

Telecommunications & Economic Development

Evidence of Causality

SOUTHERN AFRICAN COUNTRIES:

Economic / Telephone Relationships

Case Study

Focus on Southern Africa

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- Carl Hunt
- Paul Rappoport
- Lester Taylor
 - Marty Garity
 - Barbara Sorce

AGENDA

- OBJECTIVES
- ECONOMIC ENVIRONMENT
 - Overview of Countries
 - GDP versus Telephone Growth
 - Within Country Growth Comparisons
 - Efficiency of Provision
- ANALYSIS
- CONCLUSION/SUMMARY

OBJECTIVE:

To Explore the Relationship between Telecommunications and Economic Development

METHODOLOGY:

Literature Review & Limited Data Analysis

CONCLUSION:

Strong Evidence to Indicate a Positive Relationship between Telecommunications Investments and Economic Growth

Literature Review

Telecommunications and Economic Development:

- A Strong Statistical Relationship Exists
- Recent Literature Suggests Causality

Telecommunications in the Infrastructure: Benefits

- Reduced Time of Transactions
- Eliminates Distance of Transactions
- Expands and Enhances Communications
- Reduces the Cost of Production

Telecommunications in the Infrastructure: Benefits

Telecommunications represents the nerve structure of an economy and is as important to the growth an economy as the transportation was to development in the 19th. and early 20th. century.

Economic / Telecommunications Environment

- Economic Environment
- GDP & Telephone Development
- Within Country Growth Comparisons
- Efficiency of Service Provision

