



# International VoIP Routes & Traffic

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# “TeleGeography”

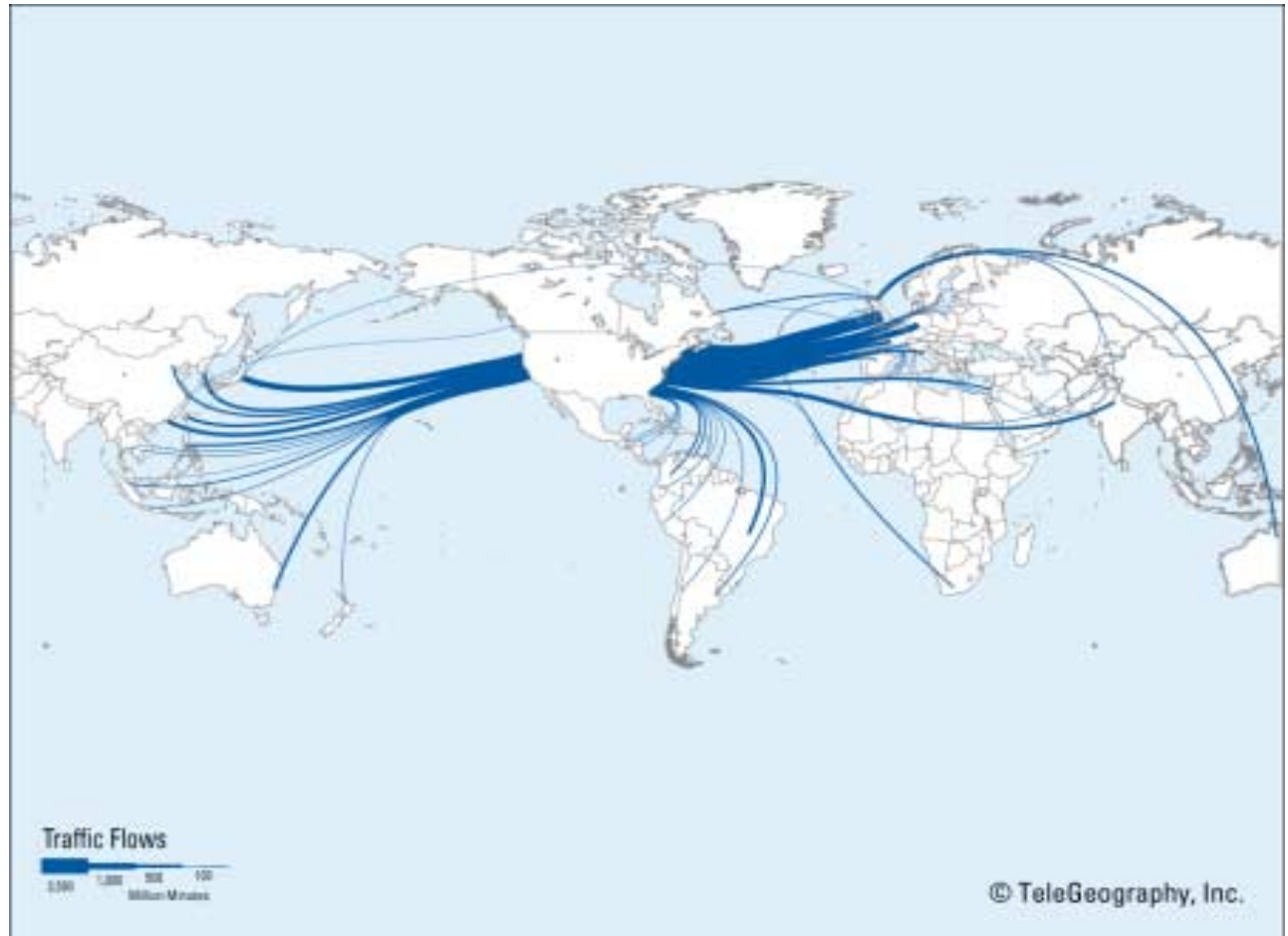
Traffic Flows

Competition

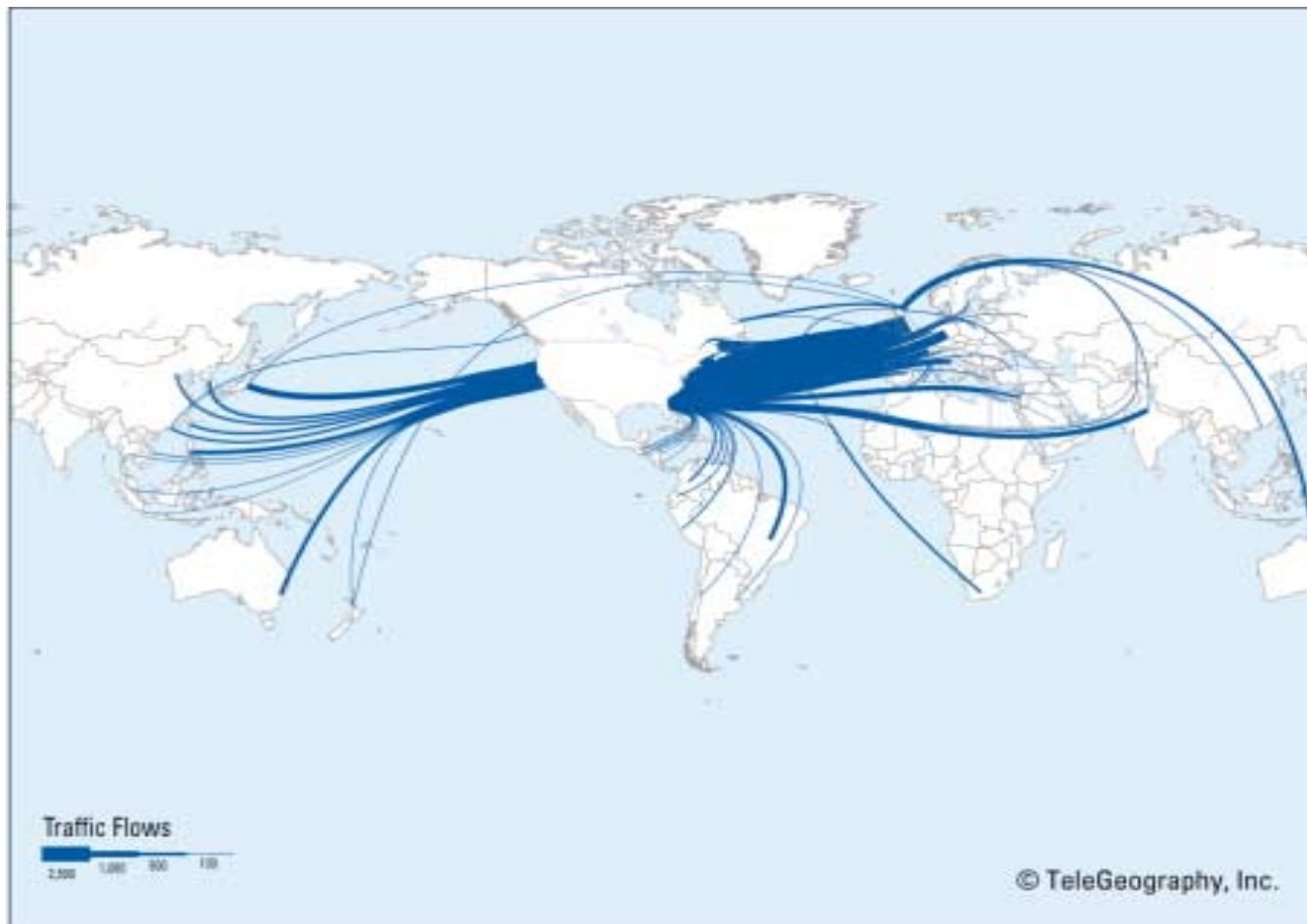
Pricing

Facilities

Internet  
Backbone



# Traffic Patterns



Competition

Bypass

Regulatory  
Environment

Circuit  
Switched

IP-based

# First TeleGeography VoIP Study

- Objective: Routes and Total Traffic
- Direct survey of international operators
- 1999 through June 2000
- Long-haul portion of calls
- Substitutable for PSTN calls



