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Revenue Management and Economic Transformation

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OUTLINE

- Importance of Energy Sector Revenues
- Transformation and Non –Energy Output
- Testing for Transformation – empirical results
- Understanding the Transformation result – cancelling factors
- Recalling Vito Tanzi – permanent revenue streams – case for delinking current expenditures
- Making Transformation happen – three suggestions

Revenue Management and Economic Transformation

- Evident from development plans that economic transformation has been an objective of successive governments of T&T.
- However, if success in moving closer to the transformation goal is measured by increased resilience of the economy in the face of the known volatility of energy prices, then the transformation achieved is still far from what is desired.
- **Theme**: Until the GoTT finds a way to severely weaken the link between current revenues from the energy sector and its current expenditures, the economic transformation desired will not happen, because this transformation requires the fostering of attitudes which point to a new kind of public policy.

The Transformation Objective (1)

- For the past five decades, energy revenues (petroleum and natural gas) have been the main player in T&T's fiscal system.
- The table below indicates how important energy revenues have been to total revenues.
- However, the table understates the importance of energy revenues since what is recorded as non-energy revenues may itself be influenced by energy revenues.
- This possible indirect contribution of energy revenues to total revenues is not captured in the estimates provided.

Importance of Energy Sector Revenues

Year	Total Revenues	Energy Revenues	Energy Revenues/ Total Revenues	Non-Energy GDP	Energy Revenues/ NEGDP
1970	481.1	197.3	0.410	--	--
1980	5819.4	4136.5	0.711	--	--
1990	5621.0	2317.5	0.412	14807.5	0.157
2000	13036.5	4475.6	0.343	35486.5	0.126
2010	45063.9	23881.4	0.530	74595.3	0.320

The Transformation Objective (2)

- The table above shows that the share of energy revenues rose from 41% before the first boom to 71% at the height of the boom, falling again to 34.3% in 2000 only to rise again to 53% by 2010.
- Where our interest is in the transformation of the economy, it is useful to determine the nature of the relationship between energy revenues and the level of production in the non-energy sector.
- The link variable here would of course be government expenditure which is the means by which energy revenues are transmitted to the non-energy sector.

The Transformation Objective (4)

- Assuming that there is a direct relationship between public expenditure and non-energy output, it will therefore be helpful to explore the relationship between energy revenues and public expenditure.
- From this relationship we will be able to understand the implied relationship between energy sector revenues and non-energy output.

Energy Sector Revenues, Current Expenditure and Non-Energy Output (2)

- If we take the dependence of total government expenditure on energy revenues as a useful indicator of the extent of transformation in the economy, it would be interesting to test whether this relationship has changed over time.
- If the coefficient linking the two variables become smaller over time, we will know that transformation is taking place.

Results (1)

- The approach used was to employ post-cointegration regressions, one for the entire period 1969 to 2009 and one for the earlier period 1965 to 1989.
- As mentioned earlier. if the impact coefficient for the entire period is smaller than for the earlier period, we can conclude that transformation has been taking place.
- After cointegration tests showed that there was a unicausal relationship between total government expenditure and energy revenues, for the two periods the following OLS results were obtained.

Results (2)

1965 – 1989

- GOVEX = 0.588GOVEX(-1) + 0.784 ENEREV(-1)
  (t= 5.95) (t= 4.16)
  $\check{R}^2 = 0.88$

