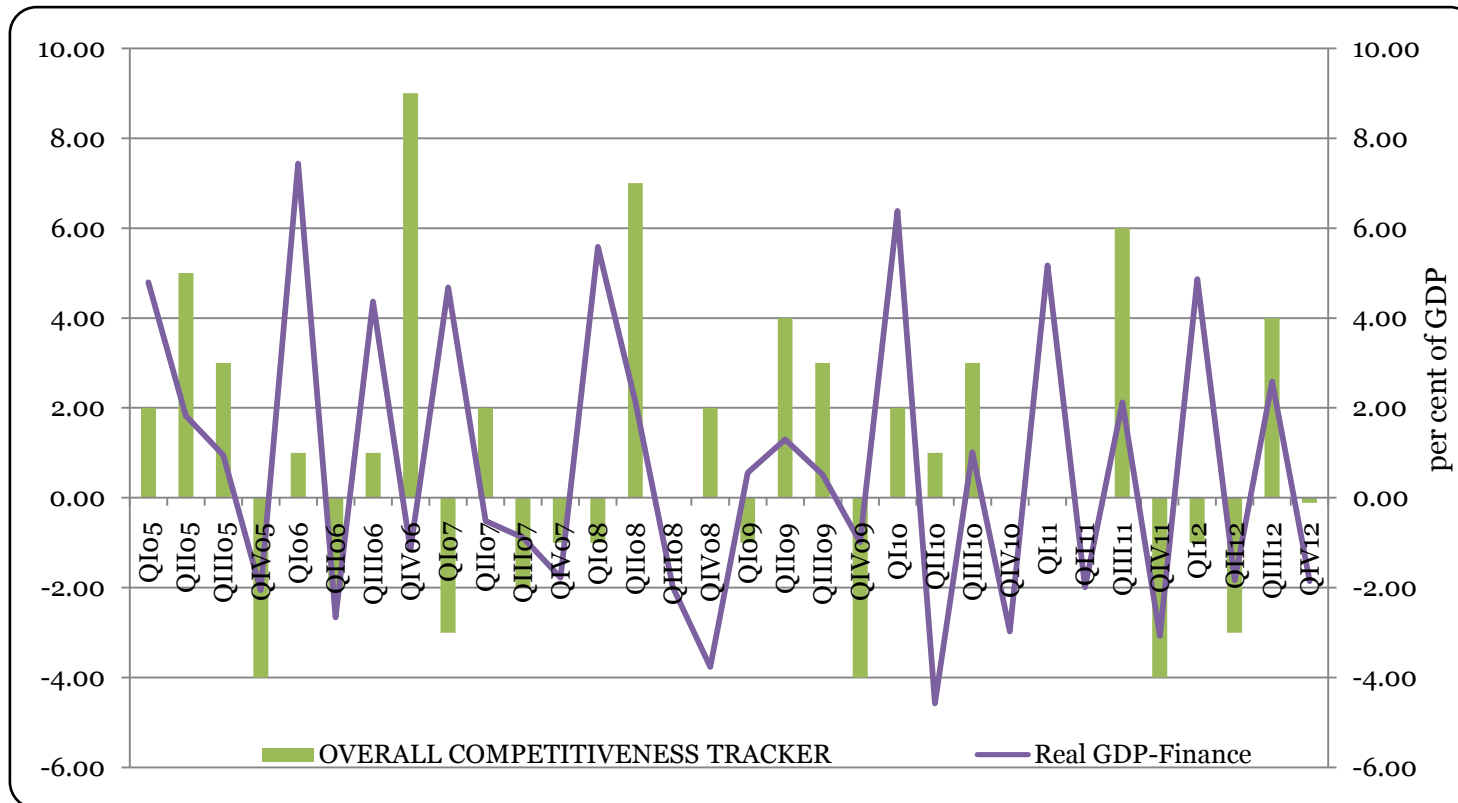
IV. Results

T&T Financial Services Competitiveness Tracker

Drivers of Competitiveness	2011			2012			
	QII11	QIII11	QIV11	QI12	QII12	QIII12	QIV12
1.0 Output and Productivity							
1.1 Real GDP Growth-Finance (Q-o-Q % Δ)	▽	Δ	▽	Δ	▽	Δ	▽
1.2 Social Sciences undergraduates (Q-o-Q % Δ)	-	-	Δ	-	-	-	Δ
1.3 Persons employed in FSS (Q-o-Q % Δ)		Δ	▽	▽	▽		
1.4 Output per worker FSS (TT\$Mn) (Q-o-Q % Δ)		Δ	▽	▽	▽		
2.0 Technology and Innovation							
2.1 RTGS & ACH volume (Q-o-Q % Δ)	Δ	Δ	Δ	▽	Δ	Δ	Δ
2.2 Internet banking- volume (Q-o-Q % Δ)	Δ	Δ	Δ	Δ	Δ	Δ	Δ
3.0 Product							
3.1 Trade in Financial Services (Q-o-Q % Δ)	▽	▽	▽	▽	▽	▽	▽
4.0 Inputs and Costs							
4.1 Regulatory Burden (Q-o-Q % Δ)	▽	Δ	▽	Δ	▽	Δ	▽
4.2 Personal income tax (%) (Q-o-Q % Δ)	0	0	0	0	0	0	0
4.3 Financial Transactions Tax (%) (Q-o-Q % Δ)	0	0	0	0	0	0	0
5.0 Demand Conditions							
5.1 Stock Market Turnover (Q-o-Q % Δ)	Δ	Δ	▽	Δ	0	Δ	▽
5.2 Financial Services (Cr.) (Q-o-Q % Δ)	▽	Δ	0	0	▽	▽	Δ
5.3 TTSE - Composite Index (Q-o-Q % Δ)	Δ	▽	▽	▽	Δ	Δ	▽

