The Future of Mobile Networks

3G·CDMA

americas regional conference

November 9-11, 2009 • The US Grant • San Diego

by

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November 2009

San Diego, CA

Opportunities and Challenges

3G·CDMA

Value-Added Services (VAS)

Supply

- Low ARPUs and diminishing
- Increase in mobile penetration
- Deployment of 3G networks

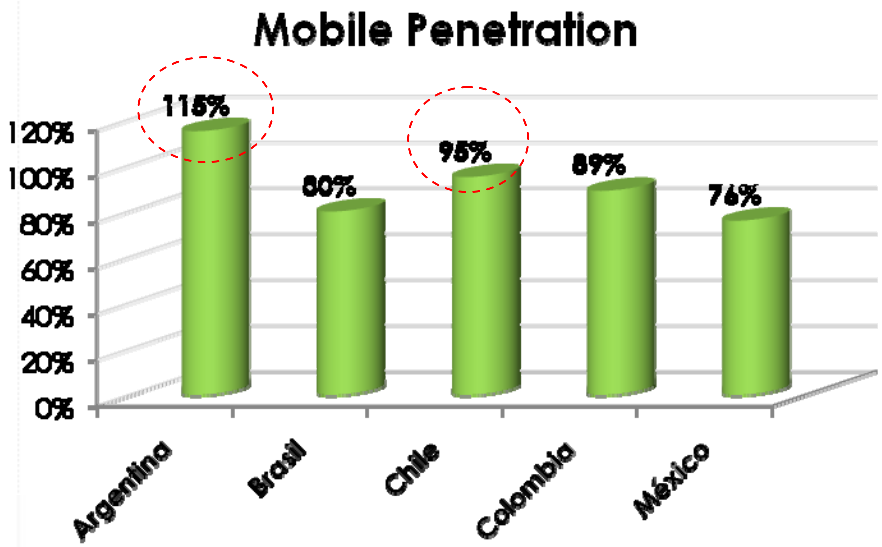
Demand

- Increased VAS consumption
- Introduction of 3G based applications
- Increased demand for regional content

- Mostly prepaid customers
- Lack of capable handsets
- Unfair revenue sharing models
- Evangelization of consumers to use VAS
- Lack of security