1965 - 2009

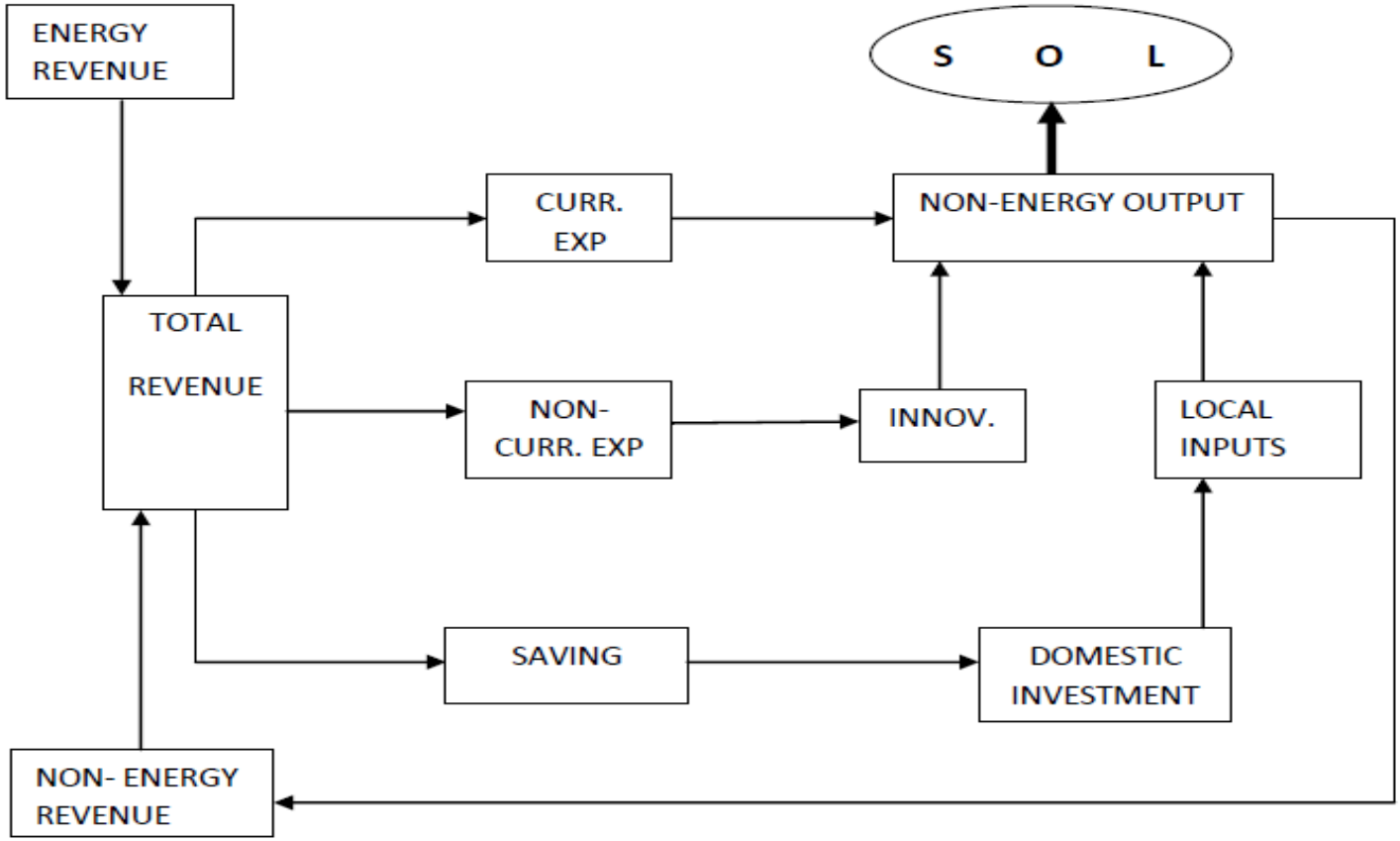
- GOVEX = 0.727GOVEX(-1) + 0.55 ENEREV(-1)
  (t= 9.94) (t= 4.11)
  $\check{R}^2 = 0.86$

In other words, for the earlier period the impact of energy revenues was apparently higher and the impact of the non-energy factors smaller. Suggestion that some transformation may have been taking place.

Results (3)

- On the face of it, the results point to some transformation taking place.
- However, since the overlapping coefficient values constitute less than half of the full range of estimator values, the result is probably best described as ***indeterminate.*** Some transformation may have been taking place, but we cannot be sure.
- One possible explanation would be the presence of both pro-transformation and counter-transformation factors at work in the economy, with the latter virtually cancelling out the former.
- One possible configuration of the economy is shown below

OPPOSING TRANSFORMATION FACTORS



LEGEND: CURR. – CURRENT EXP. - EXPENDITURE INNOV. - INNOVATION

S O L - STANDARD OF LIVING

Meaning of the Transformation Result (1)

- The diagram assumes that counter-transformation influences on non-energy output are mediated through current expenditure while the pro-transformation influences come through capital expenditure and savings. The direct pro-transformation factors are assumed to be innovation and the use of local inputs.
- Fitting a single-equation regression using both current and capital expenditure as independent variables, yielded the following result
- D(NEGDP) = 516.9 + 1.83D(CAPEX) + 2.25D(CURREX)

  (s.e.= 0.81) (s.e. = 0.48)

- This result is consistent with current and capital expenditure having the same influence on non-energy output, with no transformation taking place.

