Third to First: Going the Distance

Clearing the Hurdles

Carolyn Purcell

24 June 2011

ICAC 29th Caribbean Conference of Accounts

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Agenda

- Vision
- Infrastructure
- Human Capital
- Economic Development
- Conclusion

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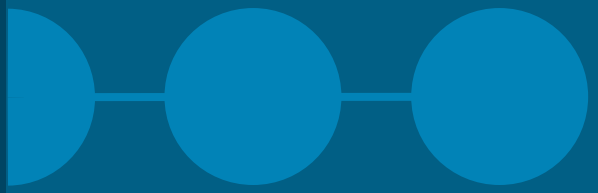

Vision

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What will it look like?

- You can't build a new world without a vision –
- The strategy to achieve the vision should reflect the opportunities of innovation and change, as well as a plan to manage risks
- The vision and strategy will evolve along the way, but it has to be articulated
- "Skate to where the puck is going, not to where it is",* lead the clay pigeon when you shoot –
- The rate of change is accelerating -

* Wayne Gretzky

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Some emerging technologies:

- Nano technology is changing materials science – Smart Dust
- Video, including 3D and holograms will be ubiquitous and cheap, making distance virtually irrelevant
- Everything will be a computer – my glasses and my keys will tell me where they are!
- The average doctor and nurse will refresh their entire knowledge base every eighteen months
- Cash is an artifact of the past. Financial transactions take place electronically – most of them through cell phones.
- Sensors will monitor the city center for signs of distress or criminal behavior—such as gun shots or cries for help—and dispatch police officers who will watch in route an incident unfold on monitors in their vehicles

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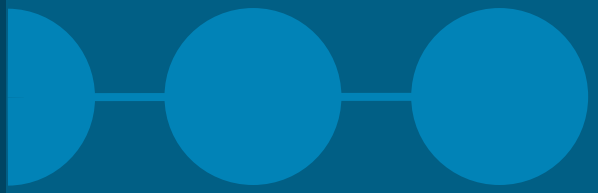

Infrastructure

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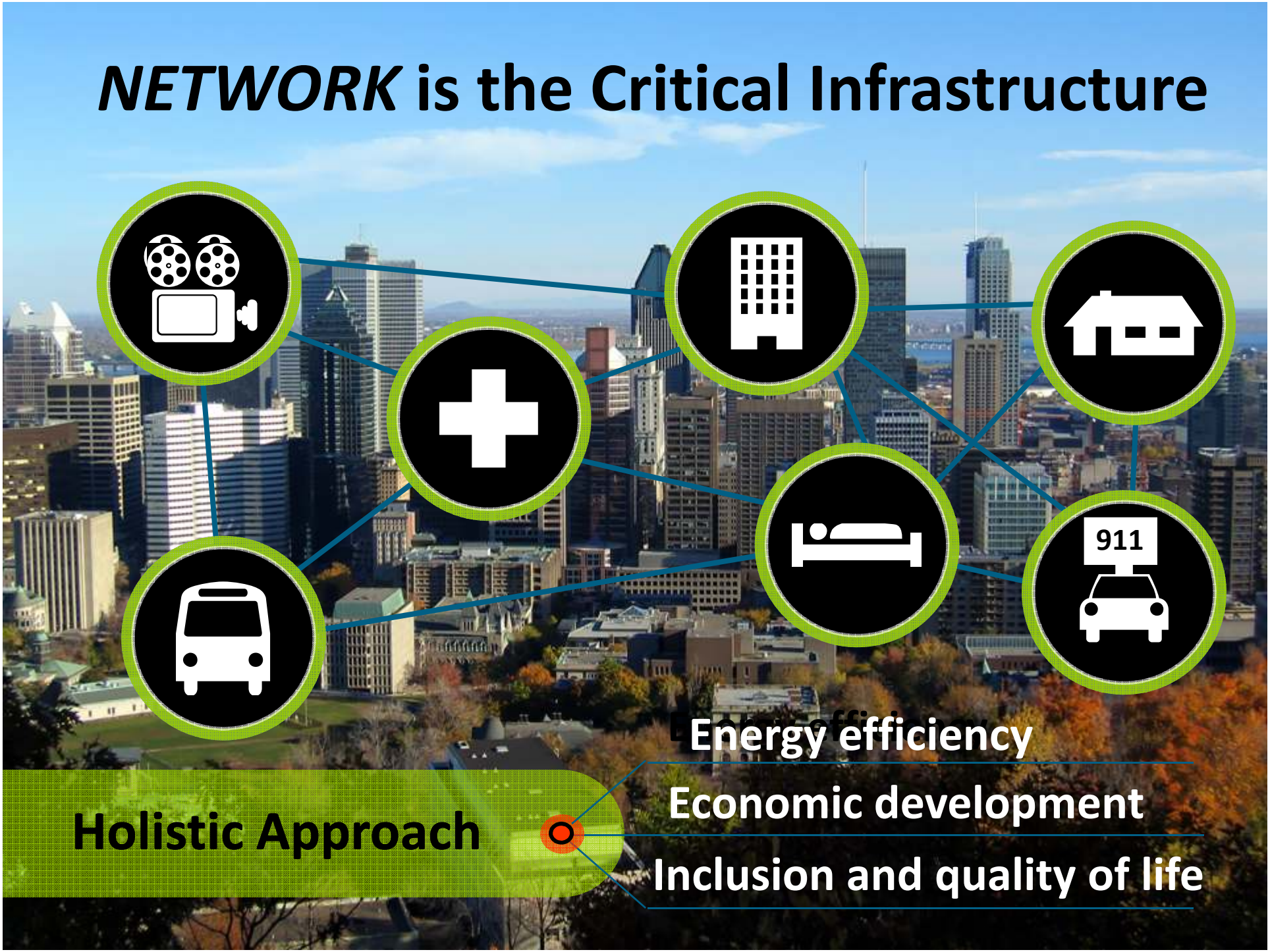
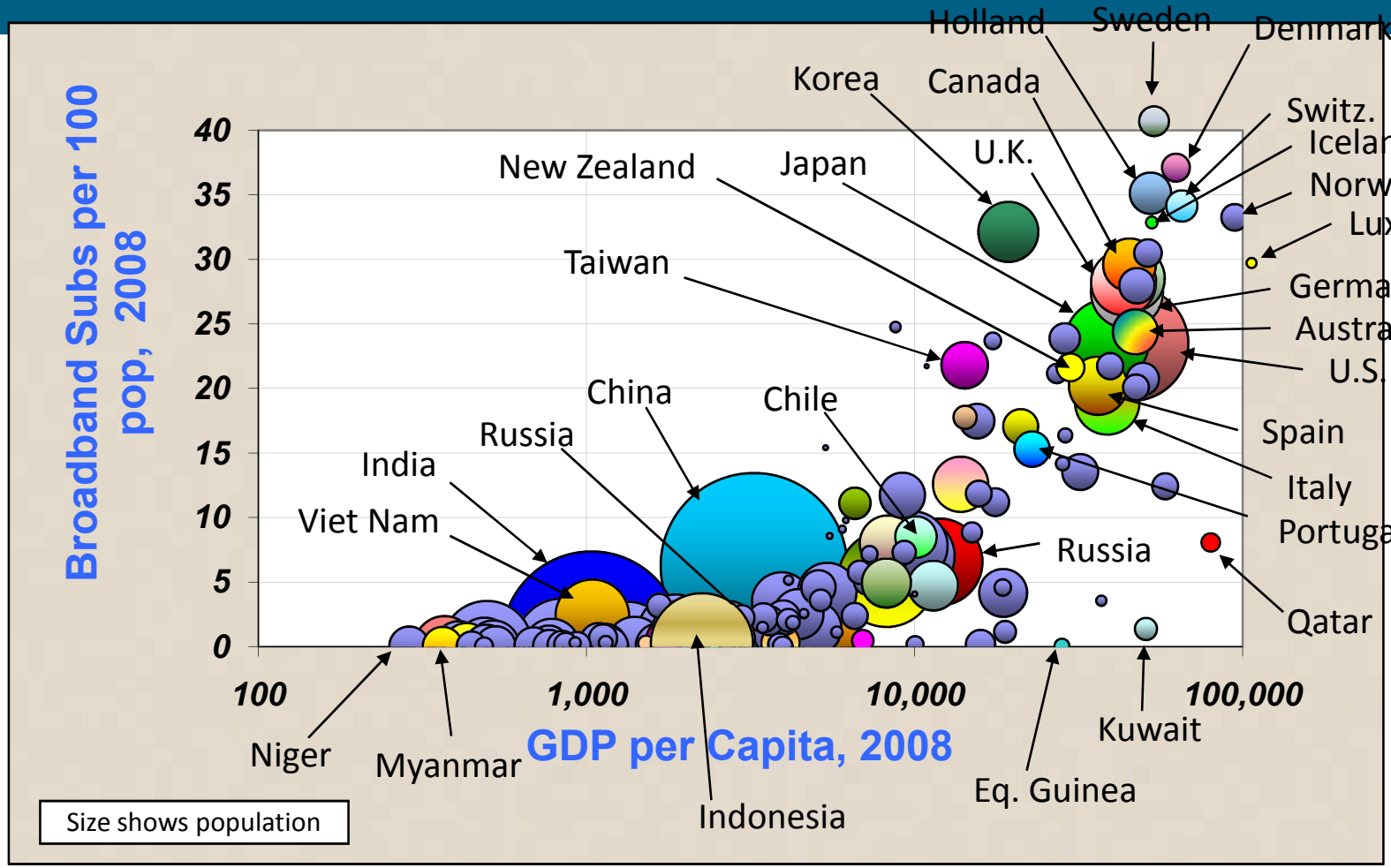
NETWORK is the Critical Infrastructure



Global Trends



Source: Telcordia. Data: ITU World Telecommunication Indicators 2010

Global Trends

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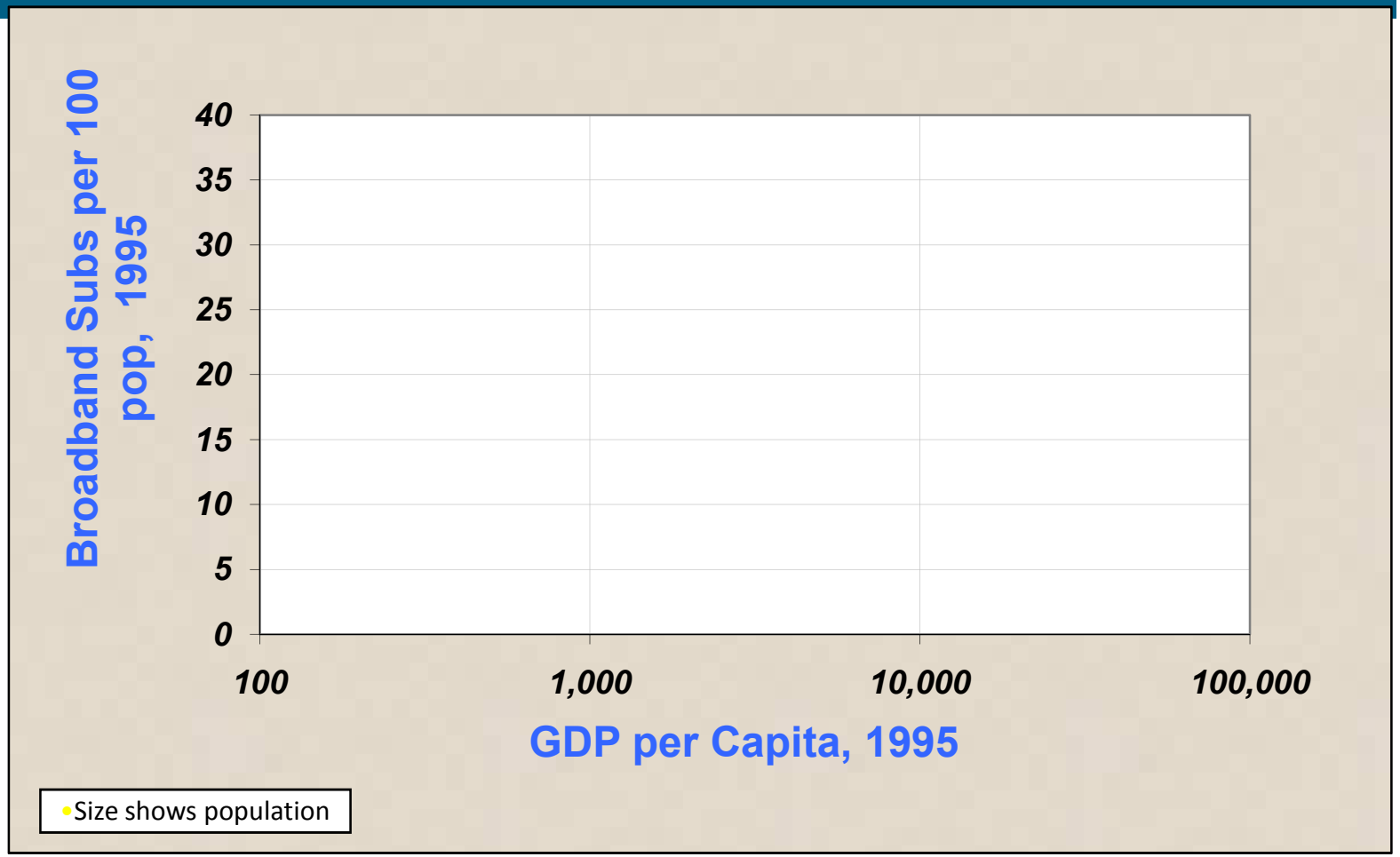