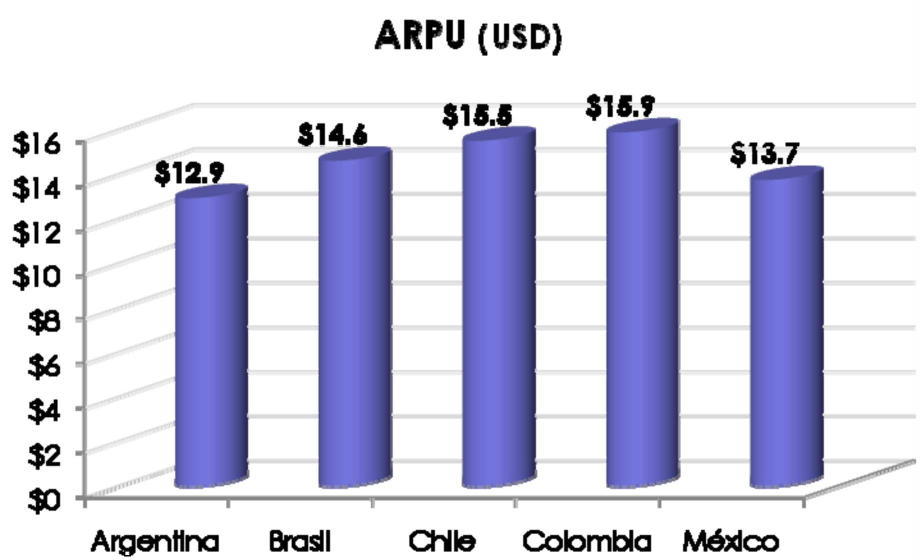
Supply Determinants

Higher Penetration, Lower ARPUs



•Some Latin American countries have reached o will soon reach 100% penetration

•LATAM will reach a 100% average mobile penetration within the next 5 years



•New mobile customers usually have low ARPUs

•They are mostly from lower socioeconomic levels, children and the elderly

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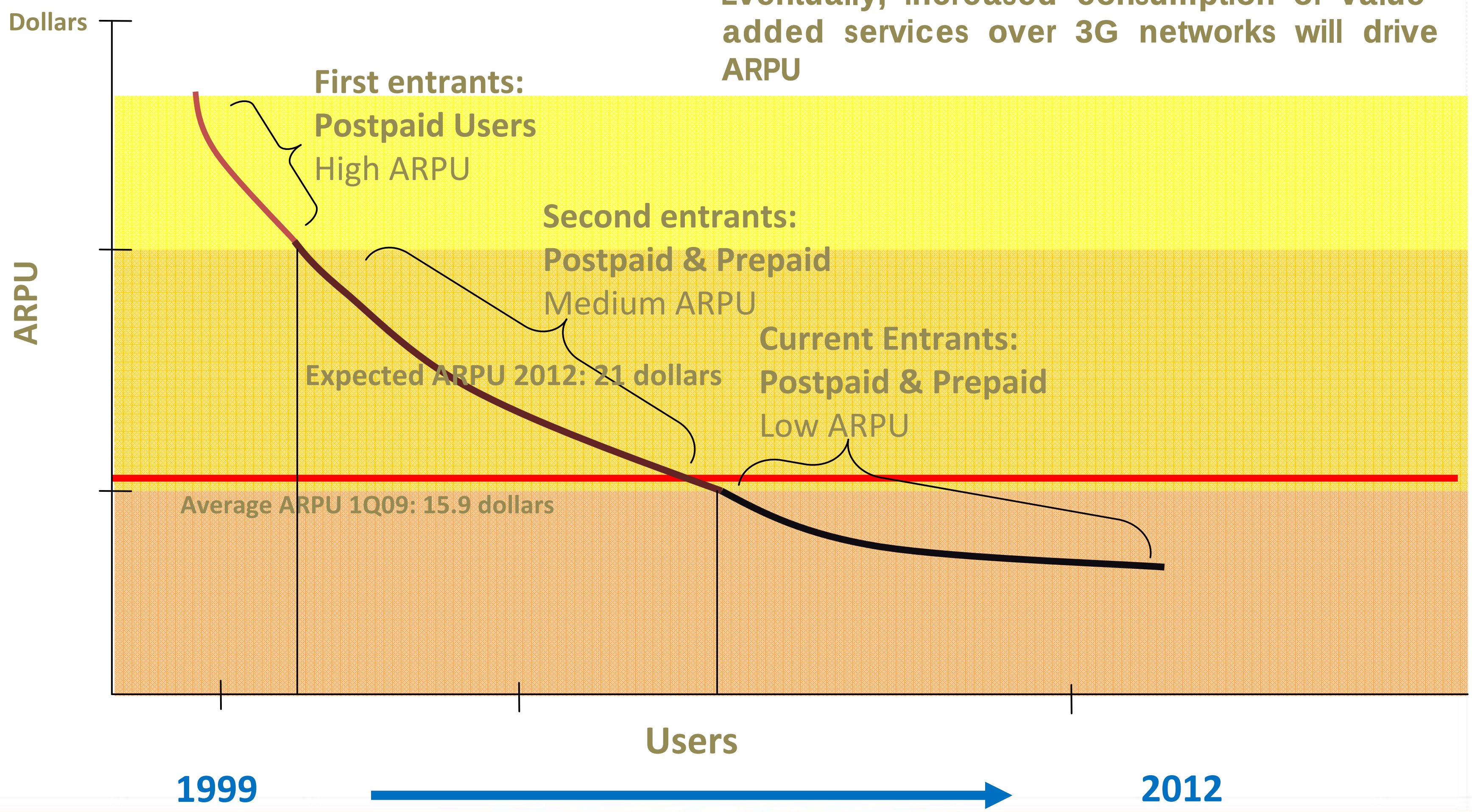
Mobile Demand Segments in LATAM

Currently:

In the short term, with falling prices and new additions with low purchasing power, consumption will increase while ARPUs will remain constant

Eventually, increased consumption of value-added services over 3G networks will drive ARPU



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3G Deployment in LATAM

México

HSDPA:
- Telcel (America Movil)
- Movistar (Telefónica)