Countries Examined

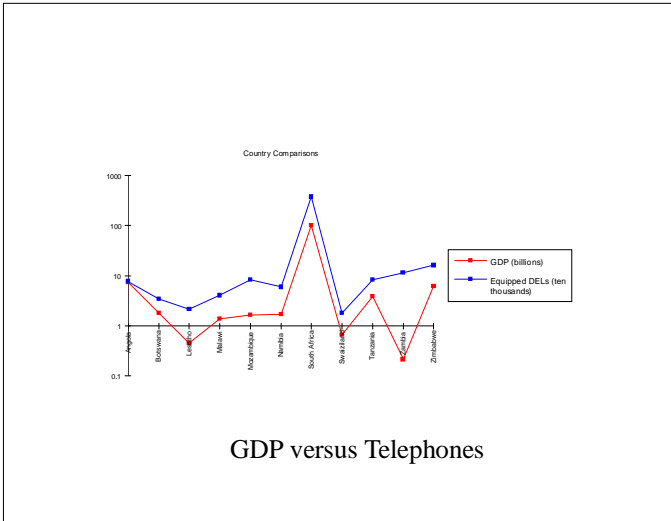
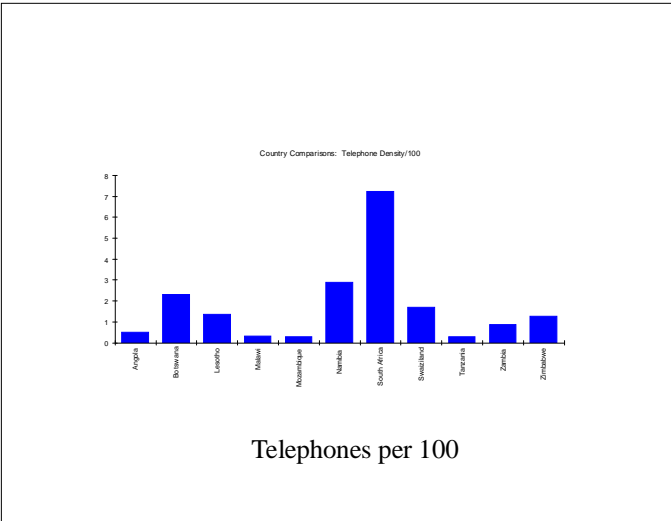
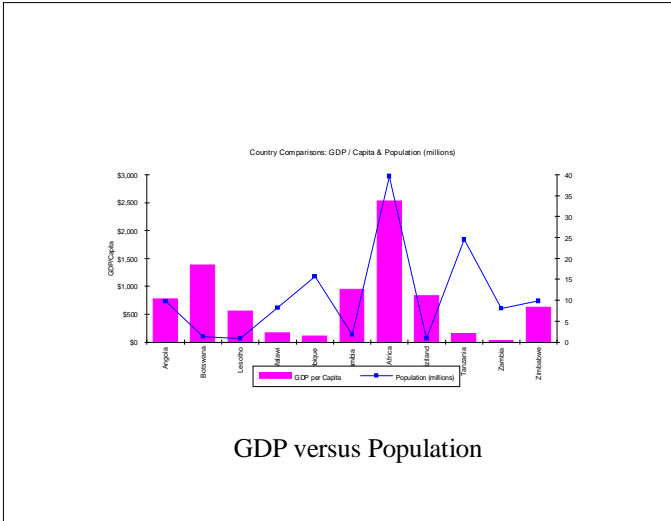
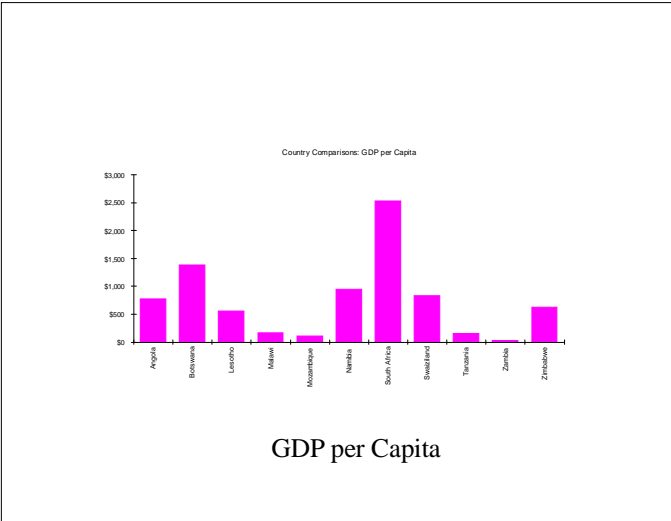
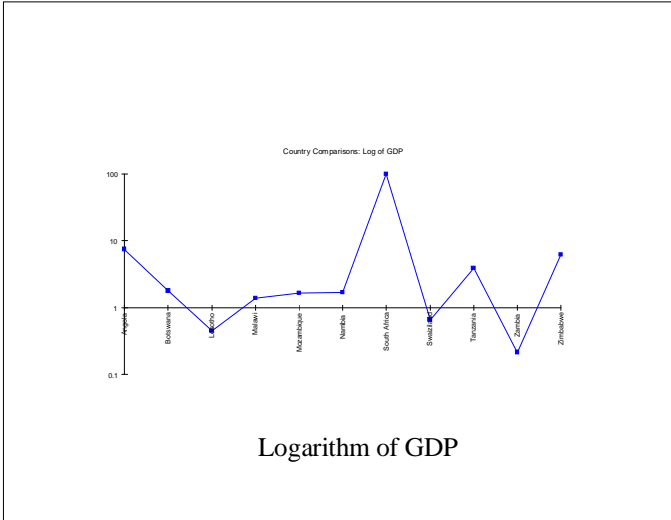
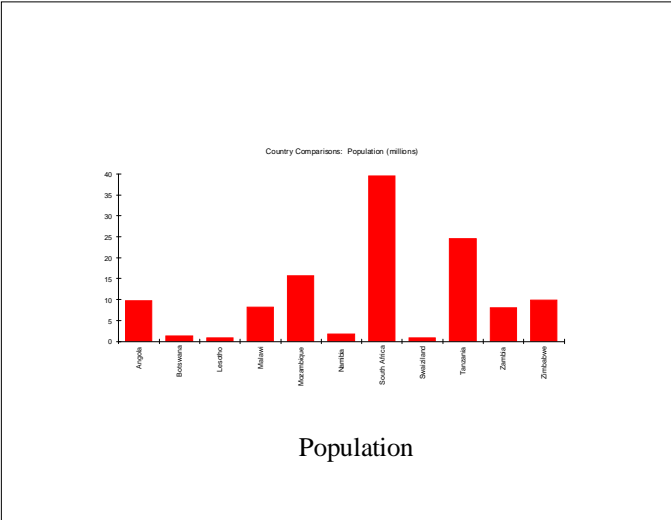
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|------------|----------------|
| ▪ Angola | ▪ South Africa |
| ▪ Botswana | ▪ Swaziland |
| ▪ Lesotho | ▪ Tanzania |
| ▪ Malawi | ▪ Zambia |
| ▪ Namibia | ▪ Zimbabwe |

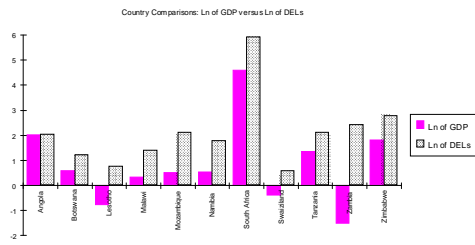
Economic Comparisons

- Population
- GDP
- Telephone Density
- Efficiency of Provision
- International Traffic