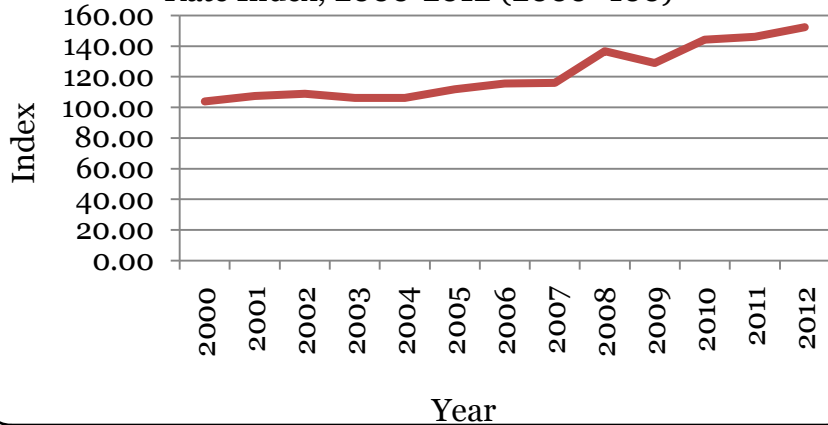
IV. Results

Financial Services Competitiveness Tracker for T&T

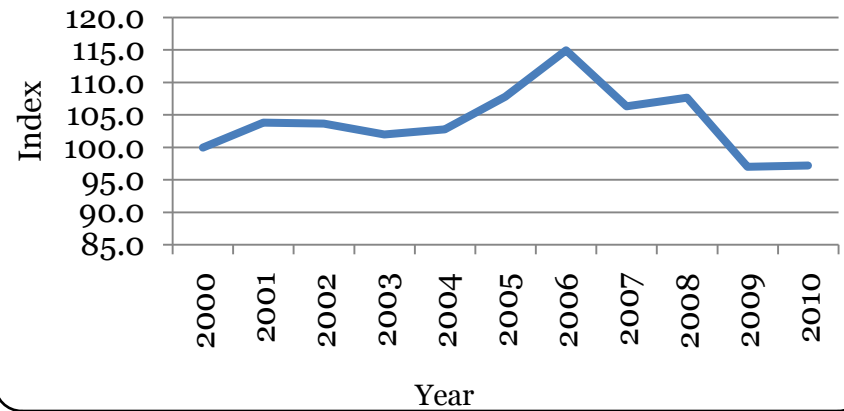


IV. Results

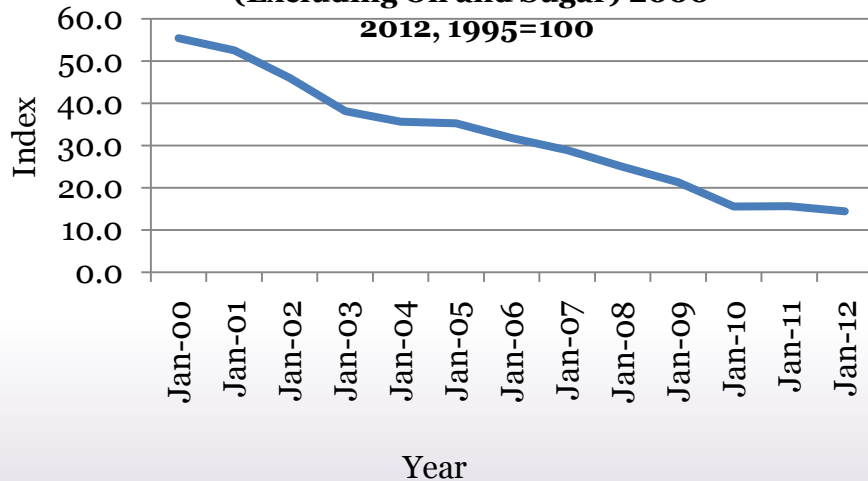
Trinidad and Tobago Real Effective Exchange Rate Index, 2000-2012 (2000=100)



Trinidad and Tobago Net Terms of Trade, 2000-2010 (1995=100)



Trinidad and Tobago Real ULC Index (Excluding Oil and Sugar) 2000-2012, 1995=100



V. Preliminary findings

- ❑ **REER** - there was a general upward movement in the REER which signals a decrease in international price competitiveness of Trinidad and Tobago's exports (trade in goods) relative to its trading partners during the period 2000-2012.
- ❑ **Competitiveness Index** - Data limitations prevent us from getting a clear picture of Trinidad and Tobago's competitive advantage. However, the data up to the year 2010 suggests, the competitive advantage of the domestic economy over time seems to be improving in terms of innovativeness and human capital. This result needs to be interpreted with caution though as the proxy indicators need to be refined further to get a better grasp of developments in competitive advantage.
- ❑ **Financial Services Tracker** – The financial services tracker suggests that we are performing favorably (positive movements in the tracker) just about 50 per cent of the time during the review period. More so, there was a lot of variability in quarterly performance of the tracker.



Thank you for your attention!

Questions/Comments ?