CDMA:
- Iusacell

Guatemala

CDMA 1X EV-DO:
- Movistar (Telefonica)
- Telgua

HSDPA:
- Claro (America Movil)

Nicaragua

HSDPA:
- Claro (America Movil)

Colombia

CDMA 1X EV-DO:
- EPM-Bogotá

HSDPA:
- TIGO (Colombia Movil)
- Comcel (America Movil)
- Movistar (Telefonica Moviles)

Chile

HSDPA:
- Claro (America Movil)
- Telecom Personal
- Movistar (Telefonica)

Ecuador

CDMA 1X EV-DO:
- Porta (América Móvil)
- Movistar (Telefónica)
- Alegro (Telecomuniaciones Móviles)

Perú

HSDPA
- Porta (América Móvil)
- Movistar (Telefónica)
- Alegro (Telecomuniaciones Móviles)

Costa Rica

GPRS:
- ICE Telefonía Móvil

Panama

GPRS:
- Cable & Wireless Panama
- TelCA

Venezuela

CDMA 1X EV-DO:
- Movilnet (Venezuelan government)
- Movistar (Telefonica)

Brazil

CDMA 1X EV-DO:
- Vivo (Telefonica and Portugal Telecom)
- Embratel (Telmex)
- TMais Telecom

HSDPA:
- Brasil Telecom
- CTBC
- Claro (America Movil)
- Telemig Celular
- TIM Celular

Argentina

CDMA 1X EV-DO:
- Cotecal

HSDPA:
- Claro (America Movil)
- Telecom Personal
- Movistar (Telefonica)

Variety of 3G Services

3G technology broadens and diversifies supply and demand of services

All, in a mobile environment, more user friendly and with lower costs for operators.

Technological Platforms in LA

92.63%

PROS
•Continued growth
•Great handset diversity

CONS
•Less network security compared to CDMA
•Less bandwith than CDMA

CDMA

7.37%

PROS
•Increased Network Security
•Higher Broadband speeds

CONS
•Not many operators with this technology
•Lower handset availabilty at a higher price due to reduced economies of scale

1.34%

PROS
•Free PTT in some countries

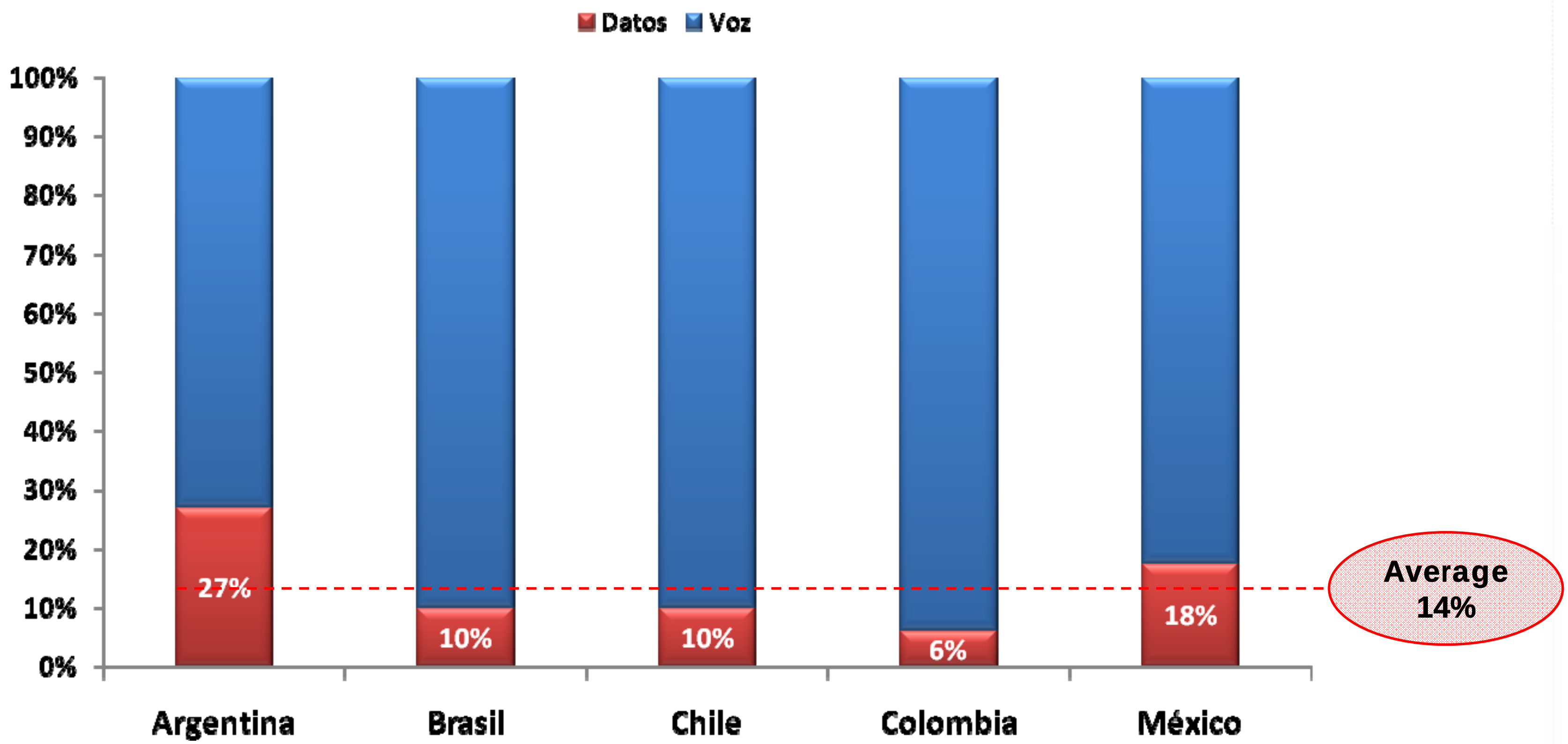
CONS
•Increasing churn
•Technological future not defined