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Source: Telcordia. Data: ITU World Telecommunication Indicators 2010

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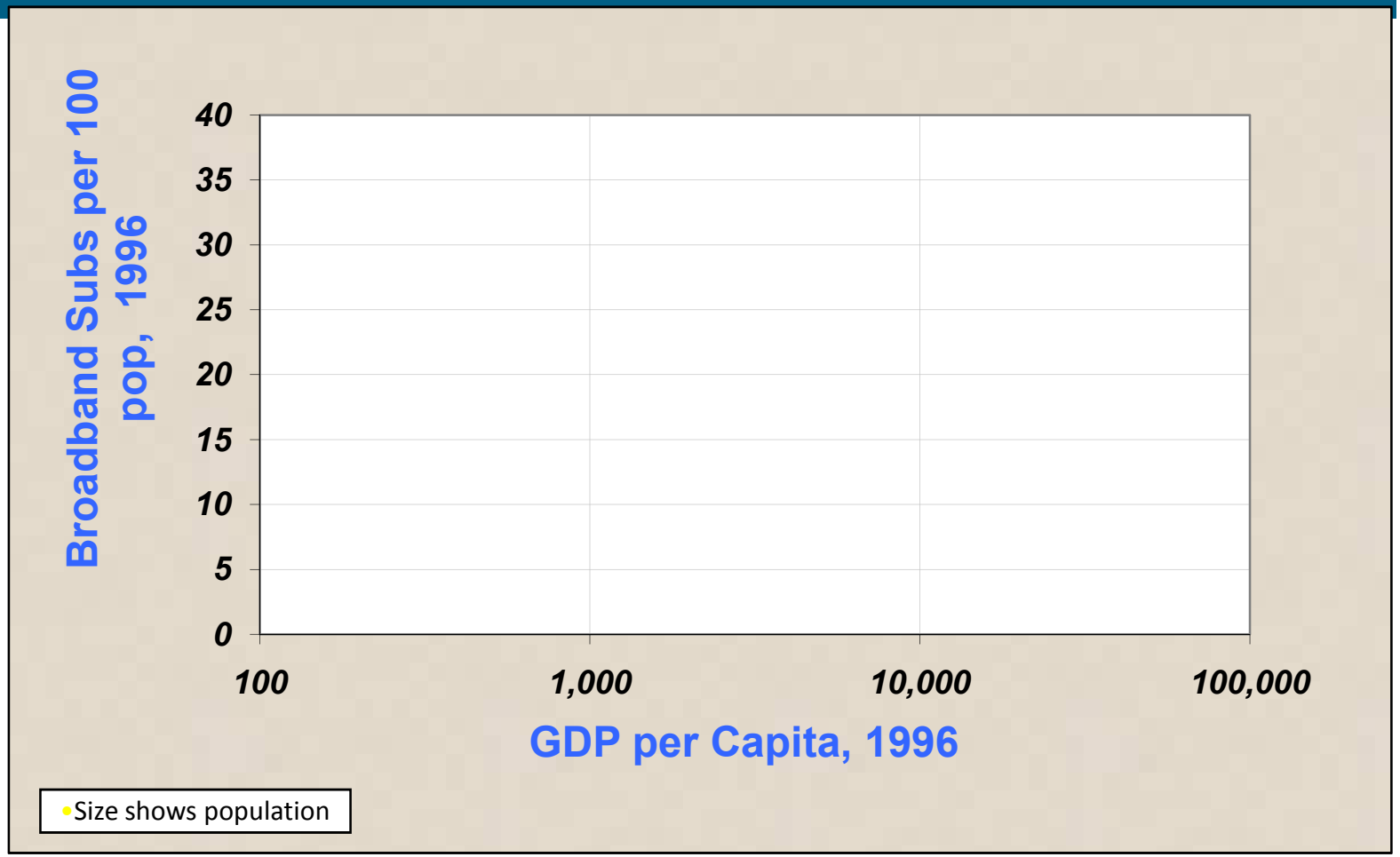
Global Trends



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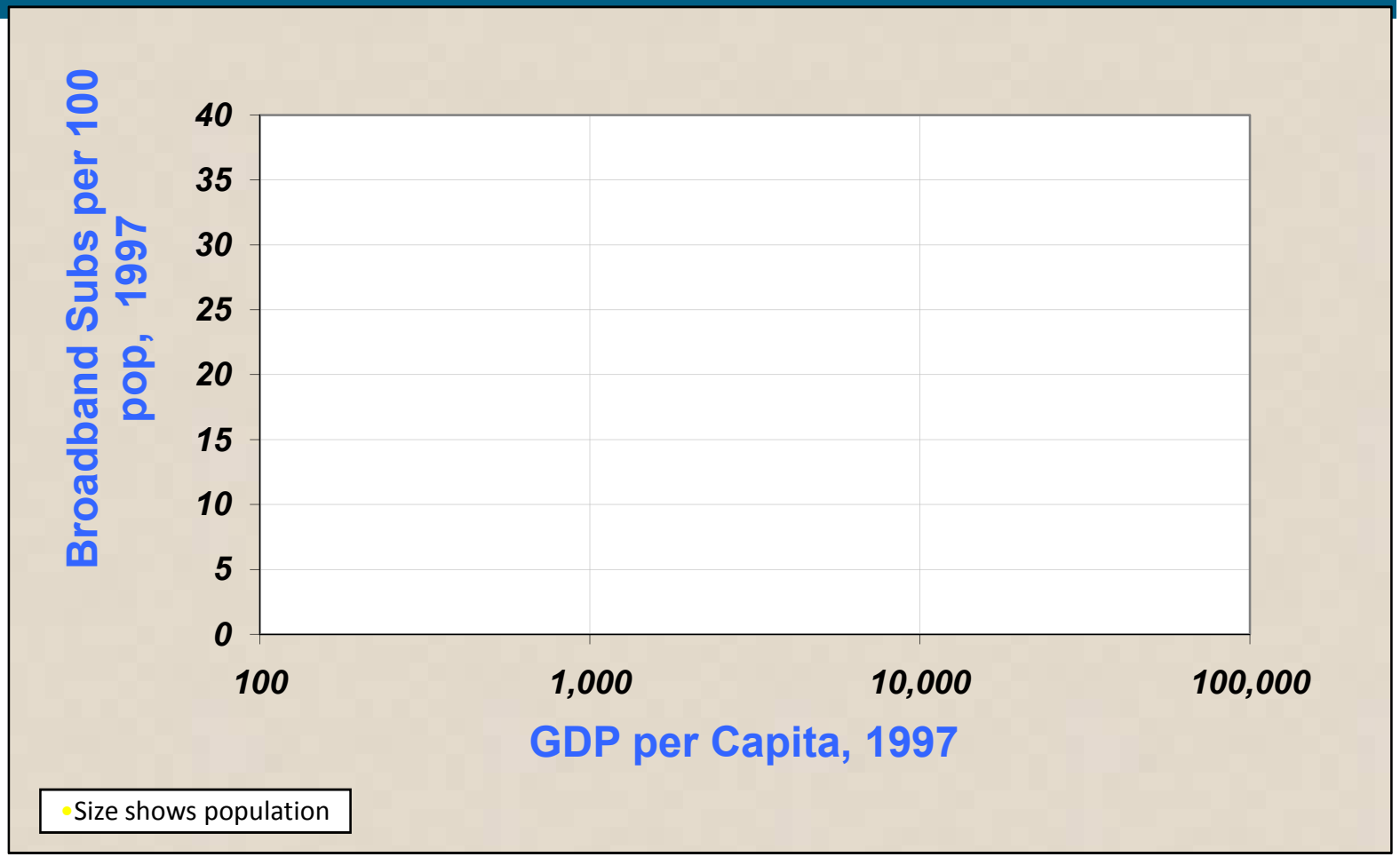
Global Trends



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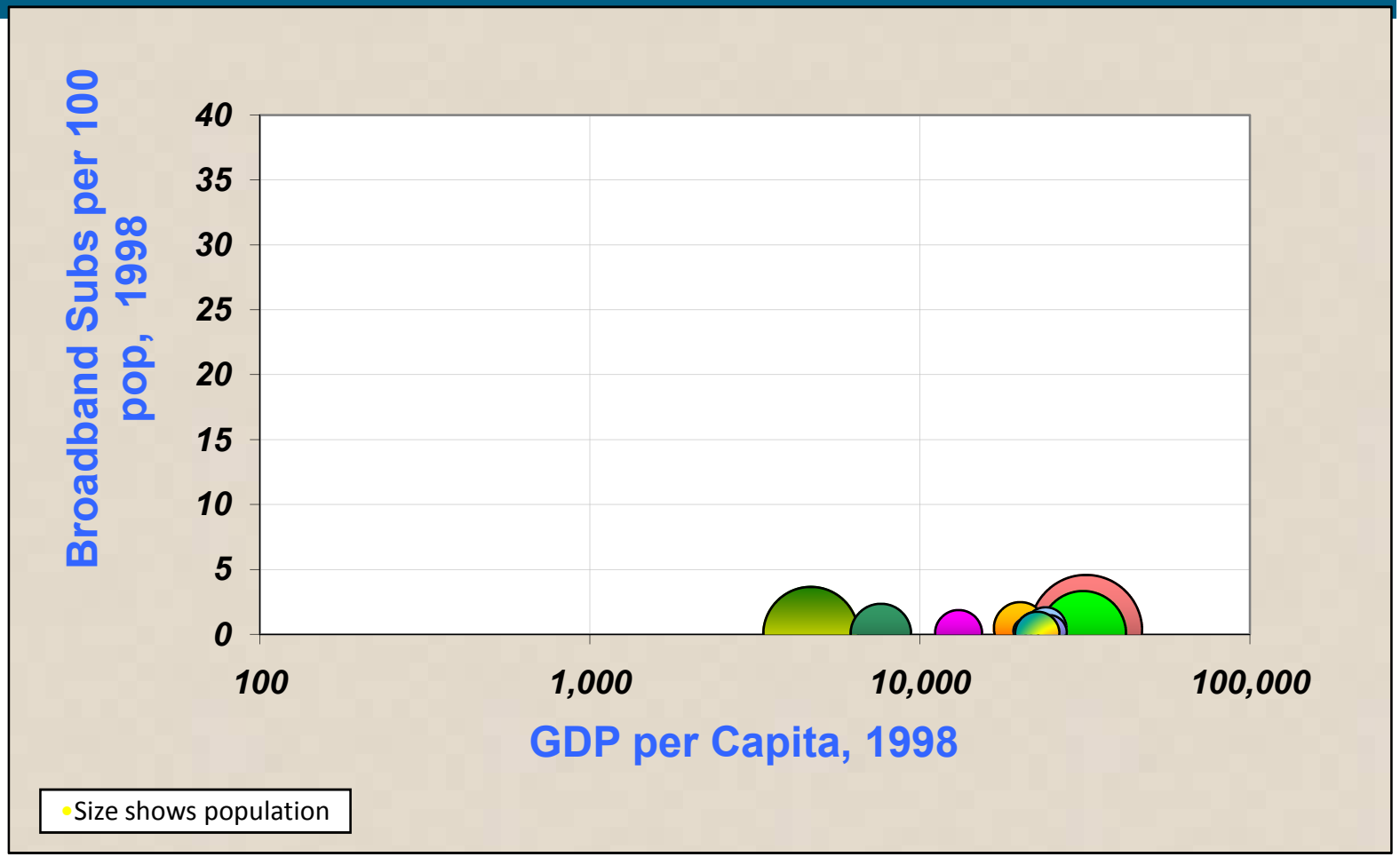

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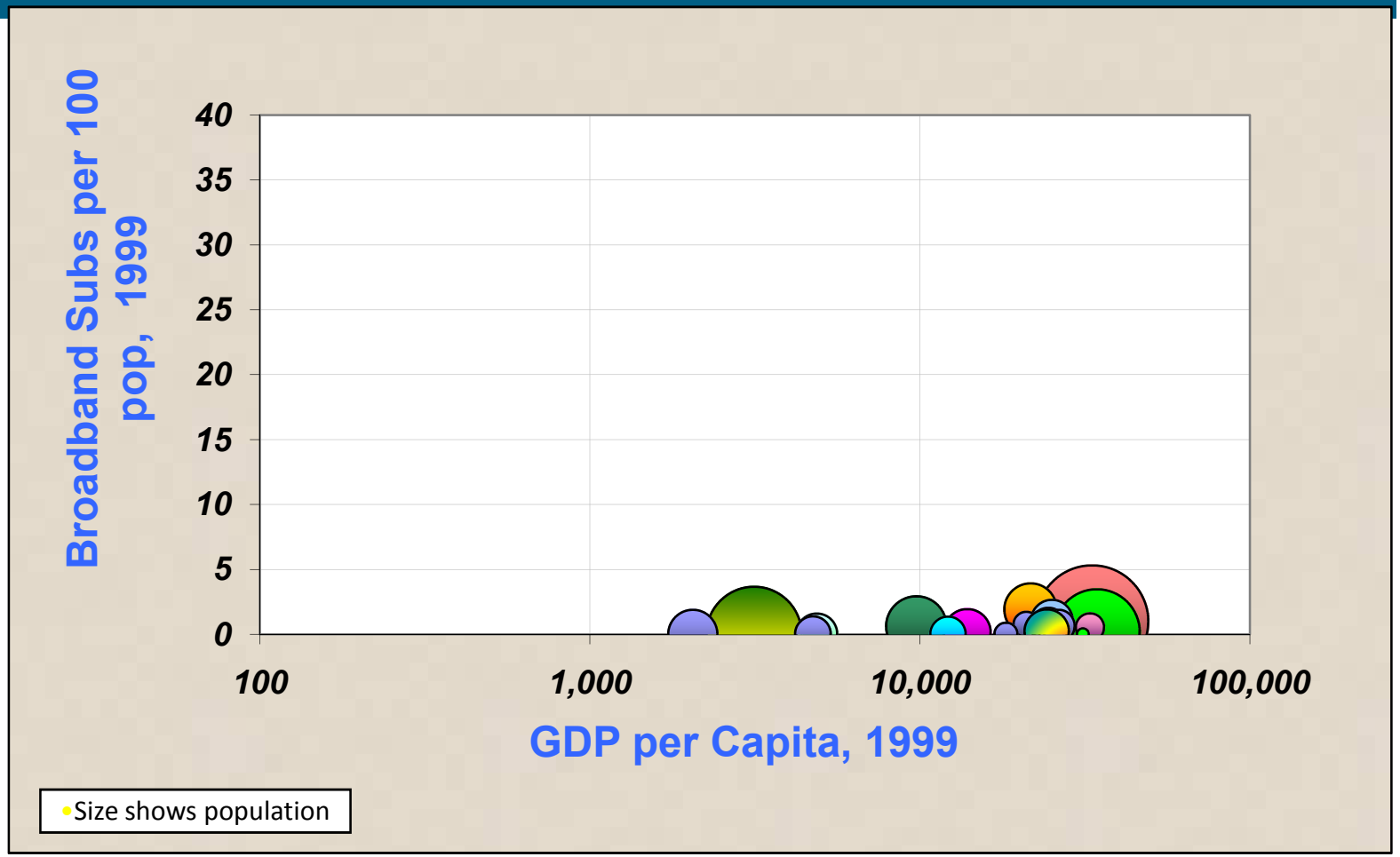