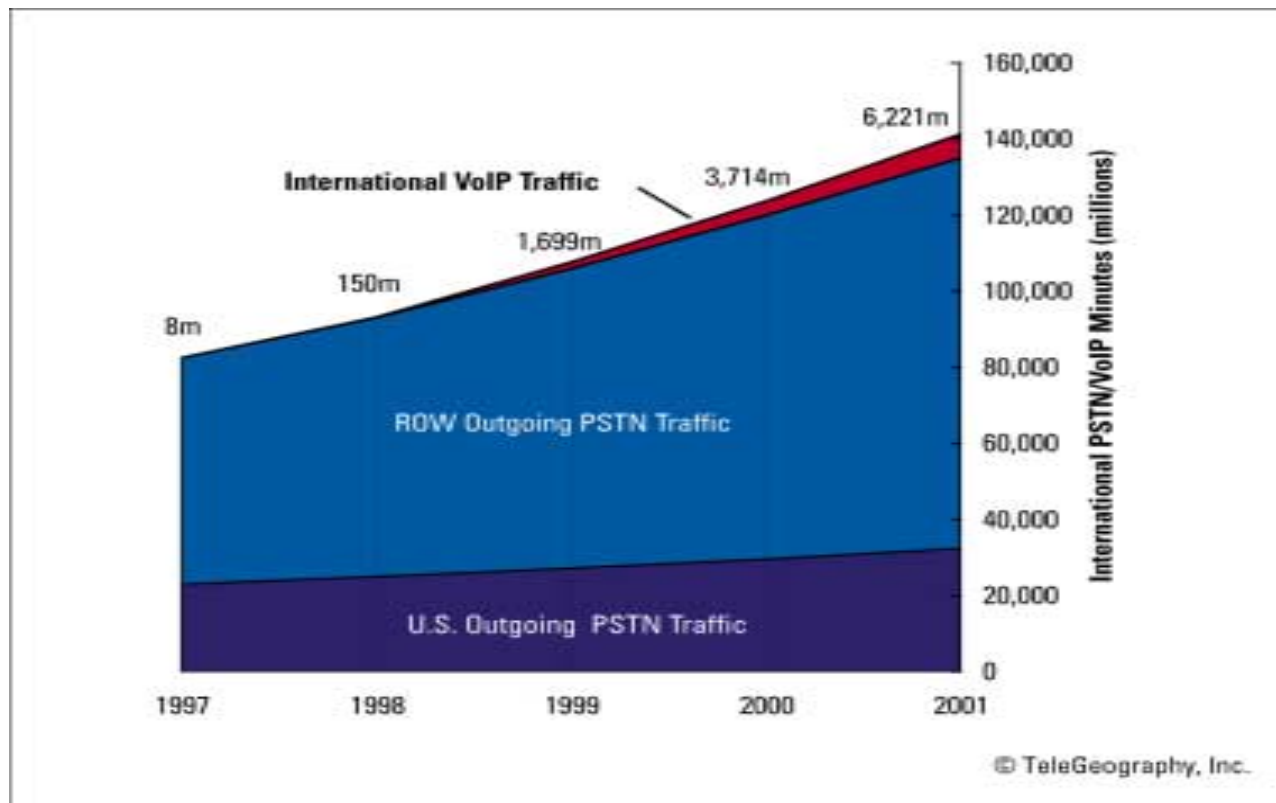
# International VoIP

- International Voice-over-IP (VoIP) traffic includes all cross-border voice calls carried on IP networks, but terminated on public switched telephone networks
- PC-to-PC communications and public network traffic excluded