Demand Determinants

Data's Share of ARPU

• Data's share of operators' revenues is increasing

•Operators' strategies should focus on increasing data consumption of prepaid users, not only users on contract



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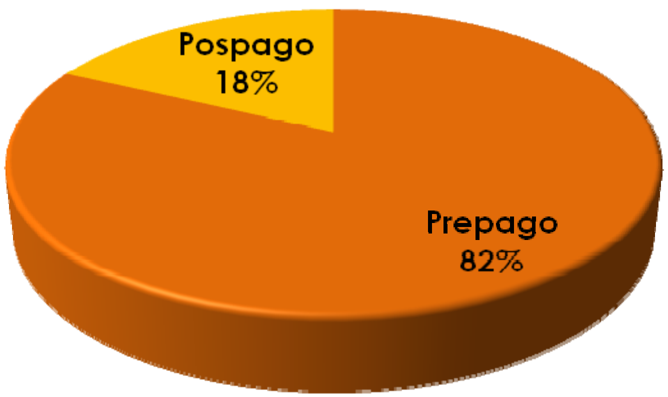
Consumo de Telecomunicaciones en LATAM

1991

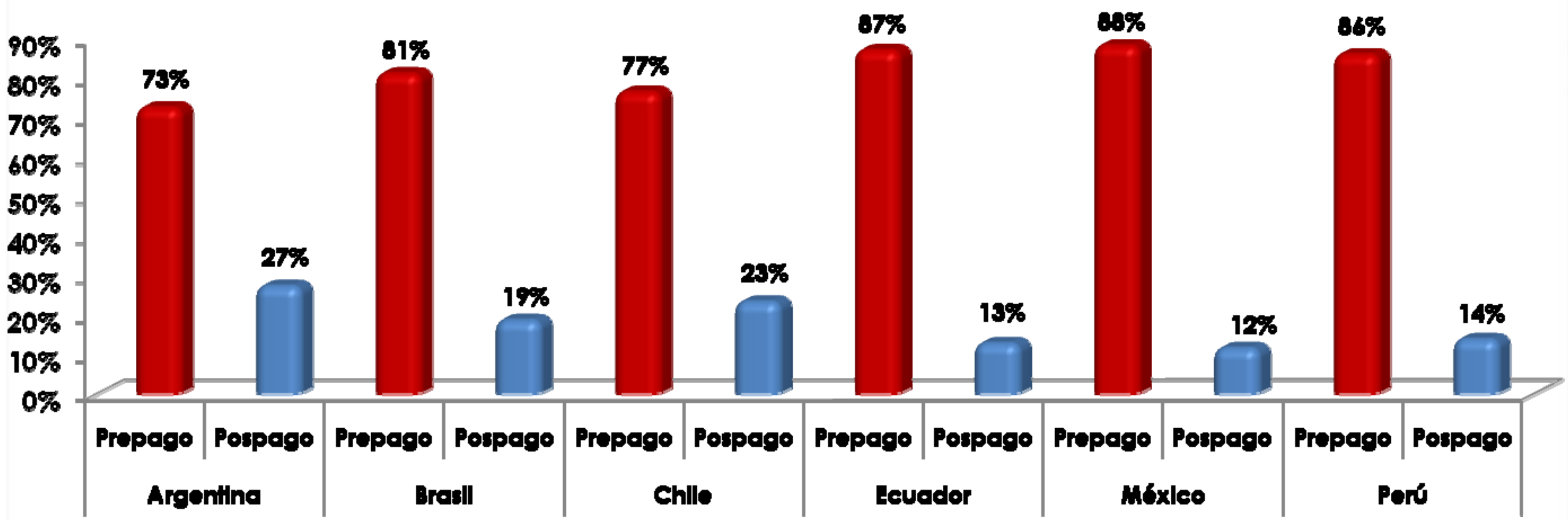
Challenges

Prepaid / Postpaid Latin America



Regional Average:

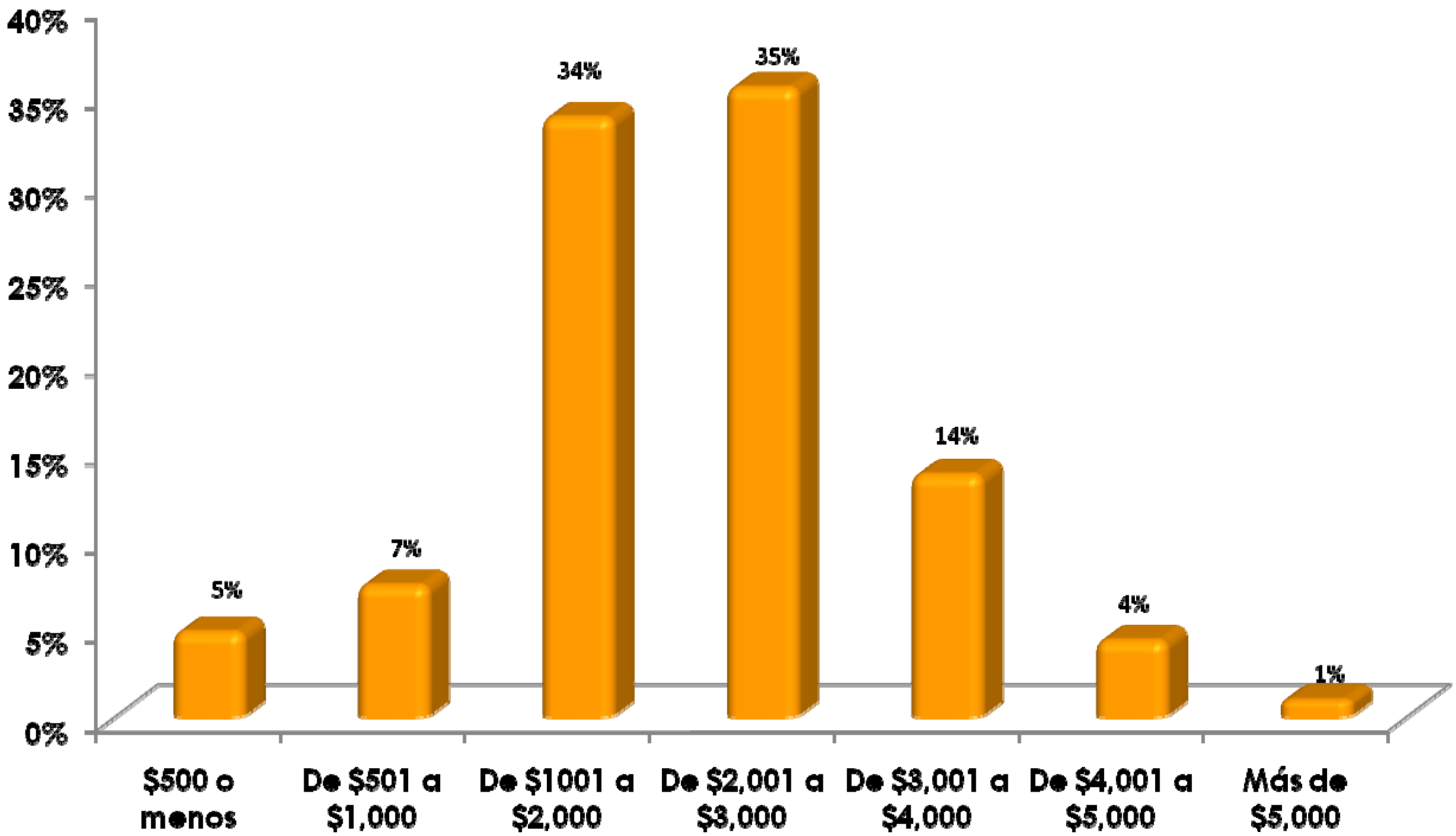
- 82% of the region's mobile subscribers are prepaid