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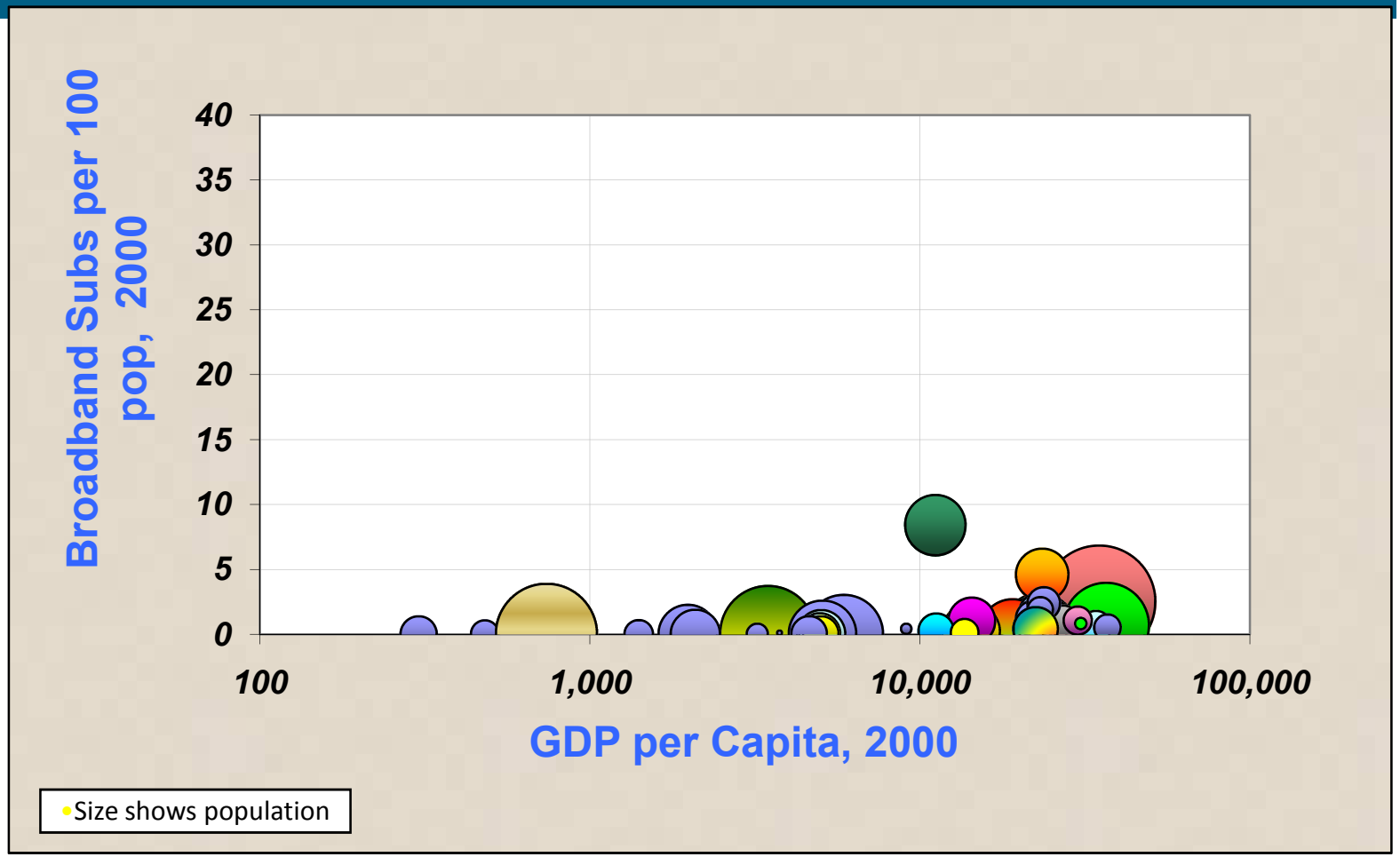
Global Trends



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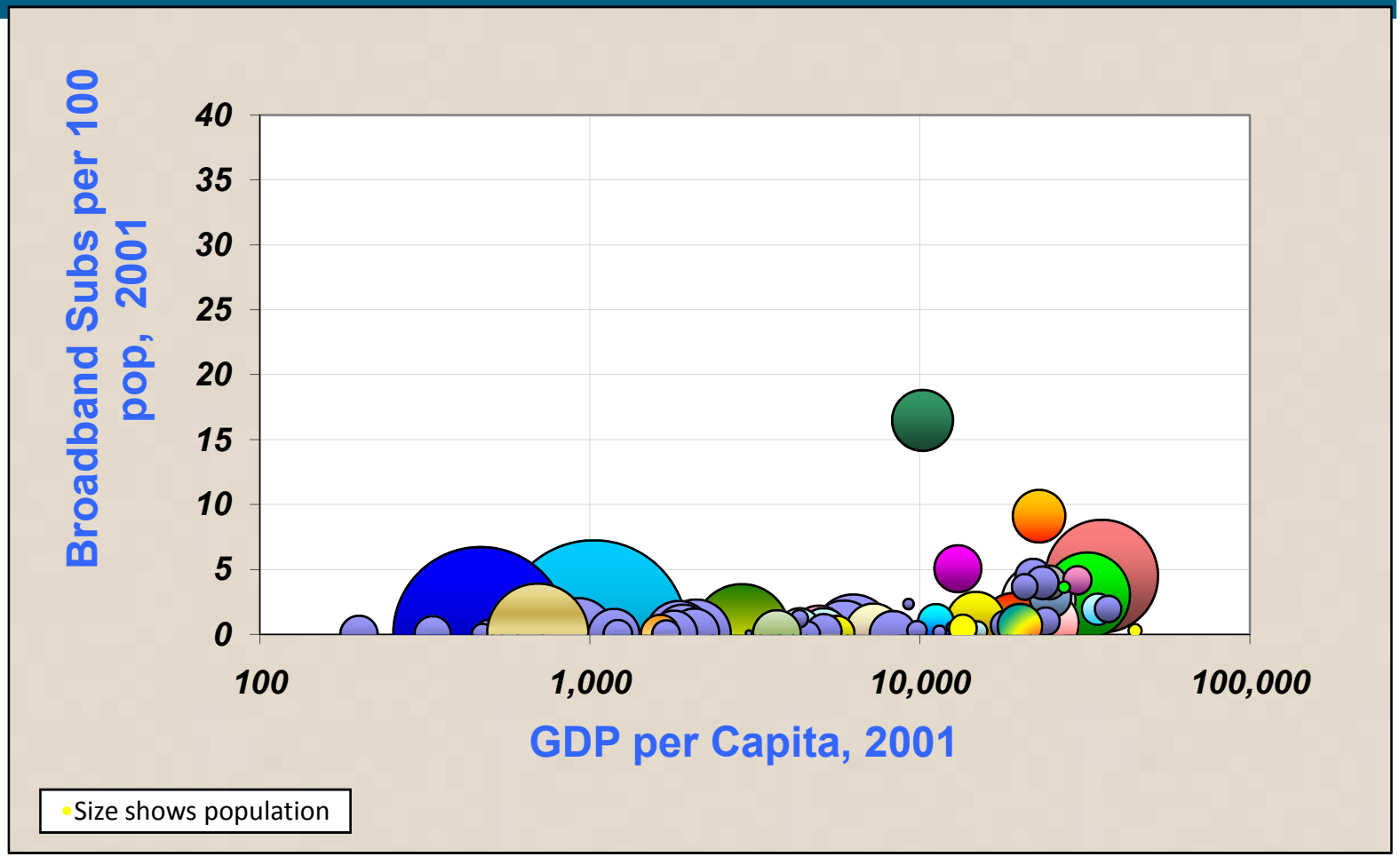
Global Trends



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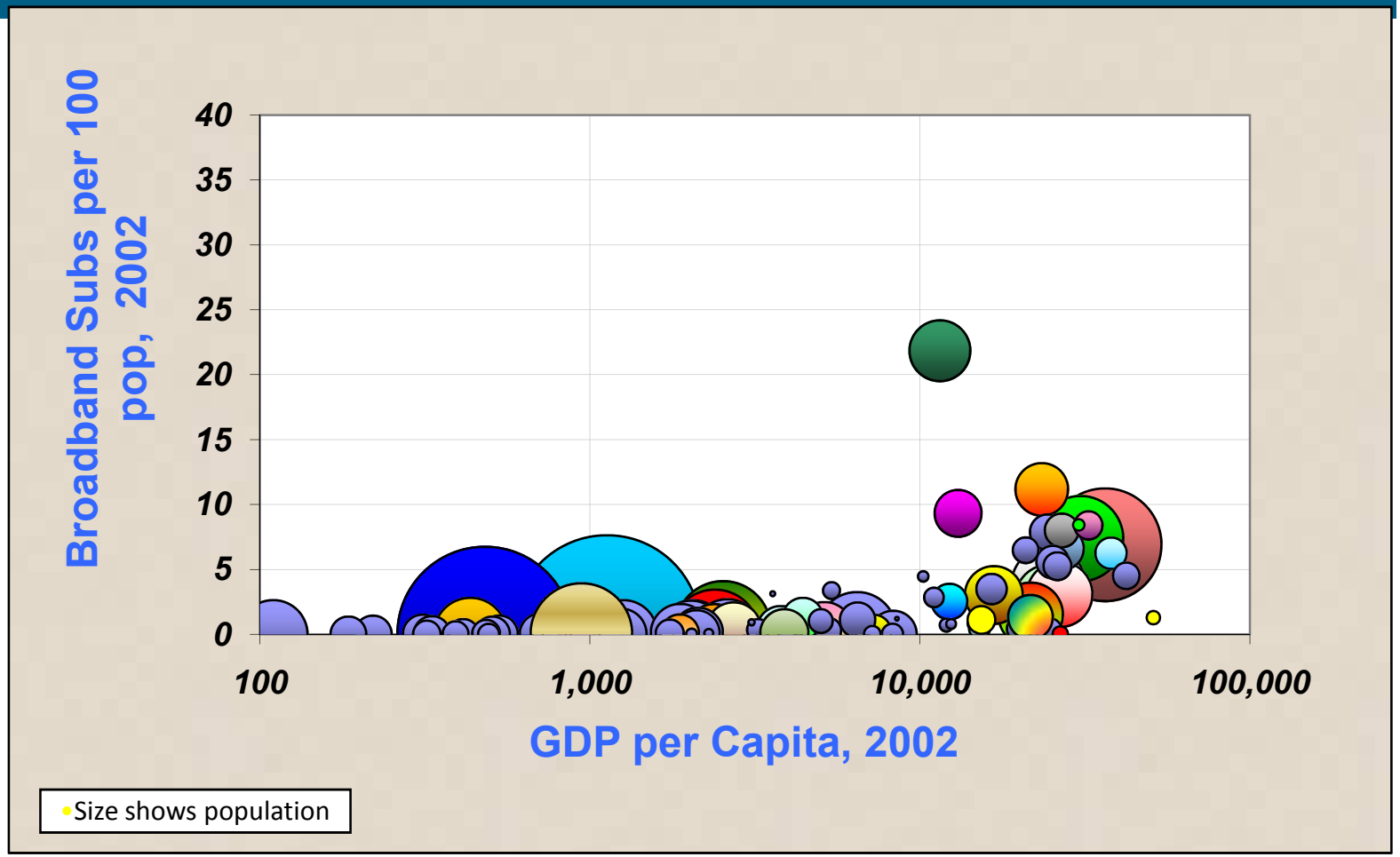