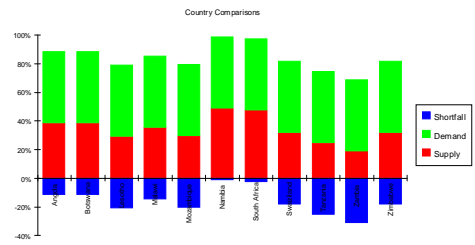
Focus on:

- Economic Environment
- GDP & Telephone Development
- Within Country Growth Comparisons
- Efficiency of Service Provision

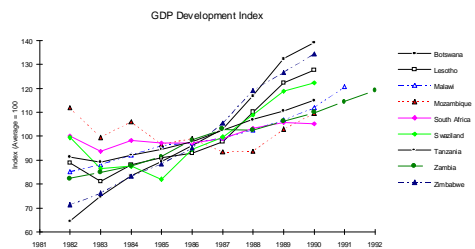




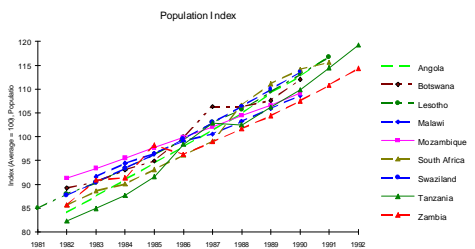
Logarithm of GDP & Telephones (DELs)