# Total VoIP and PSTN Traffic, 1997-2001

VoIP  
Growth  
Rates

VoIP and  
PSTN Total  
Traffic

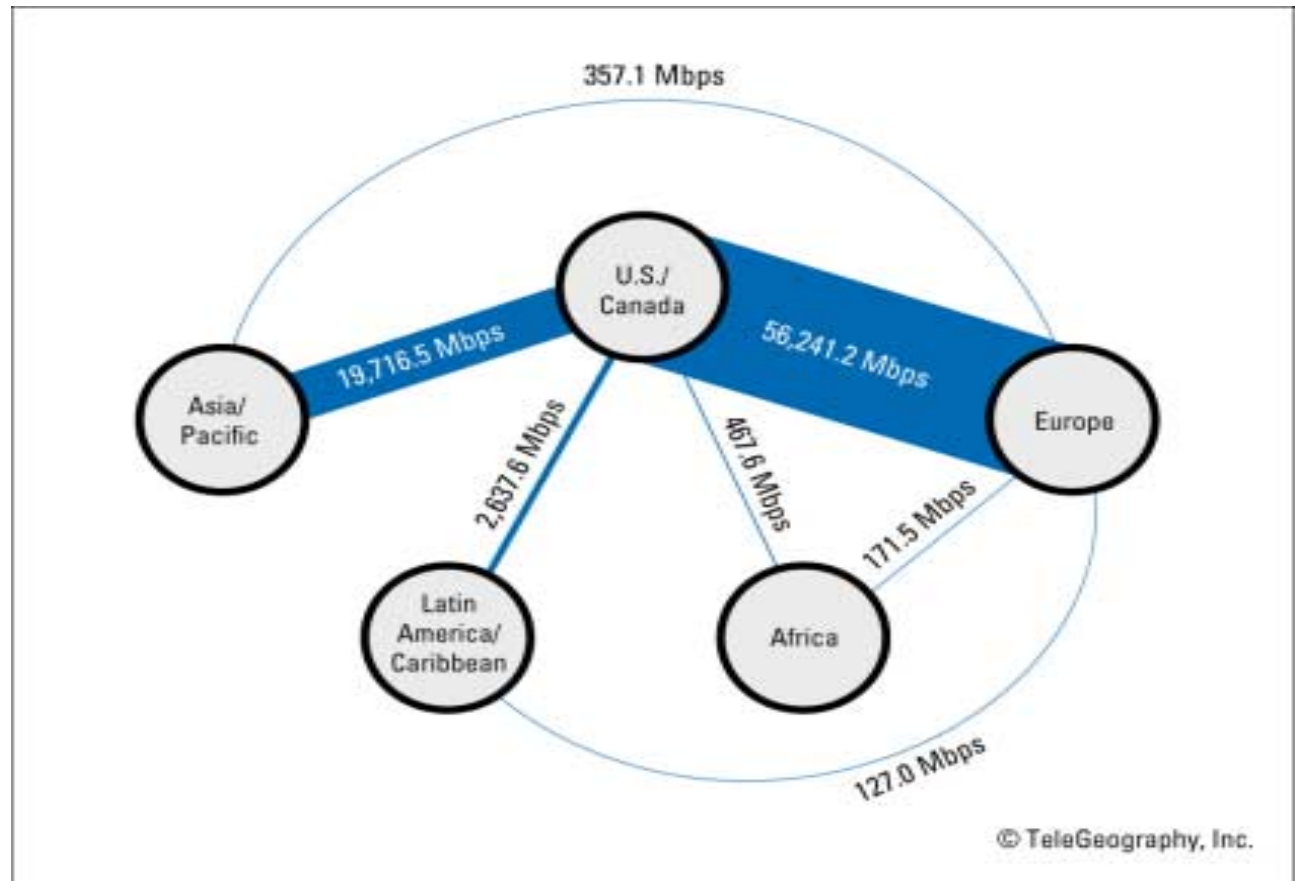


# International VoIP Origination

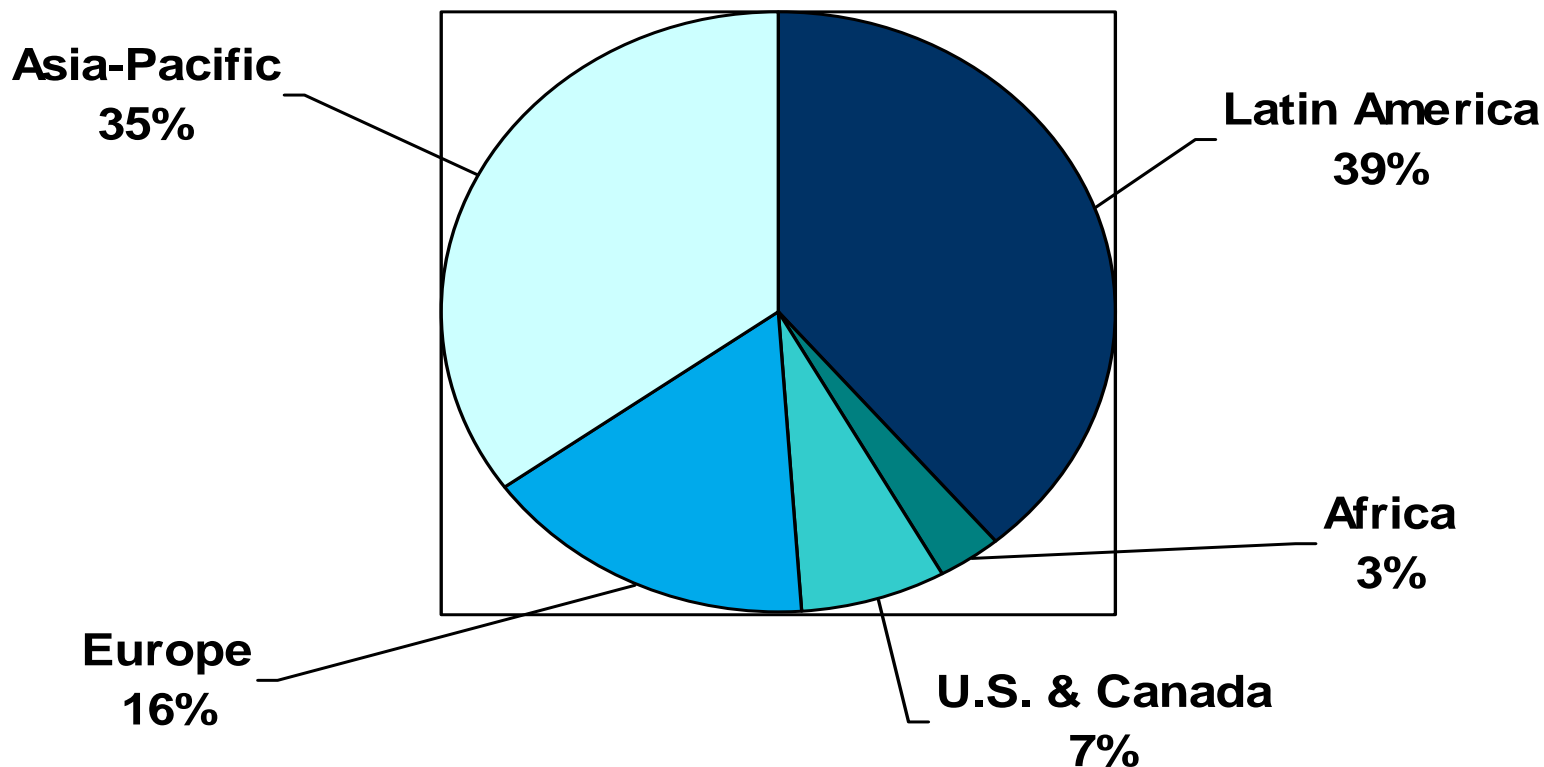
U. S. as  
Internet Hub

Inexpensive  
Bandwidth

Existing  
Traffic  
Patterns



# VoIP Traffic by Regional Destination, 1999





# Top Destination Countries

	<b>1999</b>		<b>2000</b>
<u>U.S. to:</u>		<u>U.S. to:</u>	
Mexico	28%	Mexico	35%
Israel	6%	China	7%
China	5%	U.K.	4%
Korea (Rep.)	4%	Brazil	3%
India	3%	Israel	3%
U.K.	3%	Russia	2%