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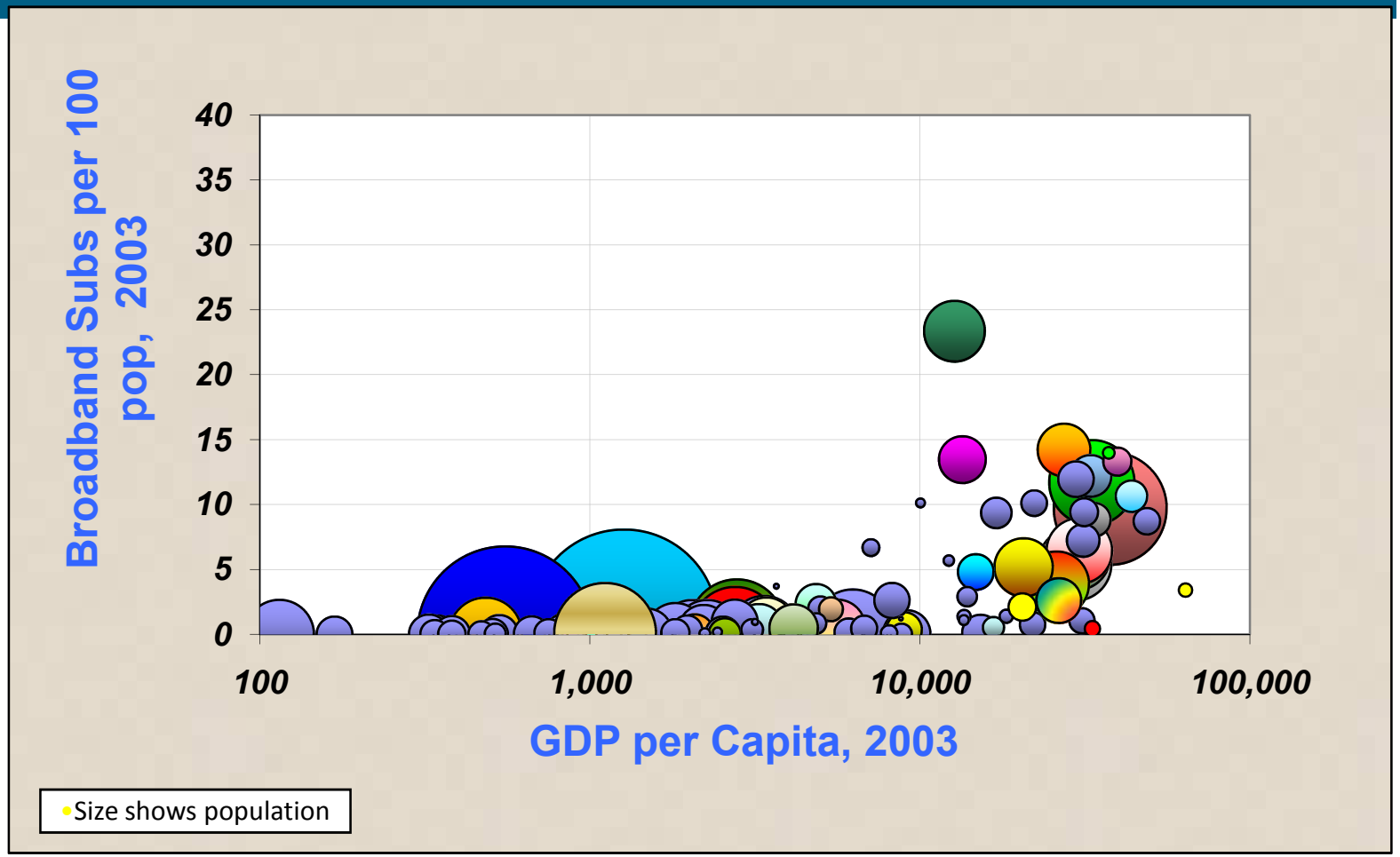

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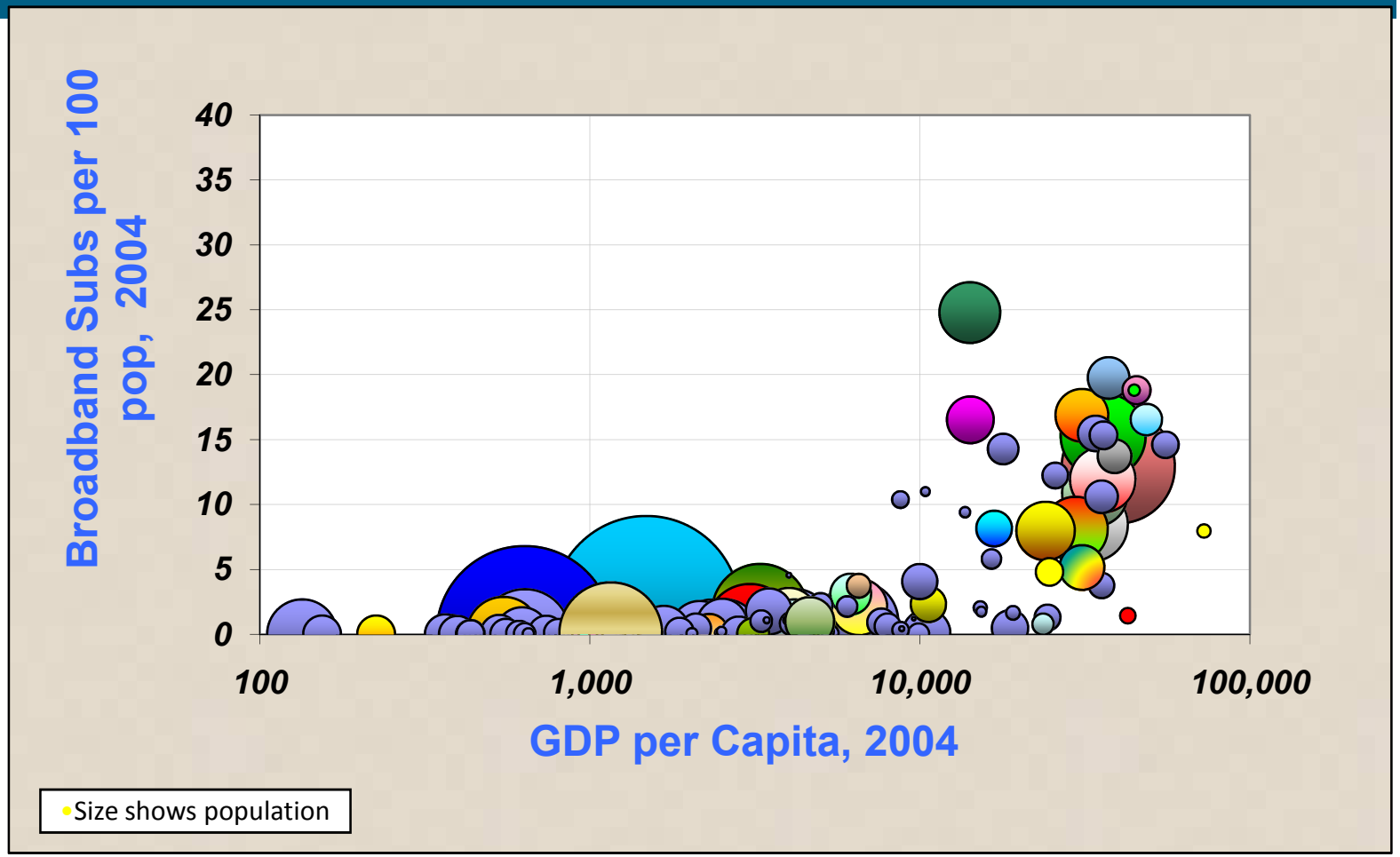

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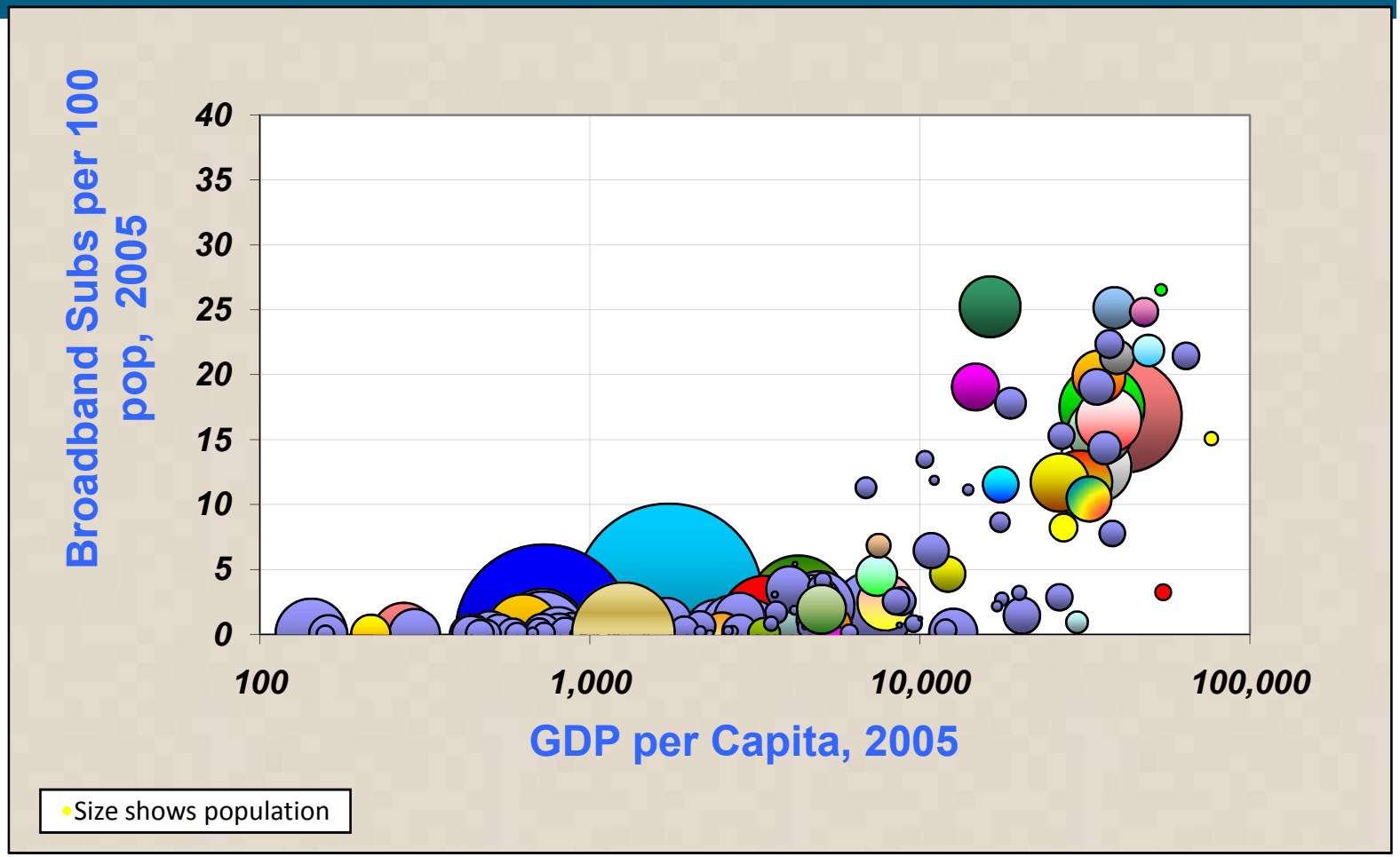

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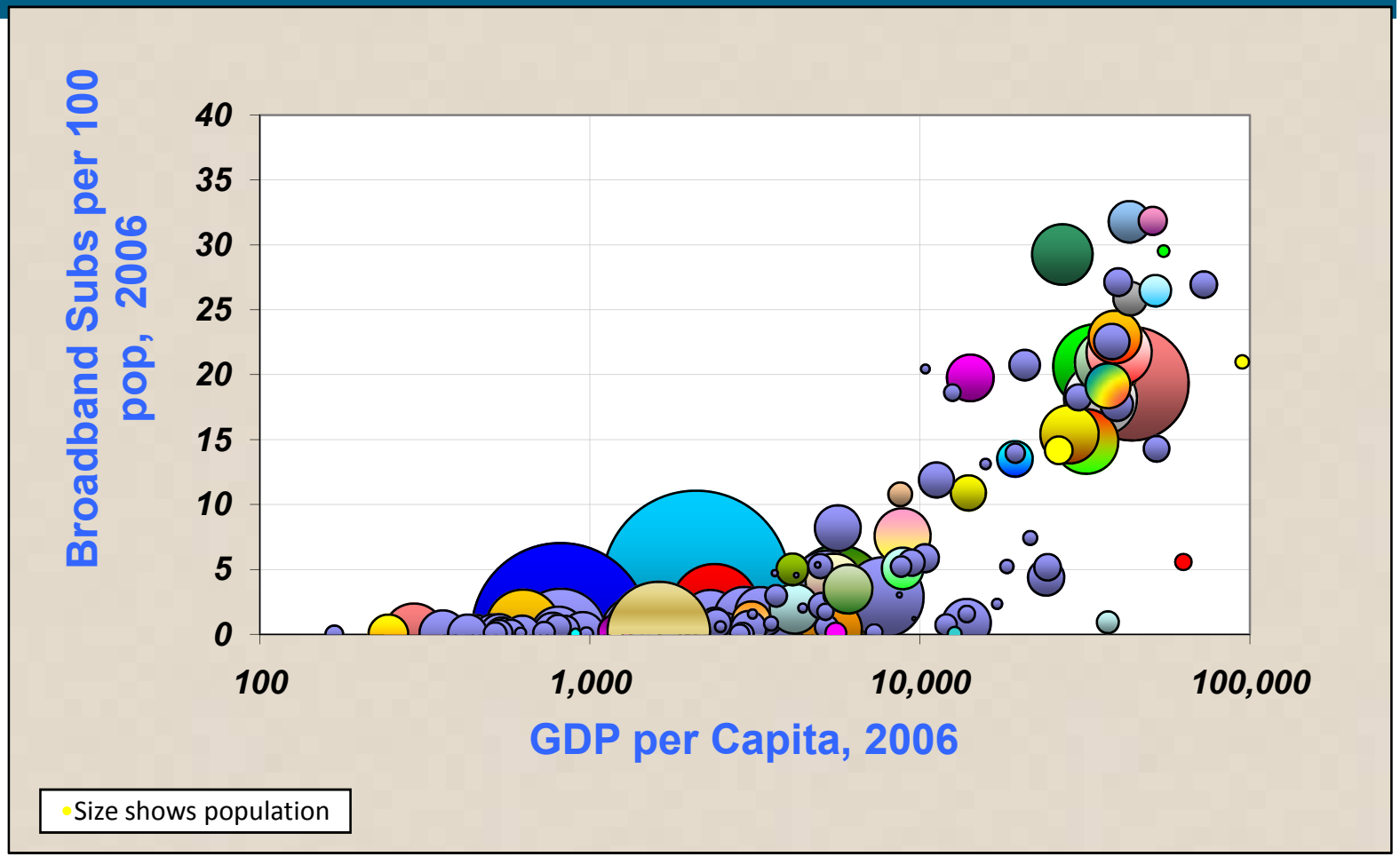