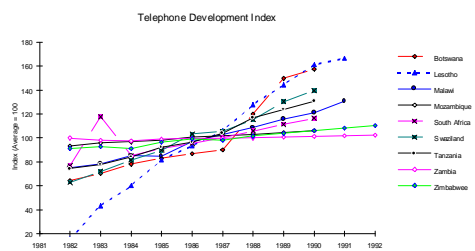
Estimated Telephone Short-Fall



Index of GDP Growth



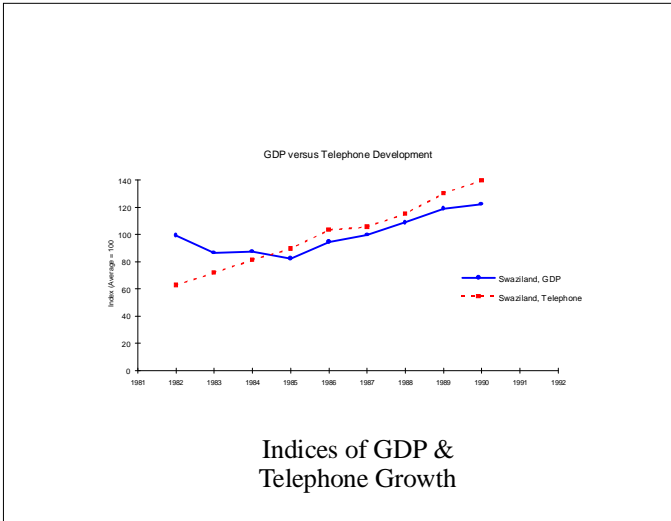
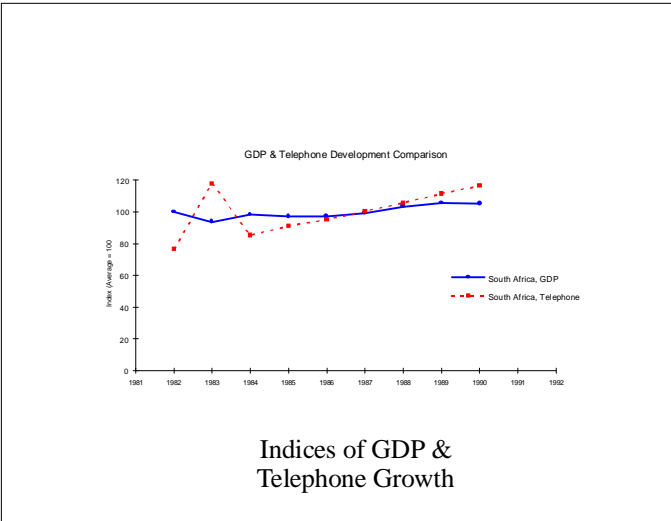
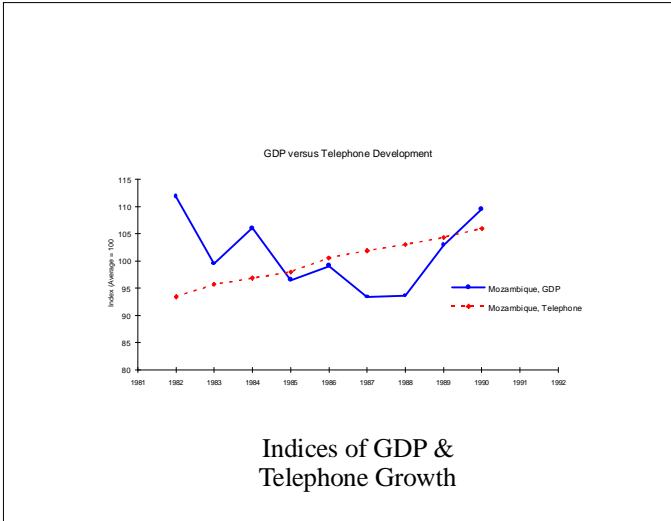
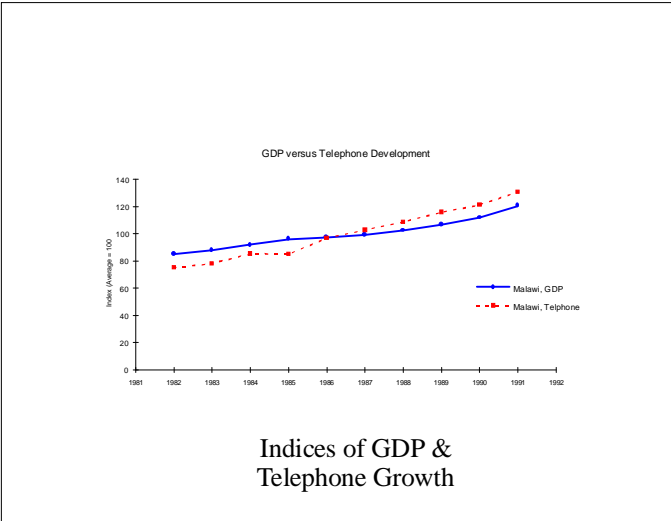
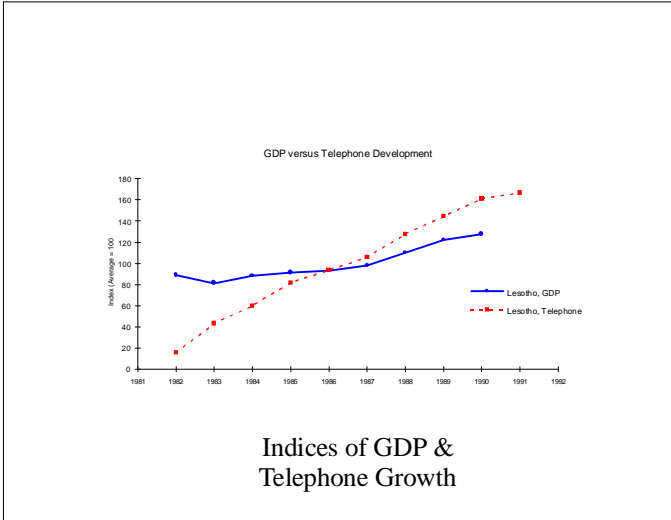
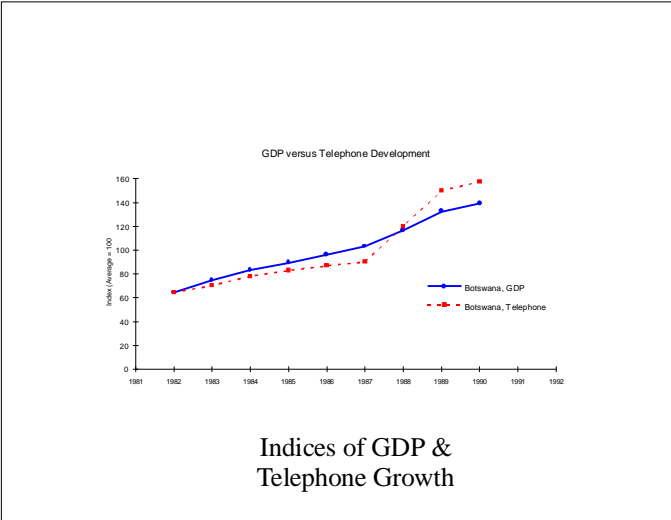
Index of Population Growth