Handset Expenditure

Generally, how much do you spend on a mobile handset?

•**69%** of the persons interviewed spend between **$1,000 and $3,000 mexican peos** on a handset



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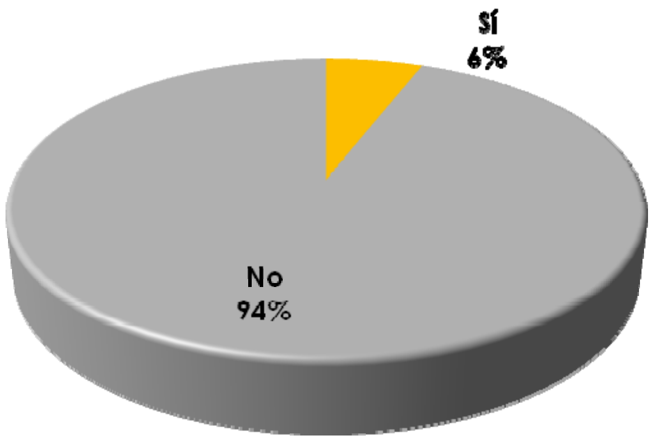
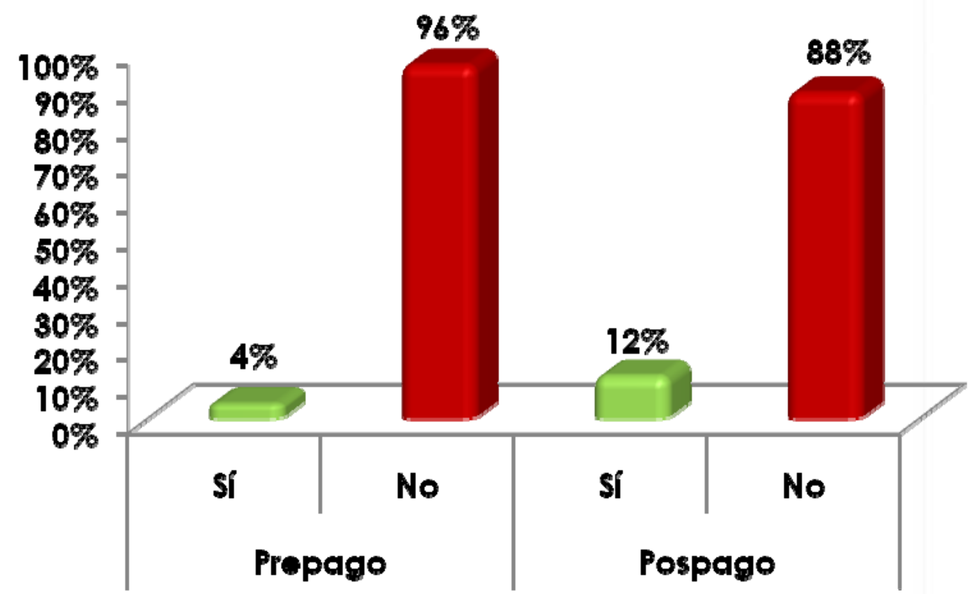
Handset Availability