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Global Trends

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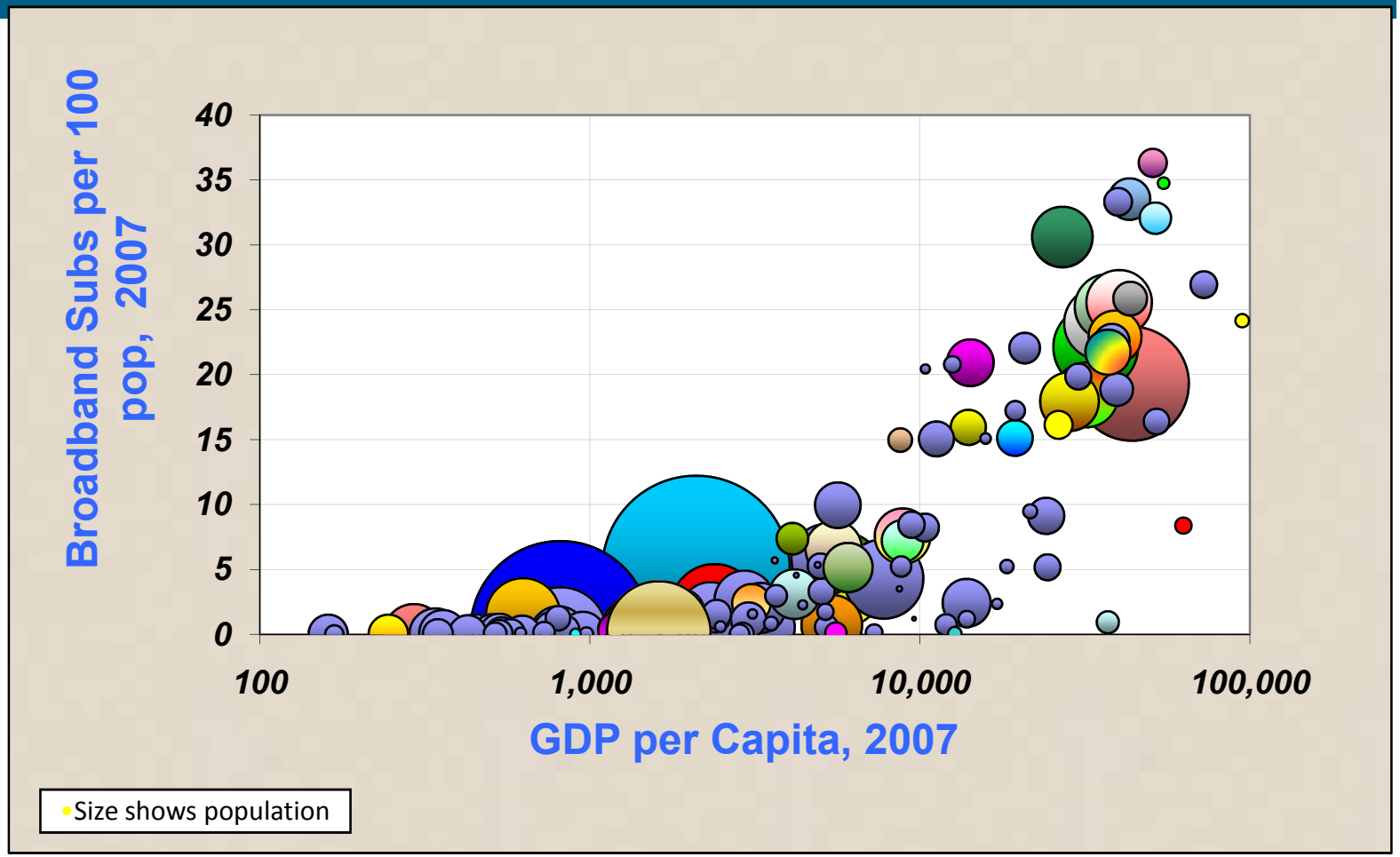

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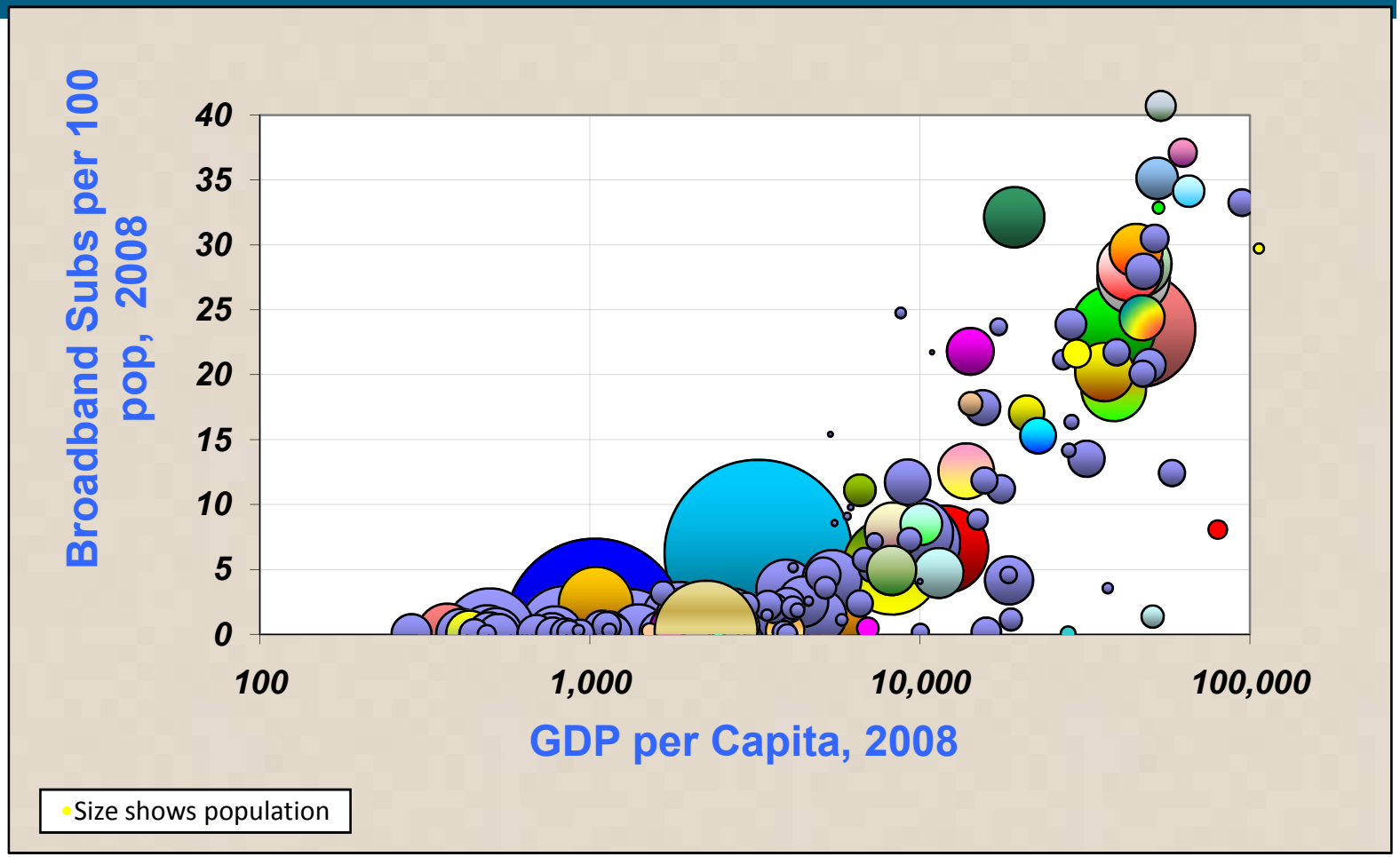
Global Trends



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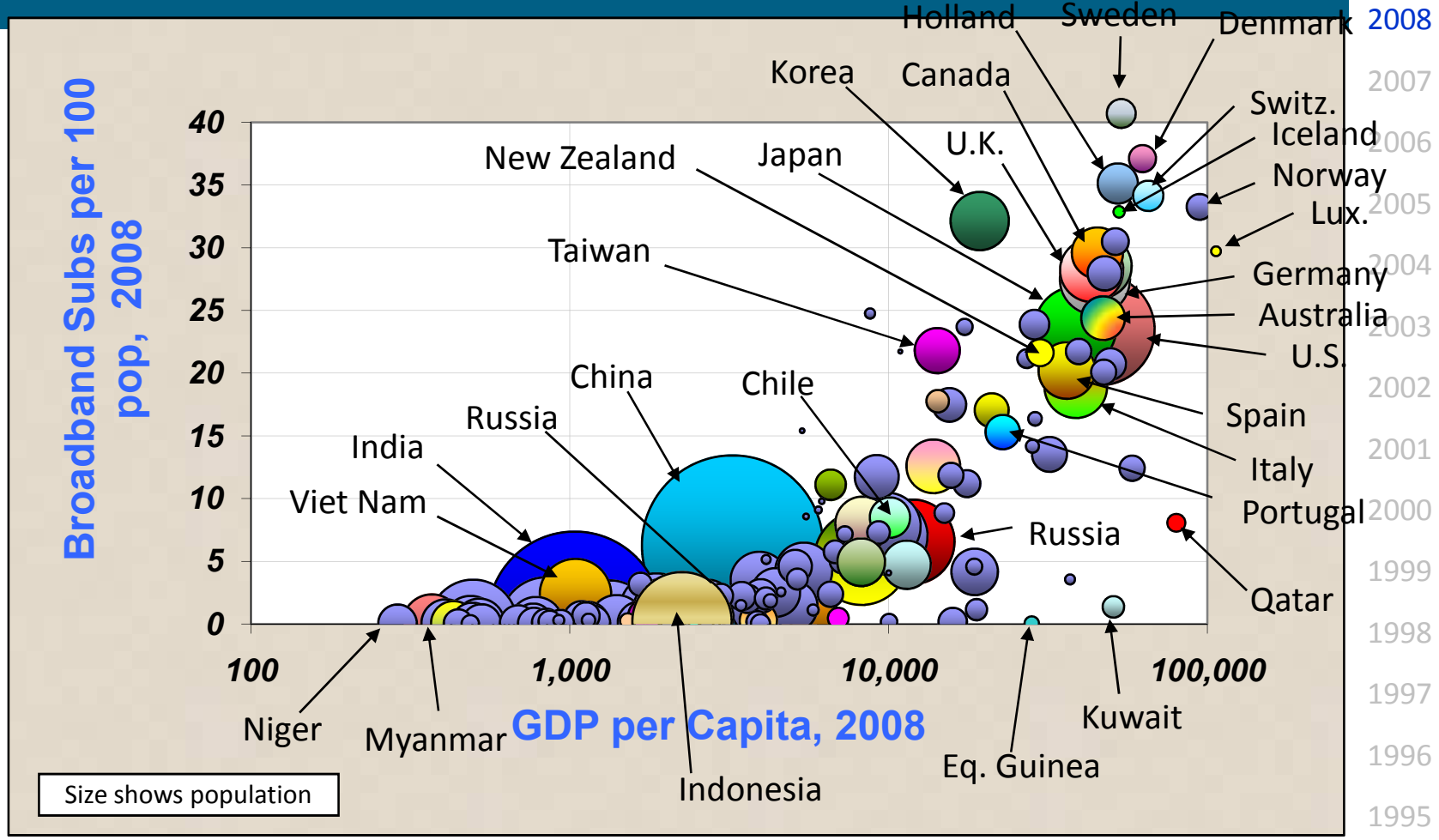
Global Trends
Broadband Subscribers per 100 pop. in 2008



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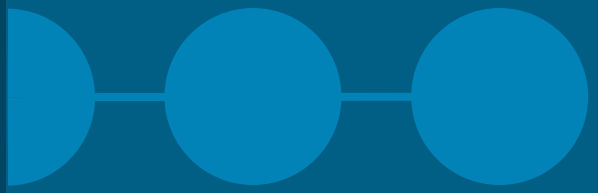