Meaning of the Transformation Result (2)

- The system portrayed embodies the possibility of sustaining high levels of non-energy output even if the energy revenue source collapses – the transformation challenge.
- This challenge will never be recognized for what it is, and resources will not be marshalled in favour of domestic investment unless both capital expenditure and the saving pool in the system become substantially more significant.
- In other words, current expenditure must become a much smaller fraction of government total expenditure.
- ***What this means is that some of the responsibility for wages and salaries and for transfers and subsidies will have to be shifted from energy-derived expenditure.***
- ***It also means that some public sector wages and salaries as well as household transfers will have to be transformed into investments that support human capital development, while some of the subsidies to state enterprise have to be linked to innovation.***

Meaning of the Transformation Result (3)

- In other words if transformation is to happen unambiguously, public policy will need to be redesigned according to a new set of criteria i.e. ***where current expenditures are assumed to be less and less linked to energy revenues as time goes by.***
- This means that the attitudes which will determine the behaviour of the beneficiaries of this expenditure - both the business community and the consumers of the country - are important.
- This recommendation for a different attitude and a different kind of public policy can also be linked to a comment made by Arthur Lewis in his Nobel Lecture, ***"except we have in the population enough people who are willing to make sacrifices for the future then development will elude us forever"*** – importance of attitudes seen once more.

Permanent Income Approach – An Impractical Political Economy? (1)

- This call for a new kind of public policy is not new. The earlier work of Vito Tanzi pointed us in this direction.
- Long before the notion of the **resource curse** was named, Vito Tanzi warned about the potential of phenomenal revenue inflows to leave the economy in a worse state than before.
- In the face of such inflows, governments would be tempted to set expenditure levels to match these transitory inflows.
- Tanzi's recomendation was that expenditure levels should be guided by an assessment of the ***permanent*** revenue if fiscal and balance disequilibria were to avoided.
- Of course, some of the transitory revenues would have to be spent on responding to the needs of citizens e.g. new roads, bridges, schools etc. However, it was important that expenditure levels not be fully determined by these temporary revenue inflows.

Tanzi and Permanent Income – An Impractical Political Economy? (2)

- The challenge in implementing this approach is seen in the trend in wages and salaries as well as the trend in transfers and subsidies.
- The data show that although its share has been falling, real wages and salaries doubled during the period of the first oil boom in T&T and more than doubled by 2010. The situation was even more pronounced in the case of transfers and subsidies. Here, not only is the share increasing significantly, but the 2010 level was almost sixteen times what it was before the first boom in 1970.
- This use of resources from the first and second oil booms to boost income and employment levels was certainly at variance with the Tanzi permanent income suggestion and makes the case for initiating the delinking of expenditures.

Data on Real Wages and Salaries and Transfers and Subsidies in T&T

Year	Real Wages and Salaries (TT$ mn)	X 1970 value	Real Transfers and Subsidies (TT$ mn)	X 1970 value	Combined share of Total Expenditure
1970	1,928.6 39.4	1	917.1 18.7	1	58.1
1980	3892.9 39.5	2.01	3016.5 30.6	3.29	69.1
1990	3472.0 36.5	1.80	3293.3 34.6	3.59	71.1
2000	3190.1 29.0	1.65	4168.3 33.9	4.55	62.9
2010	4483.2 17.7	2.32	14561.4 57.5	15.88	75.2

MAKING THE TRANSFORMATION HAPPEN

Three suggestions

1. Educating the public à la Norway: in a situation of competitive democracy, the suggestion not to spend oil revenues would be a difficult one to implement – opposition parties would promise to spend the funds held back by the incumbent regime (Gelb 1988).
2. Converting the **Residentiary Sector** of the economy into a **Self-propelled Sector** by linking entrepreneurship in T&T to net earning of forex : with differential fiscal support and conditions for licences.
3. Changing taste for imports and bolstering local production, as suggested by Best, Demas and St.Cyr

Supporting references

- **Best** – "To give the economy and internal dynamic…….it is necessary to change the pattern of tastes to develop residentiary industries with lower import content and larger local purchases….." [SES,1968]
- **Demas** – a similar position taken. [Economics of Development in Small Countries, 1965]
- **St. Cyr** – " The resources garnered offshore must be secured from dissipation in wasteful consumption and the surplus deployed in productive investment." [T&T Review, Sept 8, 2009]

Conclusion

- Development and transformation depend on the attitudes which prevail in the society. Transformation will come only if the leadership of the country could inculcate in the population an attitude of making sacrifices for the future and a bias to the use of local inputs and outputs.
- Nothing new, but worth serious consideration at this juncture. We cannot continue to use energy resources as done in the past.

The End

- Thanks to Tishana Simon of the HEU, Centre for Health Economics for all the cointegration tests and regression analyses used in this presentation.
- Thank you for your attention.
- Any questions/comments/suggestions?