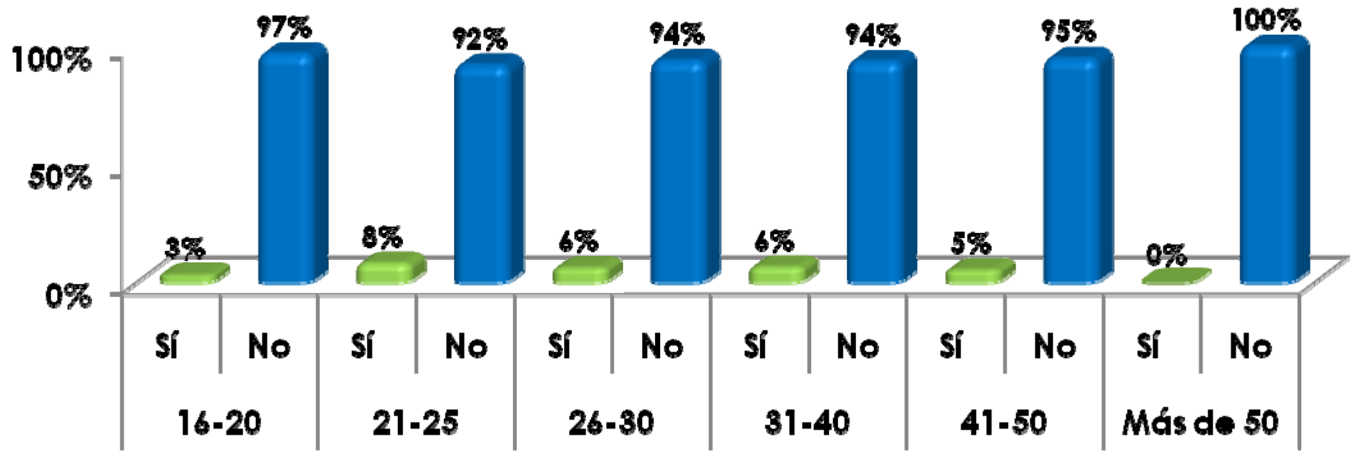
•By 1Q09, on average only **8%** of mobile users own a smartphone in Latin America

•**12%** of smartphone users are under contract due to operator subsidies

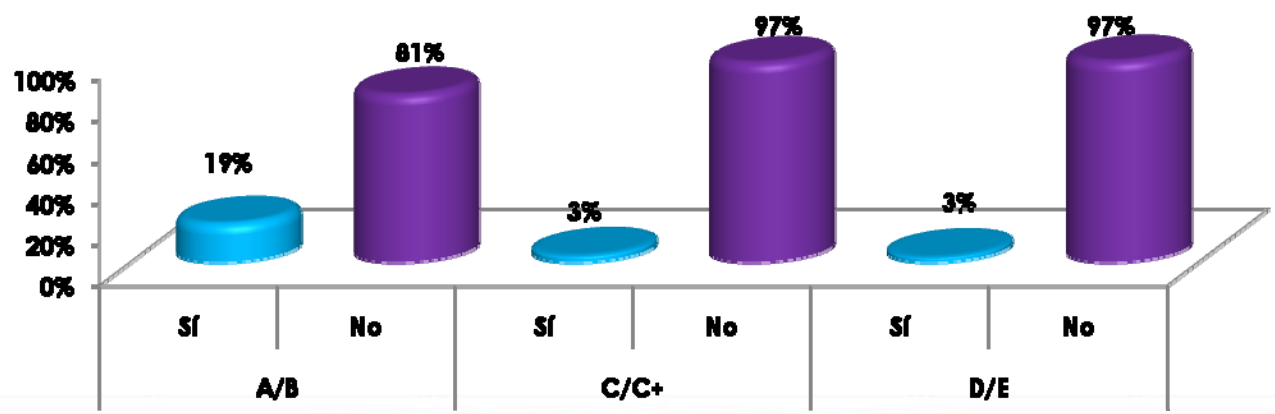


Smartphones by Age and SEL

•Most of the people who own a smartphone are **between 21 and 40 years old**



•As can be expected and based on handset prices, smartphones are mostly owned by persons of **higher socioeconomic levels (A/B)**



Distribution Channels?