Human Capital

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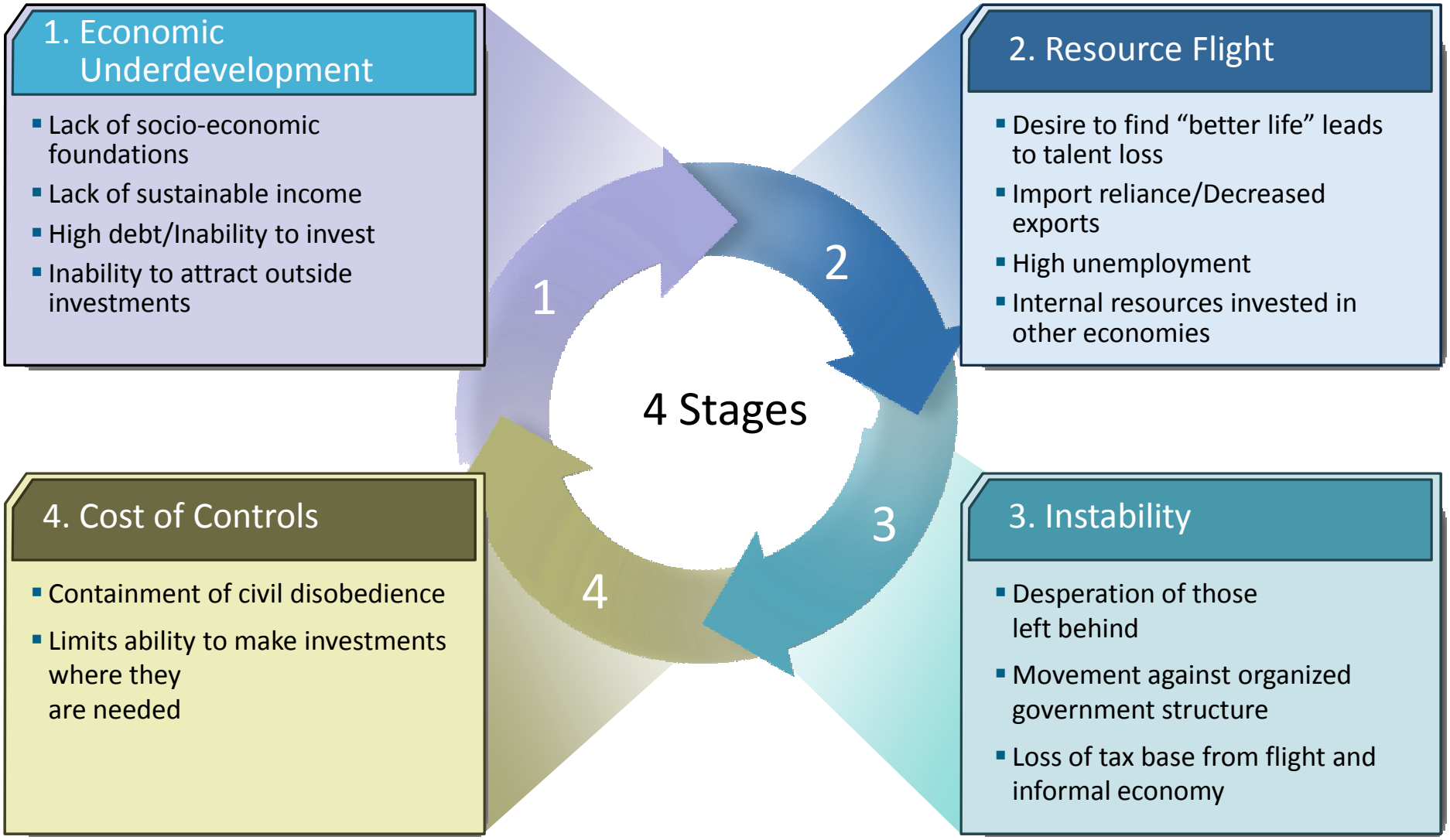
Security: Endless Cycle Limits Ability to Reach Prosperity



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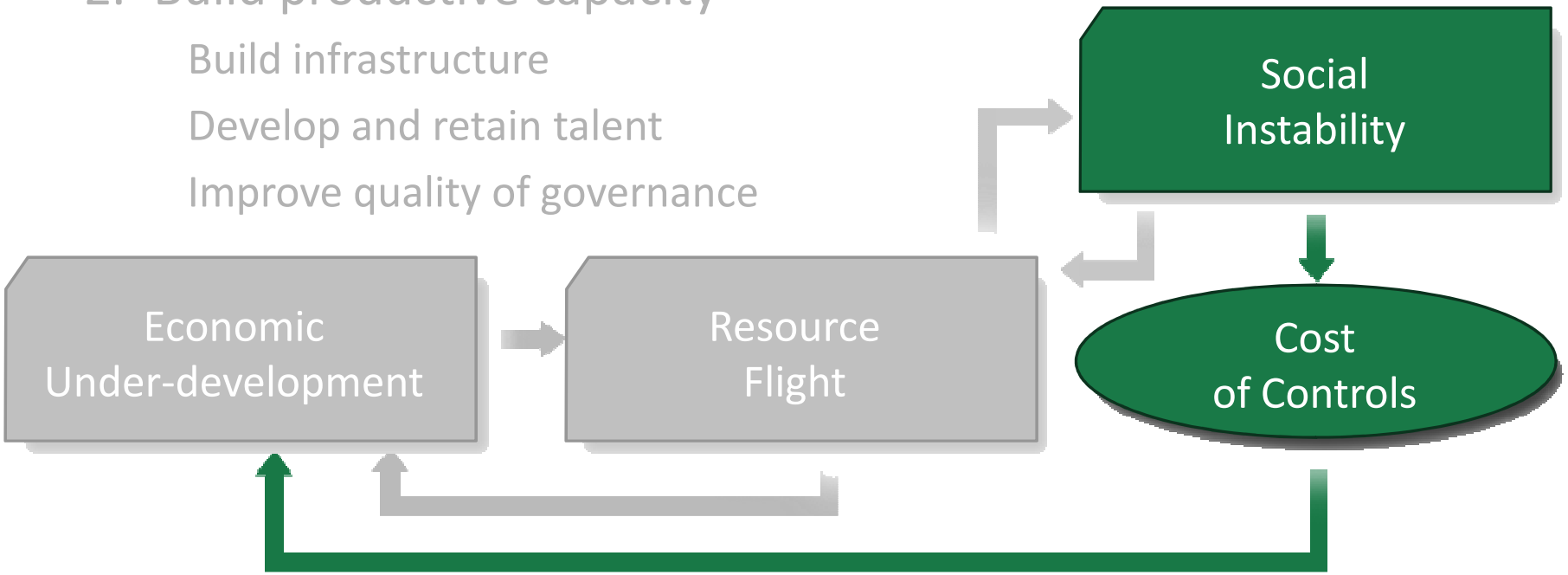
Security: Two Answers to Break the Cycle

1. Maximize safety and security effectiveness and efficiency
   - Reduce costs of maintaining control
   - Redeploy resources into wealth production
2. Build productive capacity
   - Build infrastructure
   - Develop and retain talent
   - Improve quality of governance



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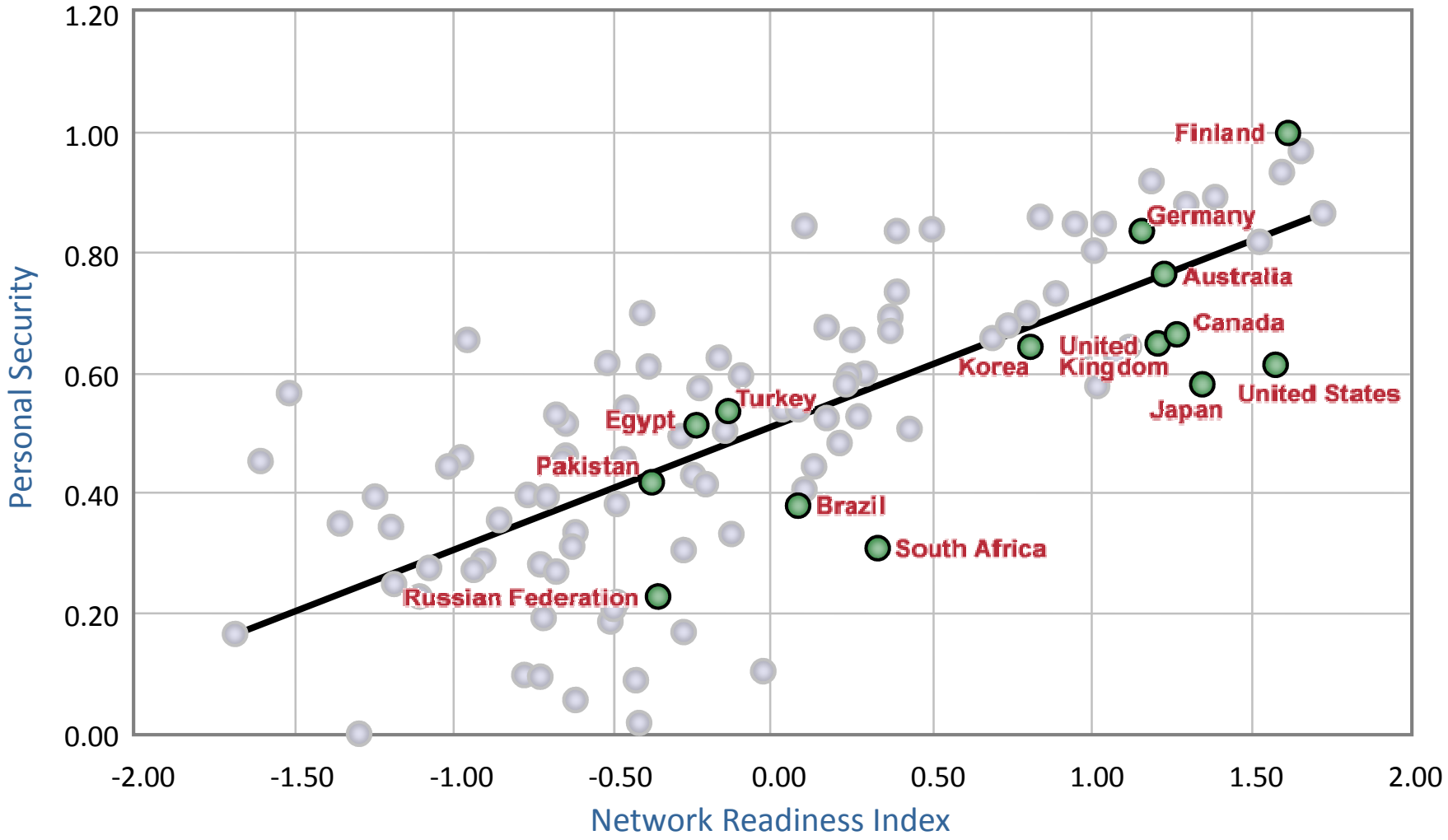
Security: Network Readiness Improves Personal Security



Sources: World Economic Forum, 2006; Cisco IBSG, 2006

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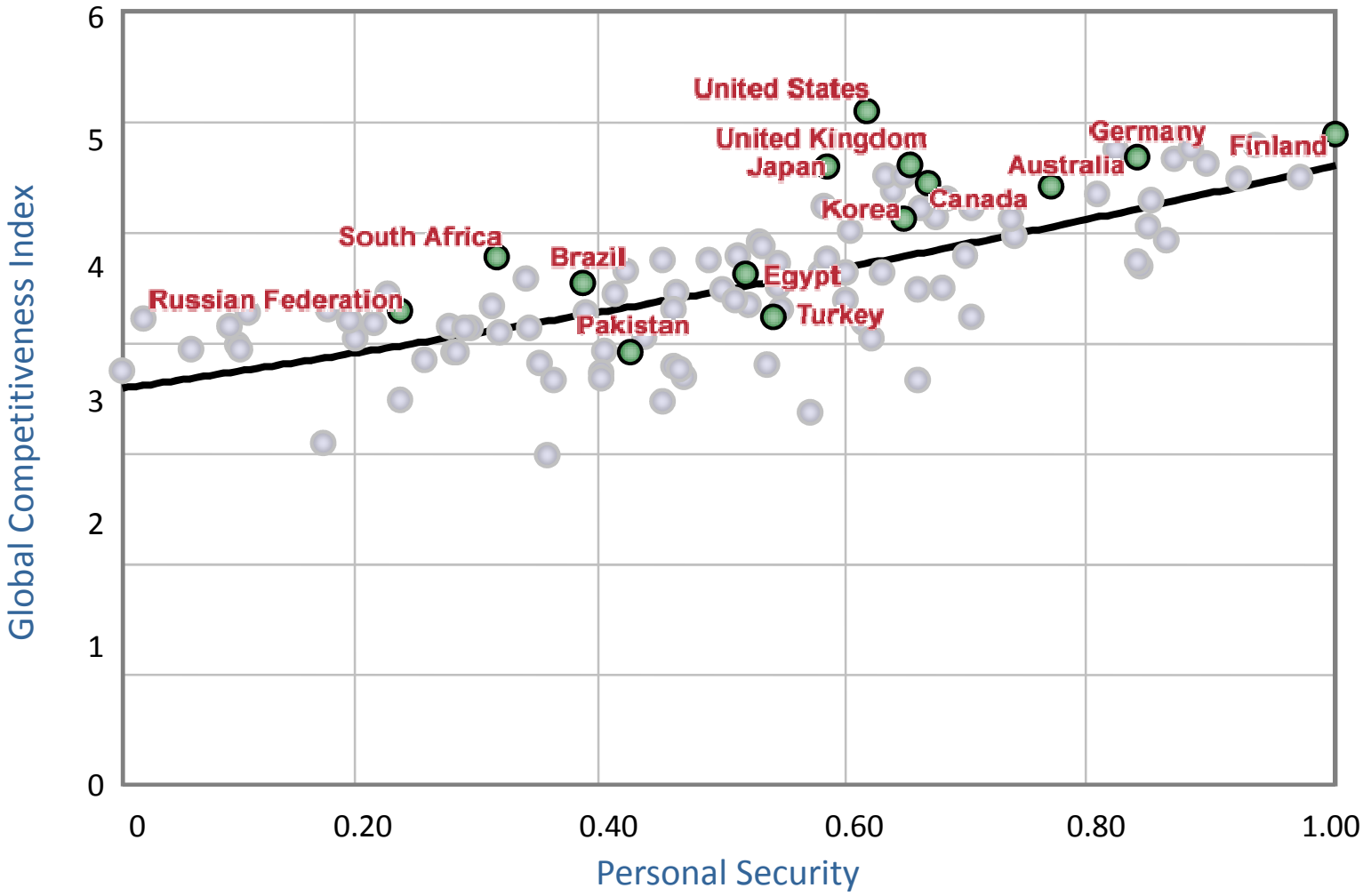
Security: Greater Safety and Security Increases Competitiveness