# Other Top Destinations

**1999**

**2000**

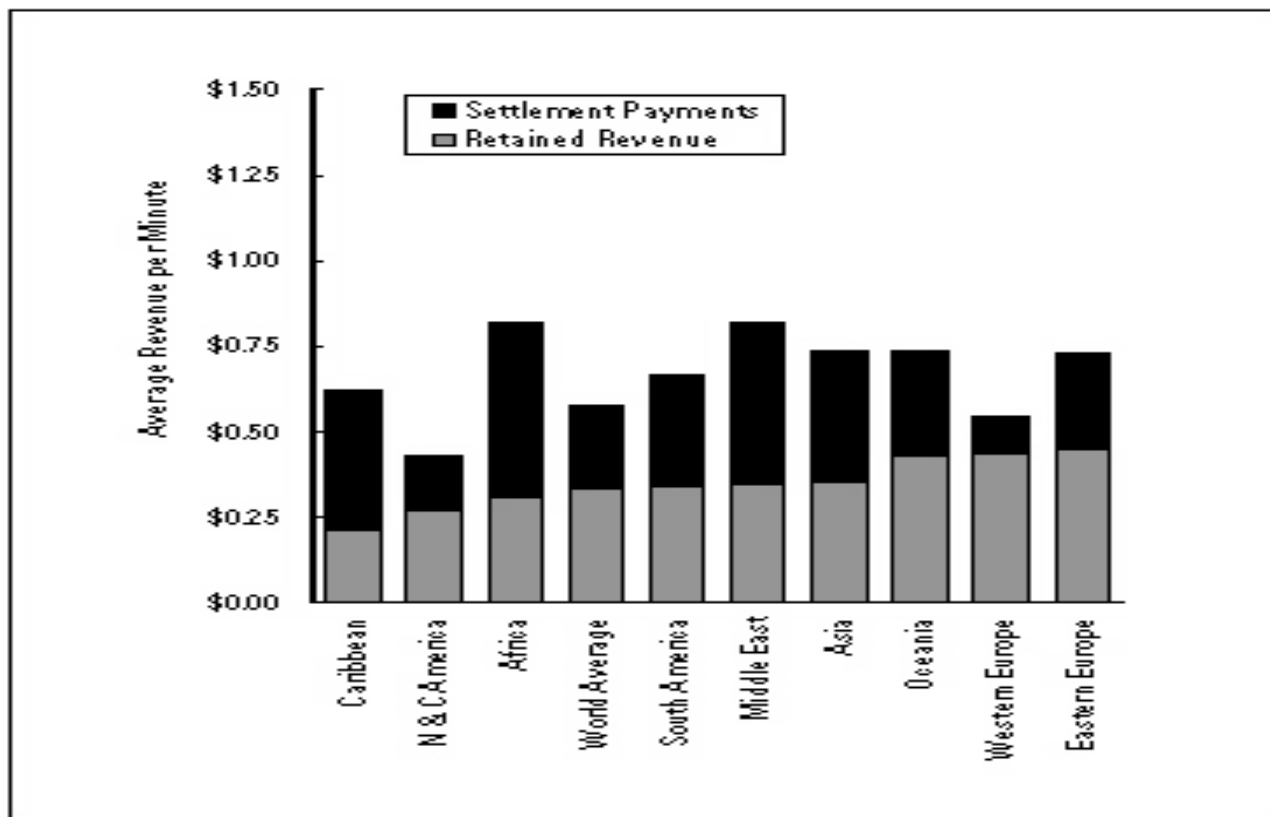
- Singapore
- Brazil
- Canada
- Ecuador
- Greece
- France

