Economic Perspectives on the Global Submarine Cable Market

Michael Ruddy
Director of International Research
Terabit Consulting

www.terabitconsulting.com
SUBMARINE CABLE INVESTMENT

New Submarine Cable Investment by RFS Date
Source: 2016 Undersea Cable Report (Terabit Consulting)

Consortium Era
Speculative Investment
Dot-Com Bubble Burst
EXTREME MARKET UNCERTAINTY
MARKET RECOVERY (still cyclical)
Intercontinental submarine cable bandwidth has increased from ~50 Tbps in 2011 to ~140 Tbps in 2015. Growth is highest in:
- Southeast Asia
- South Asia & ME
- Australia
- Latin America
- Africa

Intercontinental Bandwidth Demand, 2011-2015
Source: 2016 Undersea Cable Report, Terabit Consulting
Q: IS THERE A CORRELATION BETWEEN A COUNTRY’S ECONOMIC GROWTH AND ITS INTERNATIONAL BANDWIDTH DEMAND?

A: SOMETIMES.

• Markets with weak or negative correlation:
  • High-income, mainland economies with strong domestic content (e.g. USA)
  • Telecommunications markets with strong government involvement (e.g. China)
  • Countries with newly-introduced connectivity that had previously been underserved (e.g. Kenya)

• Markets with moderate correlation:
  • Major island economies (e.g. Australia, Japan)

• Markets with strong correlation:
  • Developing economies with strong reliance on foreign content (e.g. India)
  • Regional transit hubs (e.g. Singapore, UAE)
  • Smaller economies, less-developed economies
WEAK/NEGATIVE CORRELATION COUNTRIES

CHINA
Correlation: -0.2

USA
Correlation: -0.2

KENYA
Correlation: -0.5
MODERATE CORRELATION COUNTRIES

AUSTRALIA
Correlation: 0.4

JAPAN
Correlation: 0.5
STRONG CORRELATION COUNTRIES

INDIA
Correlation: 0.8

SINGAPORE
Correlation: 0.5 (t-1=0.8)
HOW ECONOMIC SENSITIVITY TRANSLATES TO SUBMARINE CABLE ROUTES

LOW SENSITIVITY
- Transatlantic
- European regional
- Historically-underserved routes

MEDIUM SENSITIVITY
- Transpacific
- East Asian Regional
- Australian Intercontinental
- North America-South America

HIGH SENSITIVITY
- Europe-Middle East-Asia
- Sub-Saharan Africa
- Caribbean

At the system supply level, the correlation between global GDP growth and submarine cable investment was 0.3 between 2010 and 2015.
SUBMARINE CABLE INVESTMENT MAY BE A FUNCTION OF ECONOMIC GROWTH, BUT ECONOMIC GROWTH CAN ALSO BE A FUNCTION OF SUBMARINE CABLES

- Submarine cables are the world's primary path for international communications, international e-commerce, and international digitally-enabled services
  - Satellite handles less than 0.5% of international traffic
  - International terrestrial fiber optic networks, while a key complement to submarine connectivity, do not currently offer coherent, cost-effective international capacity
THE ECONOMIC AND DEVELOPMENTAL IMPACT OF SUBMARINE CABLES

• Economic Growth: submarine cables stimulate the following:
  • Increased demand for output (demand multiplier), new opportunities for production (supply multiplier), new goods and services for consumers (final demand)

• Benefits to Consumers
  • Increased international bandwidth
  • Increased consumer affordability of broadband services
  • Increased reliability of international Internet and data services

• Increased Government Revenue
  • Growth in output as a result of increased ICT investment (tax revenue, employment)

• Regional Stability
  • Improved political, economic, and intercultural relations
  • Opportunities in educational, healthcare sectors
A NEW DEVELOPMENT-ORIENTED MODEL OF INTERNATIONAL FIBER INVESTMENT

PPP Structures
- SPV w/ Gov’t. Sharehold
- SPV w/ Gov’t Contribution
- BOT Concessions
- Project Mgmt. Contracts

System and Equipment Suppliers

Appropriate Cost-Sensitive Solutions
Since 2003, the share of submarine investment serving less-developed and emerging markets has increased from 33% to more than 60%.
SOLUTIONS FOR ECONOMIC GROWTH THROUGH IMPROVED SUBMARINE CONNECTIVITY

1. Multilateral participation in project development
2. Pan-regional cooperation, coordination, and harmonization
3. In cases of market failure: promotion of open access and non-discrimination
4. Elimination of downstream obstacles that prevent bandwidth utilization
   • Greater competition in backhaul, int’l. gateway
   • Development of intercity and metro fiber networks
   • Promotion of advanced broadband services
   • Programs to encourage ICT adoption
   • Investment in supporting rural infrastructure (e.g. electricity)
MARKET OUTLOOK:
PRELIMINARY FINDINGS FROM TERABIT CONSULTING’S 2017 UNDERSEA CABLE REPORT

1. $2.5 billion worth of systems currently under construction

2. Additional $22.4 billion worth of systems under active development

3. $6.3 billion worth of “high-activity” systems (51 projects)
Thank you!

Michael Ruddy
Director of International Research

Cambridge Riverview Center
245 First Street, 18th Floor
Cambridge, Massachusetts 02142 USA

Tel.: +1 617 444 8605
Fax: +1 617 444 8405
mruddy@terabitconsulting.com

www.terabitconsulting.com