Sources: World Economic Forum, 2006; Cisco IBSG, 2006

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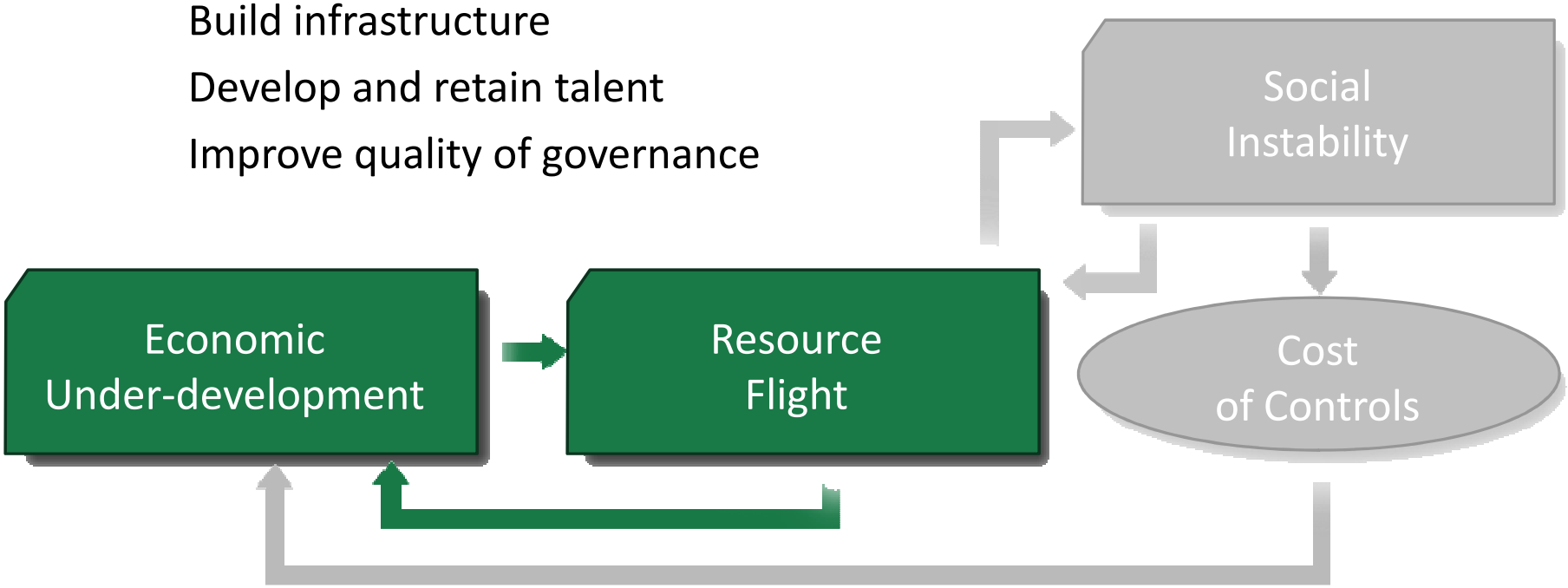
Security: Two Answers to Break the Cycle

1. Work to maximize safety and security
   - Reduce costs of maintaining control
   - Redeploy resources into wealth production
2. Build productive capacity
   - Build infrastructure
   - Develop and retain talent
   - Improve quality of governance



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Security: London Police Use Video Surveillance Data to Capture Suspects

- Challenge
  - —Utilize existing network platform, video surveillance systems, and analytics capabilities to prevent terrorism
- Solution
  - —Video surveillance cameras capture data. Data is analyzed to create intelligent information. Information is disseminated to the front line
  - —Citizen interaction: mobile phone images lead to arrests
- Results
  - —Police capture practice run on video and identify suspects
  - —Suspects in five failed bombings on July 21, 2005 are taken into custody quickly due to earlier surveillance video and tips from the public

Sources: CNN and Associated Press

Security: National Center for Missing and Exploited Children Reunites More People

- Challenge
  - —Increase the success rate of reuniting family members
- Solution
  - —Established a call center using VoIP, search software, and experienced staff to increase call capacity and success rate
- Results
  - —Resolved 4,500 of 5,032 cases after hurricanes Katrina and Rita—an 89% success rate
  - —Handled over 2,000 reports per day

Source: National Center for Missing and Exploited Children, "Harnessing Technology to Reunite Families," 2005

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Health Care: Tele-specialty Care

Sentara Health System

- Integrated delivery system: 70 care sites, 6 hospitals, assisted living, home health, hospice, long-term care
- Health plans, >250K lives
- 15,200 employees--southeast Virginia and northeast North Carolina
- 3200 MD employees

SOLUTION

- eICU--telemedicine solution connecting intensive care specialists with patients in other facilities
- Direct voice and video communication, integrated clinical information and decision support
- State-of-the art network database with clinical alerts

IMPACT

- Reduced ICU costs 25-35%
- Decreased length-of-stay by 20-30%
- Ancillary service costs decreased 6-18%
- Mortality decreased ~55%

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Health Care: Remote Patient Monitoring

Veterans Health Administration

- $25.9B budget
- 163 hospitals, 850 ambulatory care centers, 187 nursing homes
- 4.5M veterans received care in 2002
- >46M outpatient visits annually
- >6.8M enrolled veterans
- >202,000 employees

SOLUTION

- Disease management through home and remote monitoring of patients with chronic conditions
- Devices in the home transmit patient health status information to case managers
- Case manager desktop—profiles of each patient accessible on a secure web site

IMPACT

- Inpatient admissions reduced >46%
- Emergency room visits reduced >42%
- Reduced inpatient beds days >30%
- Patient satisfaction >90%
- Provider satisfaction >80%

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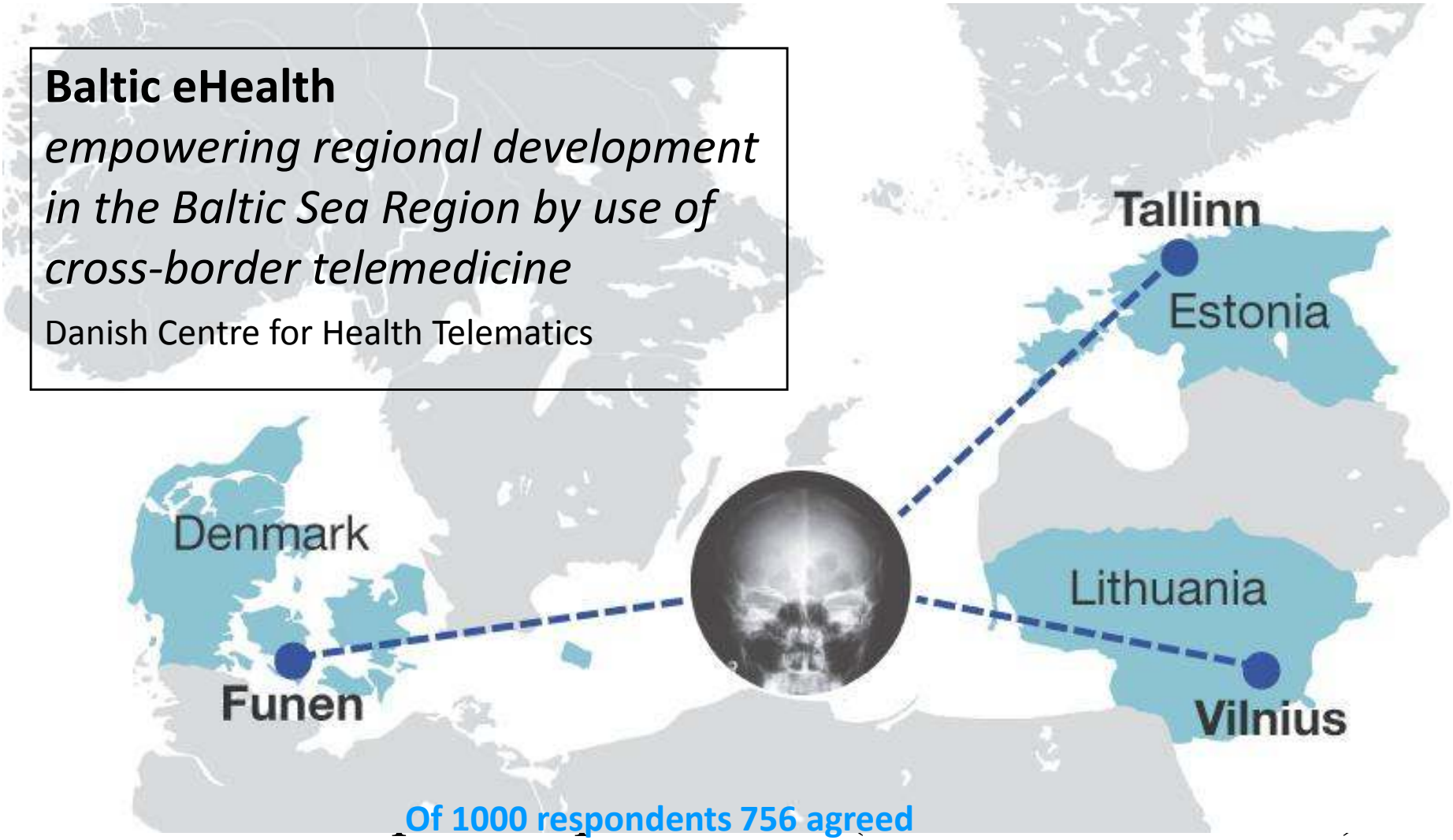
Health Care: Location Transparency eRadiology

Baltic eHealth

empowering regional development in the Baltic Sea Region by use of cross-border telemedicine

Danish Centre for Health Telematics



Of 1000 respondents 756 agreed

Health Care: Remote Consultation

Health Presence allows patients to remotely connect with doctors and clinicians for an encounter that rivals a face-to-face meeting

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Education: Interactive Experiences Inspire

Live Operating Room

Digitized Art

Online Music Lessons

Native- Language Teacher

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Education: North Point High School

- Commuter, middle income
- Minority/Majority school

New School

- Project began in 1999
- 311,000 Square Feet
- Total Cost was $48 Million
- County 6th High School
- Full Wi-Fi building
- IP for all school operations, including security, HVAC, A/V, telephony and Student Data
- http://www.edline.net/pages/North_Point_High_School

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Education: Back to North Point…

Extraordinary Results

- Attendance 96%+

- Test scores 20% above county and state average
  - Special Ed scores 2x county - 3x state

  Minority scores 20%

- Violence 75% Decrease

- Technology
  - School 100%
  - Community (95%+ from parents)

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How Government Can Help

- Put Government Services OnLine – www.ttconect.gov.tt
  - —Benefits to citizen – no unproductive time waiting in line
  - —Can truly streamline government process
- Make government more transparent
  - —Give confidence to local and foreign investors
  - —Citizens can also see how their government works
- Consider the Cloud for government operations
  - —Cloud services can be turnkey – where skills are unavailable, cloud can make a difference – true to for SME's
  - —Availability in times of crisis

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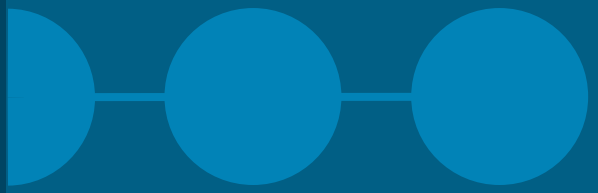

Economic Development

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Internet Matters

- Produced by McKinsey
  - —“to develop a deeper understanding of the evolution of the global economy and
  - —to provide a fact base that contributes to decision making on critical management topics. In that spirit, we
  - —publish this independent report and release it in time for the e-G8 Forum in Paris in May.”
  - —http://www.businessinsider.com/mckinsey-report-internet-economy-2011-5?op=1