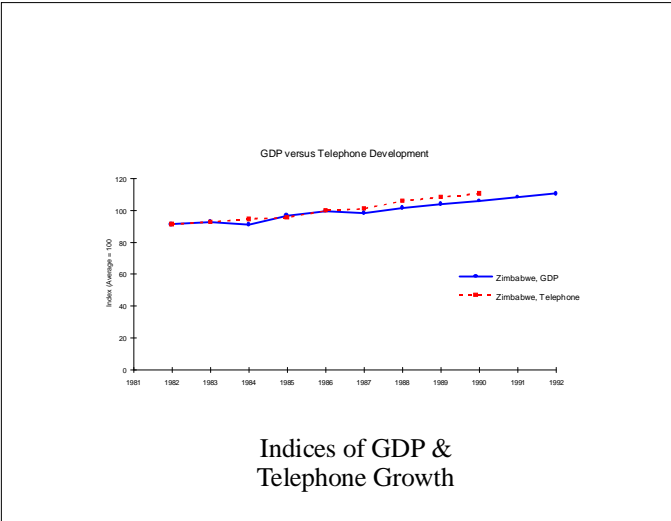
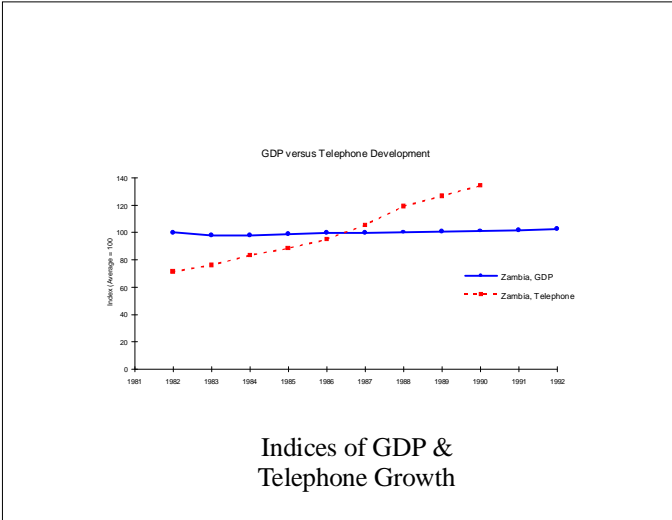
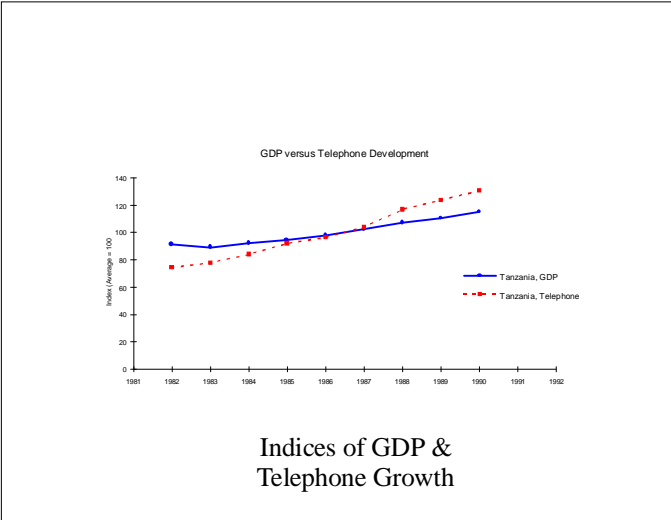