- Russia
- Canada
- India
- Bulgaria
- Poland
- S. Africa

# U.S. Carrier International Call Revenue by Region, 1999

High  
Settlement  
Rates

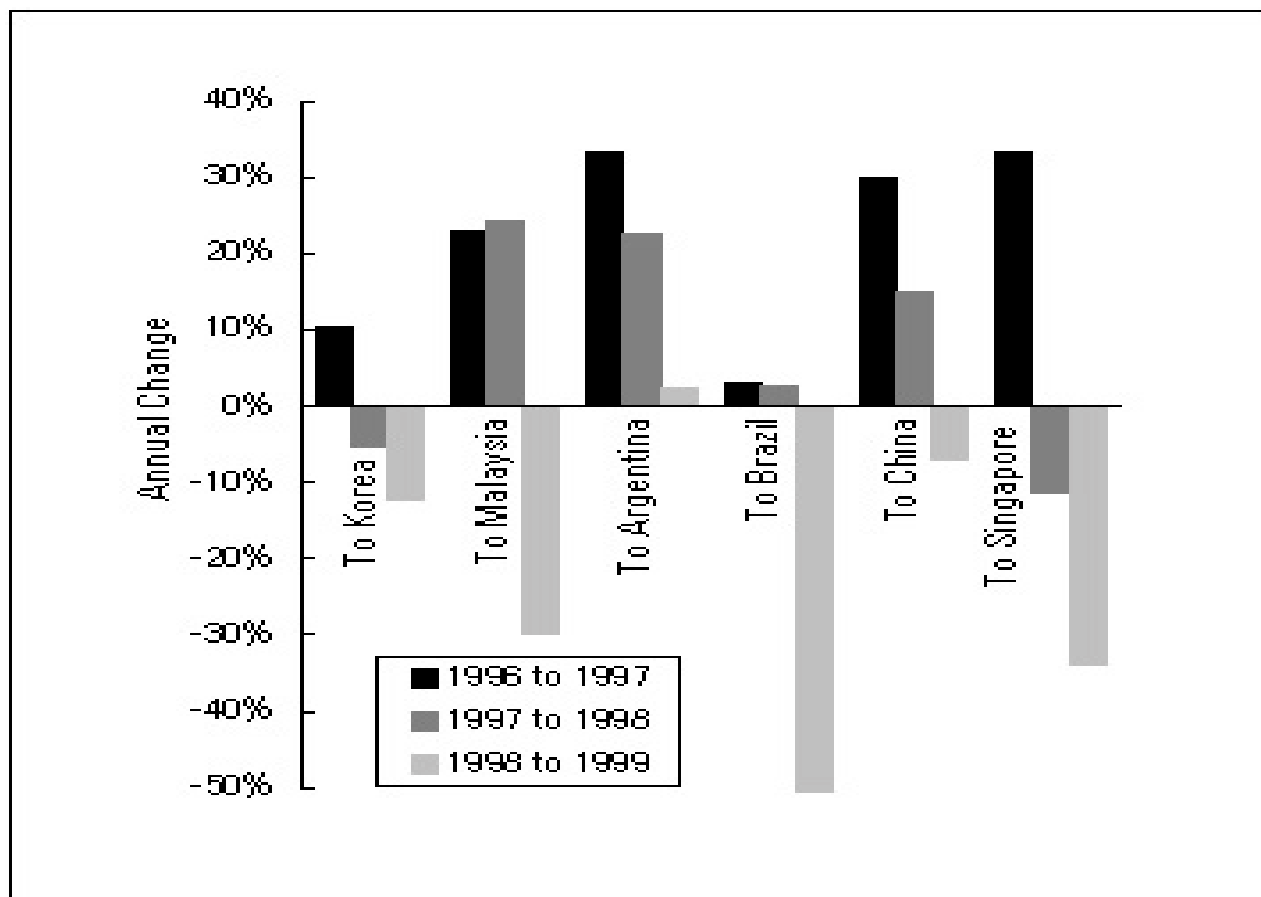
Lack of  
Competition



# Bypass at Work?

Shifts in  
PSTN  
Traffic  
Reporting

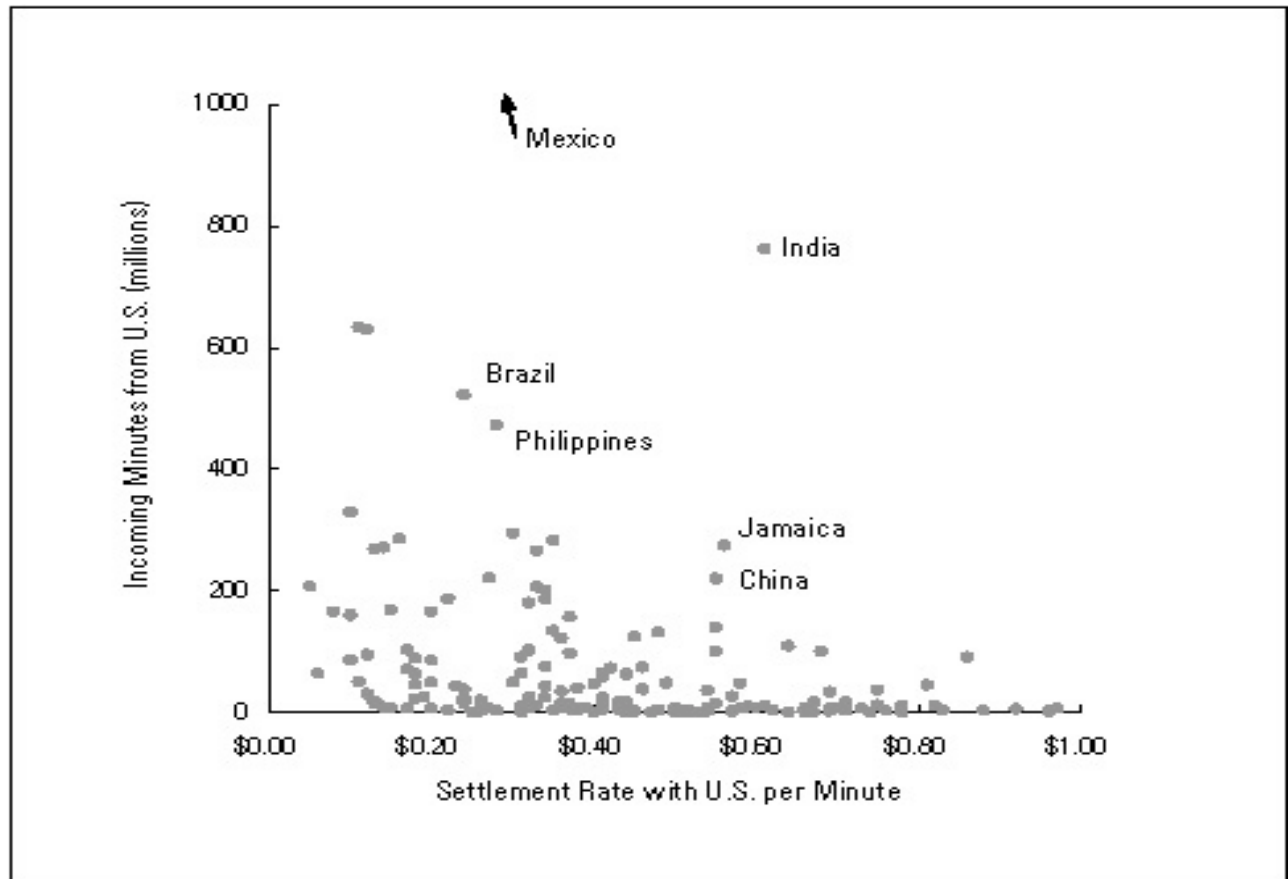
Declines in  
Demand or  
Accounting?



# Bypass Target Countries

Strong  
Existing  
Demand

High  
Settlement  
Rates v.  
Actual  
Cost



# International VoIP

- VoIP significant and growing form of bypass
- Origination
  - U.S. as VoIP center
- Destination
  - Existing demand
  - High settlement rates v. actual cost
  - IP infrastructure
- Growth Patterns
  - Asia
  - Latin America
  - Eastern Europe

**Thank You!**

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