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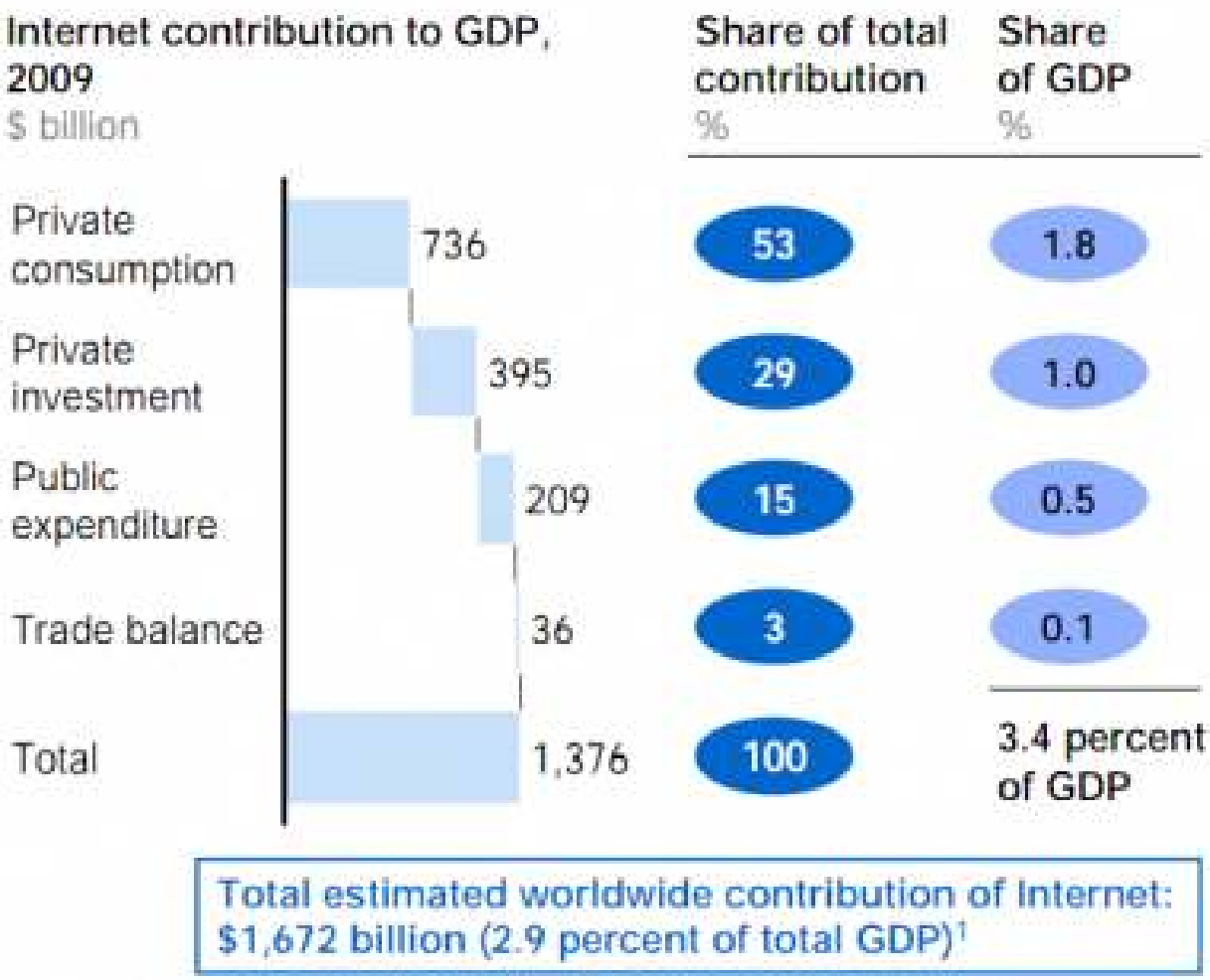
Internet contribution to GDP

We looked at the Internet contribution in 13 countries

- G8 countries
- China, India, and Brazil (emerging countries)
- Sweden and South Korea (as they are most advanced countries in terms of broadband penetration)



1 For the rest of the world, we used estimated percentage shares based on Internet penetration in each country (30 percent GDP remaining).

SOURCE: McKinsey analysis

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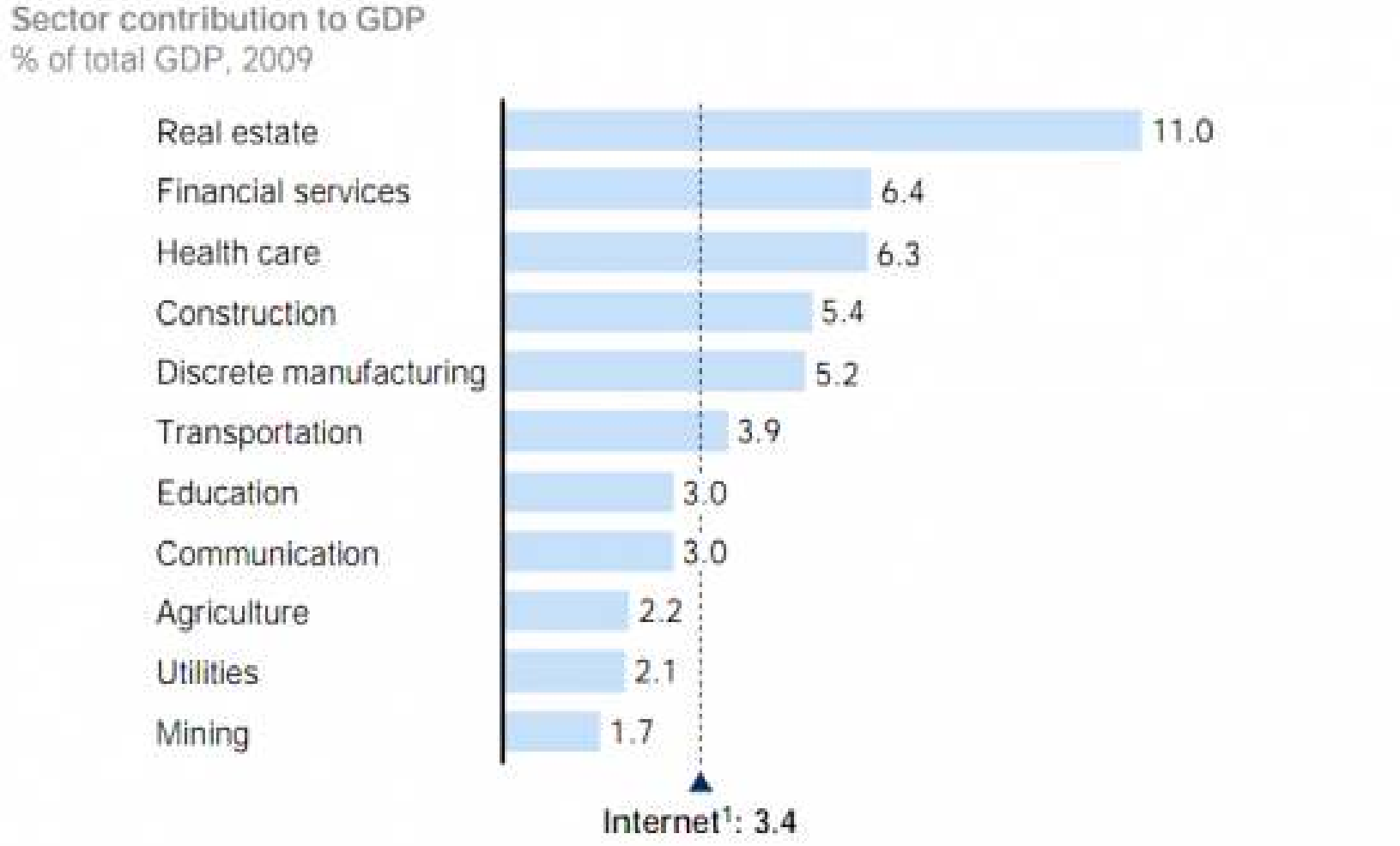
Sector contribution to GDP



1 Internet share includes parts of other sectors (e.g., communication).

SOURCE: Organisation for Economic Cooperation and Development; McKinsey analysis

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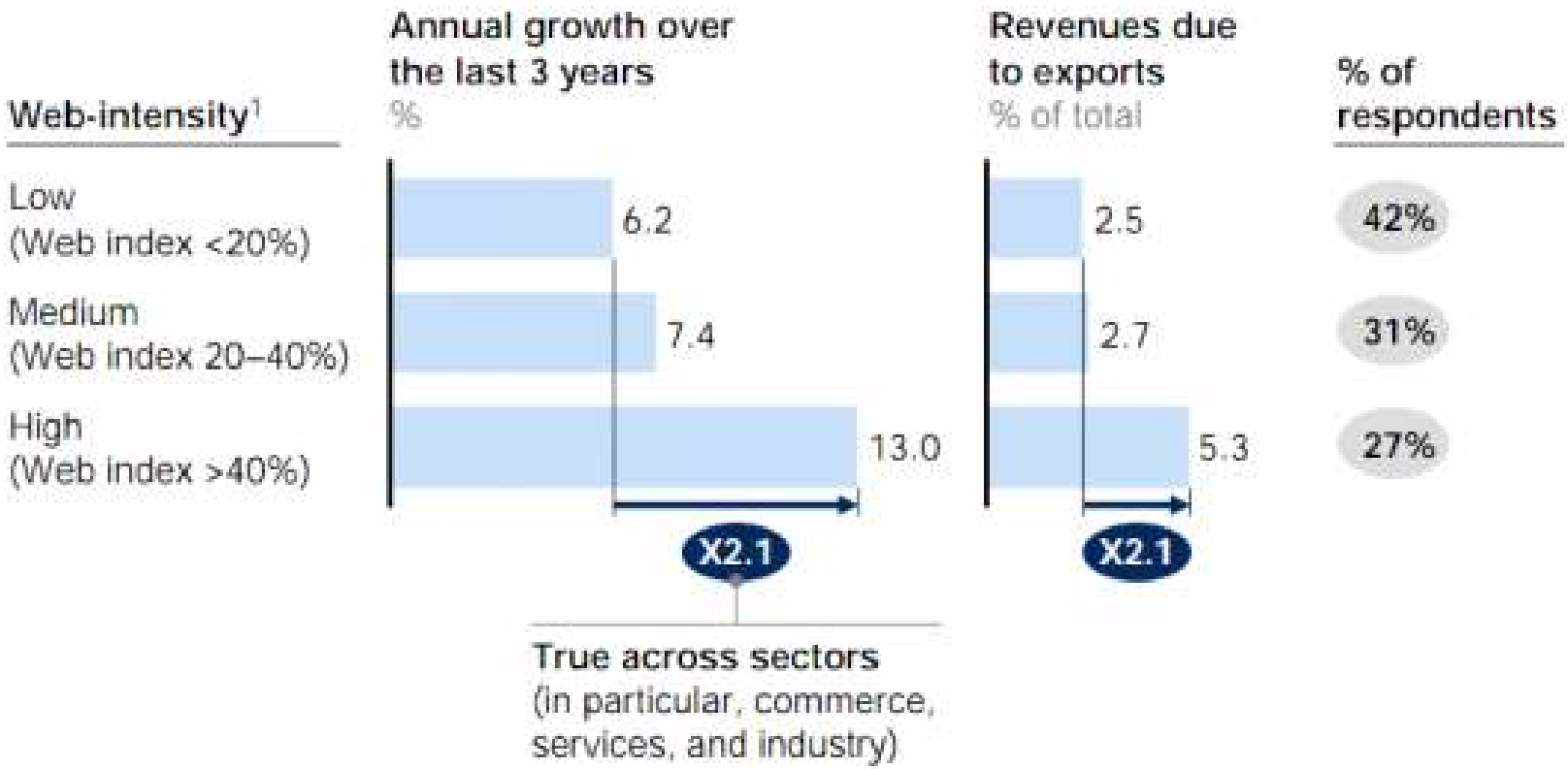
SME's and the Internet

Growth and exports of SMEs analyzed by cluster of maturity of Internet
Analysis includes 12 countries and more than 4,800 SMEs



1 McKinsey Web index defined according to the number of technologies possessed by companies and the penetration of those technologies (i.e., the number of employees/ customers or suppliers having access to those technologies).

SOURCE: McKinsey SME Survey

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In North Carolina

Source: www.sngroup.com

- Nearly one five of new jobs were created as a result of Broadband Internet; even more in Small to Medium-sized Enterprises (SME).
- More than half said they would not be in business without Broadband Internet
- The number of households either currently running or planning to run a business out of their home was nearly 45% of all NC broadband households
- 85% of home based businesses said that broadband was essential to their business. *

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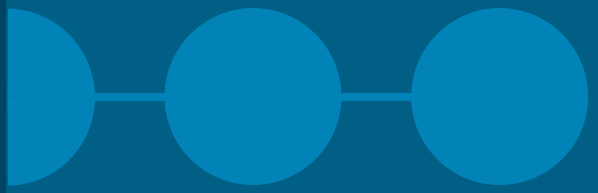

Conclusion

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Conclusion

- A shared vision for the end result and a plan
- Infrastructure for the 21st Century
- Enabling human capital through technology for safety and security (including emergency management), health care and education
- Economic Development
- Be bold – the competition is likely saddled with legacy infrastructure that will sub optimize their results – time for leapfrog!

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CISCO

Chicago Creates Enterprise-wide Relational Database with Mobile Access

- Challenge
  - —Reduce crime citywide
- Solution
  - —The Citizen Law Enforcement Analysis and Reporting (CLEAR) system consolidates data, video, and voice; applies business analytics; provides access through multiple devices
- Results
  - —Quality-of-life incidents reduced 46%
  - —$88 million labor savings from 2001 to 2003
  - —Other agencies having similar results
  - —System for improved public safety

Source: *CIO Magazine,* "Taking IT to the Streets," 2004

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