Index of Telephone Growth

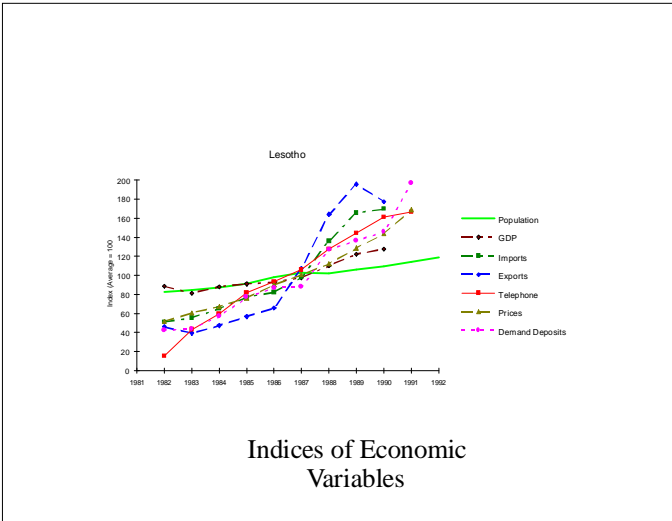
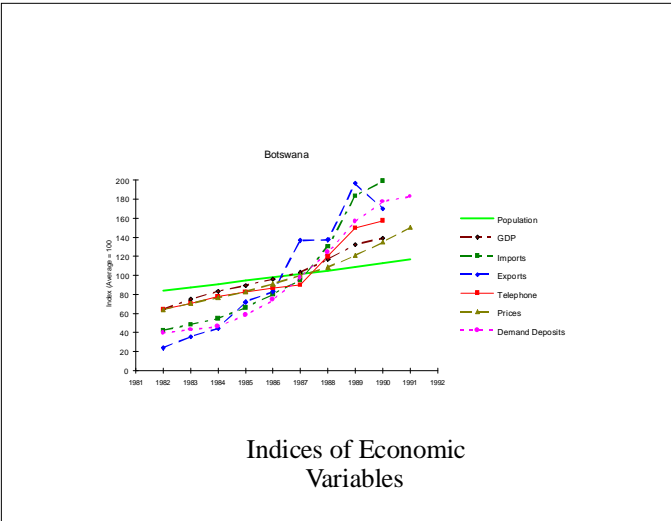
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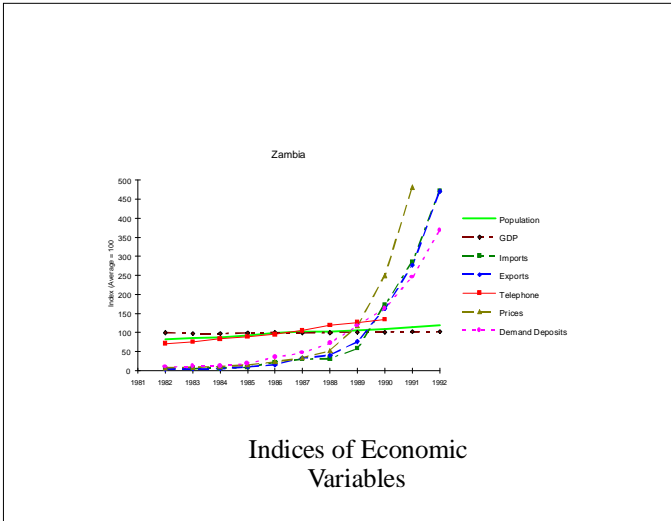
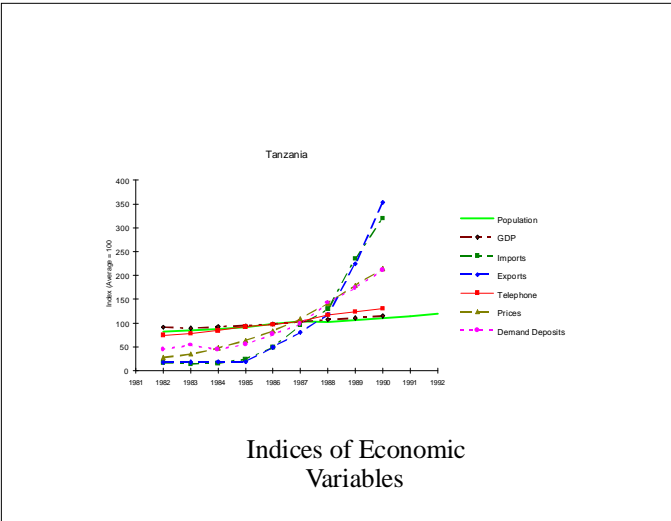
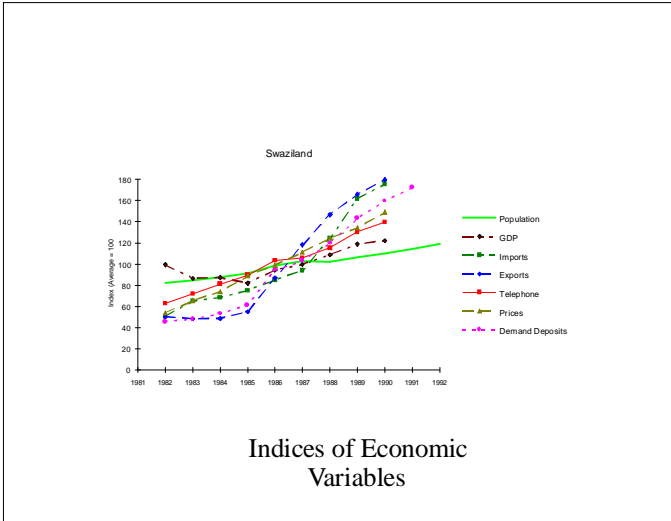
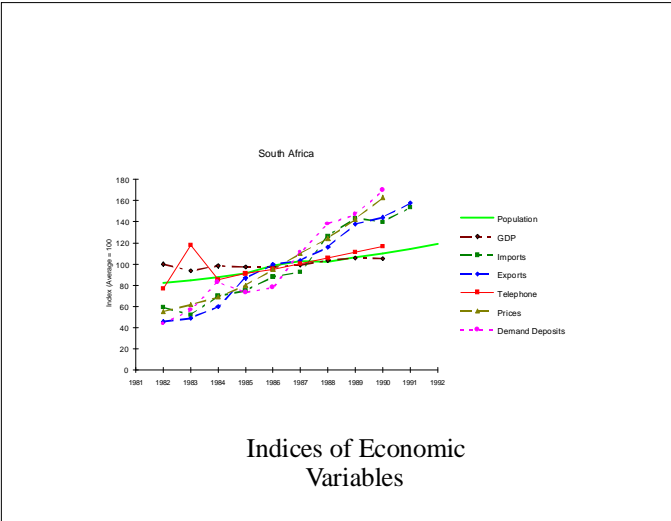
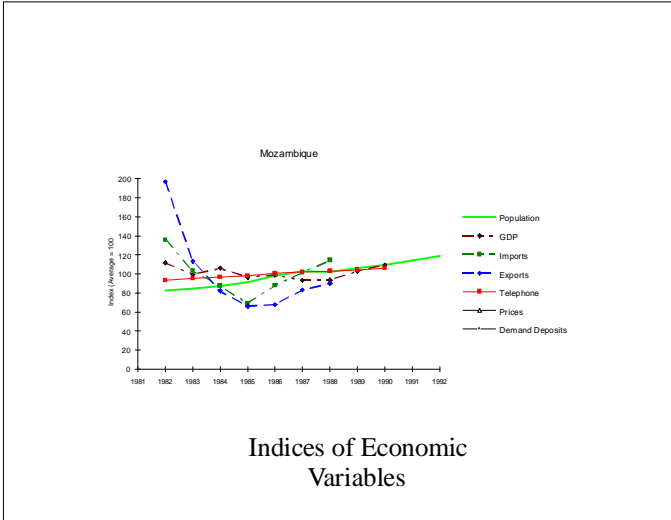
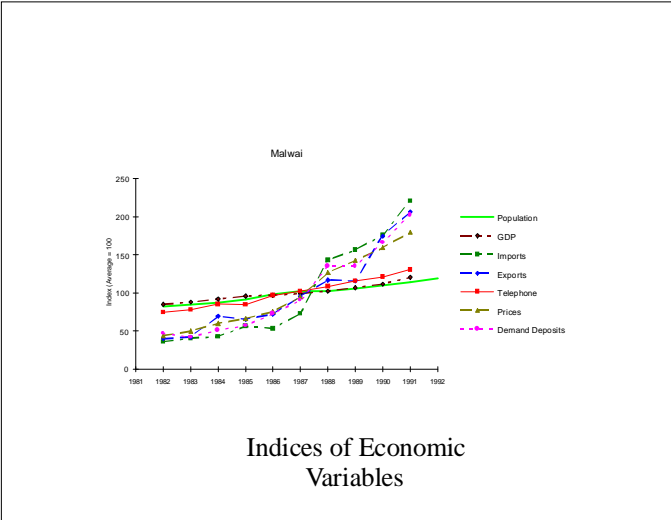
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- Within Country Growth Comparisons
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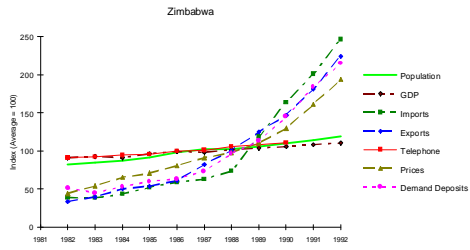




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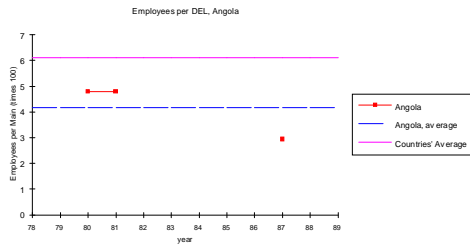




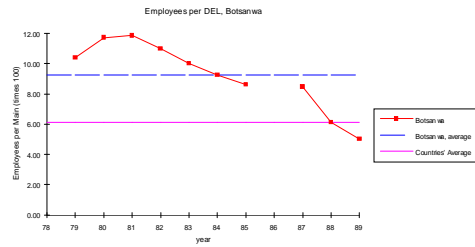
Indices of Economic Variables

Focus on:

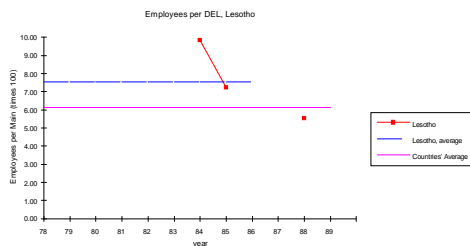
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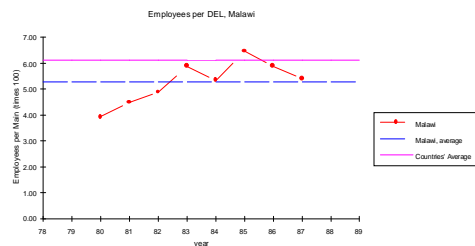
Efficiency of Telephone Provision



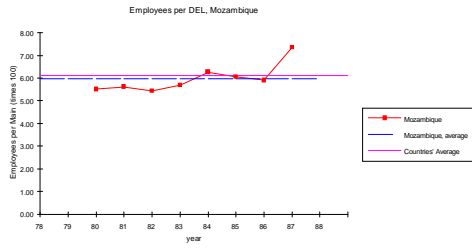
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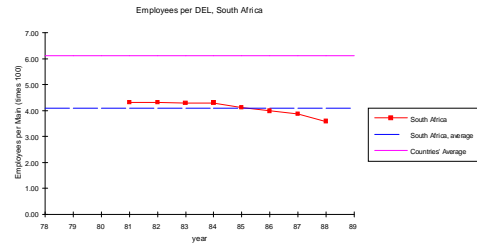
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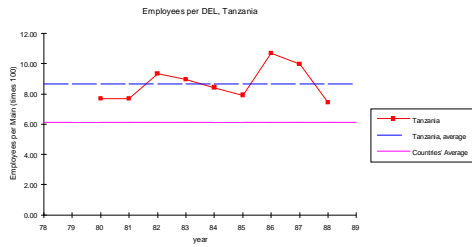
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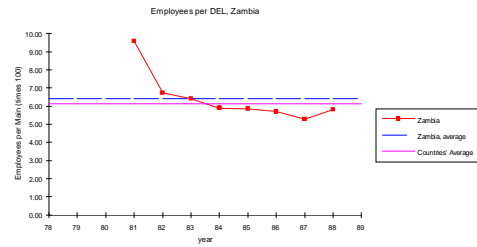
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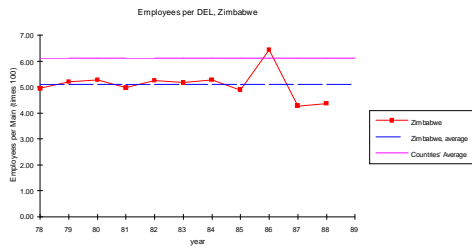
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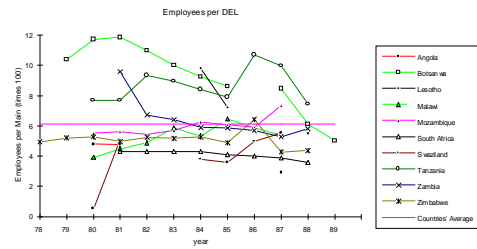
Efficiency of Telephone Provision



Efficiency of Telephone Provision



Efficiency of Telephone Provision



Efficiency of Telephone Provision: Comparison

ANALYSIS: Two Models

- Log of Growth of GDP versus Telephone Penetration Lagged
- Log of Growth of Telephone Penetration versus GDP

ANALYSIS: Two Models

- Log of Growth of GDP versus Telephone Penetration Lagged
 - Telephone Proxy for Investments
 - Impact Takes a Year
- Log of Growth of Telephone Penetration versus GDP

ANALYSIS: Two Models

- Log of Growth of GDP versus Telephone Penetration Lagged
 - Telephone Proxy for Investments
 - Impact Takes a Year
- Log of Growth of Telephone Penetration versus GDP
 - Instant Impact on Telephone Penetration

ANALYSIS: Two Models

- Log of Growth of GDP versus Telephone Penetration Lagged
- Log of Growth of Telephone Penetration versus GDP

Confirms Telecommunications Investment
Impacts Economic Growth and vice versa

CONCLUSION

Telecommunications Infrastructure Investment & Economic Development

- A Positive Relationship Exists
 - Theoretical and Empirical Results Confirm
 - This Analysis Confirms Others' Results
 - Estimations of the Magnitude Vary

CONCLUSION

Telecommunications Infrastructure Investment & Economic Development

- A Positive Relationship Exists
- Telecommunications Investment Not Sufficient.
- Human and Capital Resources Required
- Other Infrastructure Investments Required