Operator

plaza

handango

brew

OEM

NOKIA ovi

palm

PlayNow arena

Operating System (OS)

Business Oportunities

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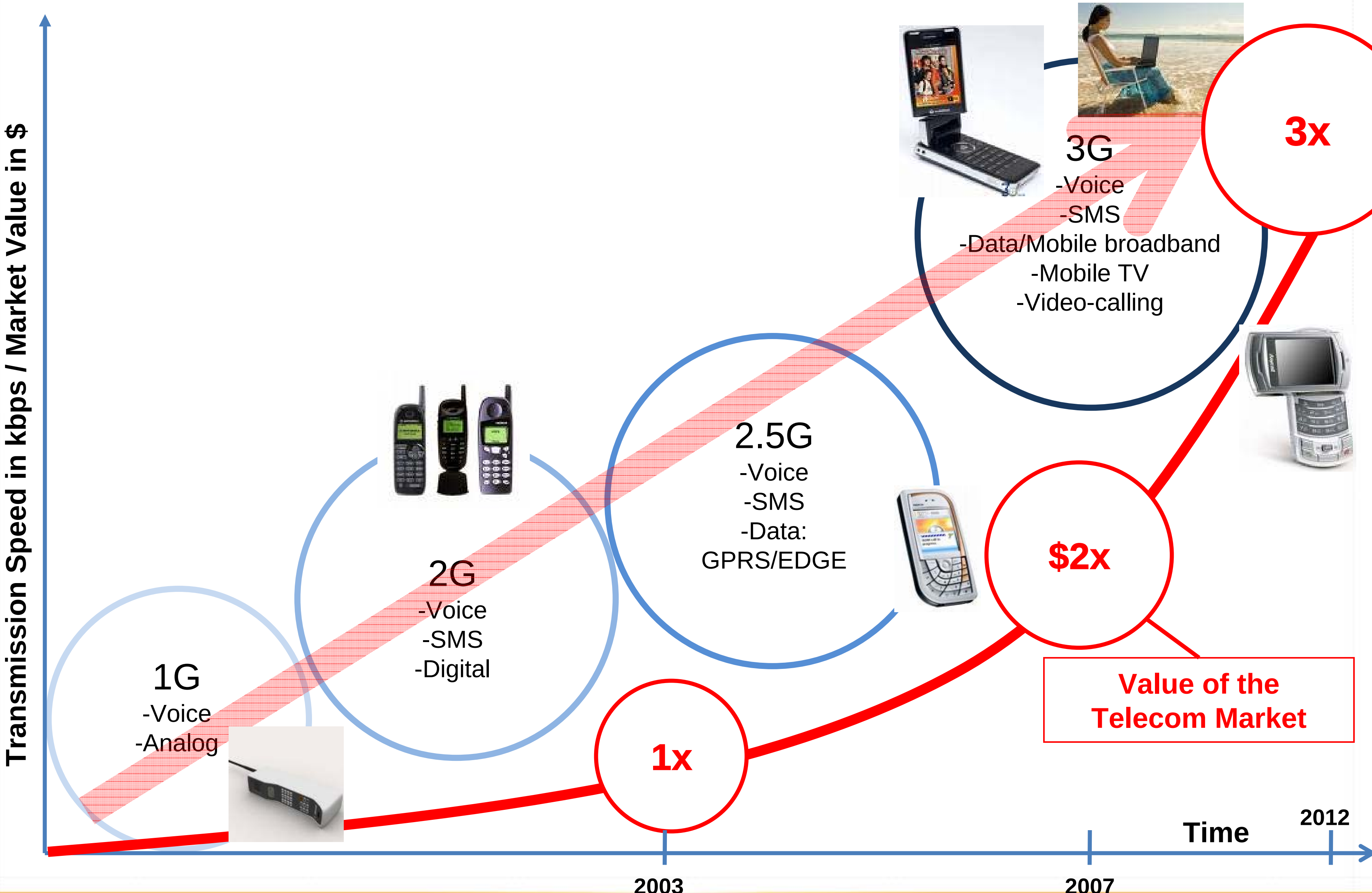
Mobile Connectivity: Segment Priorities

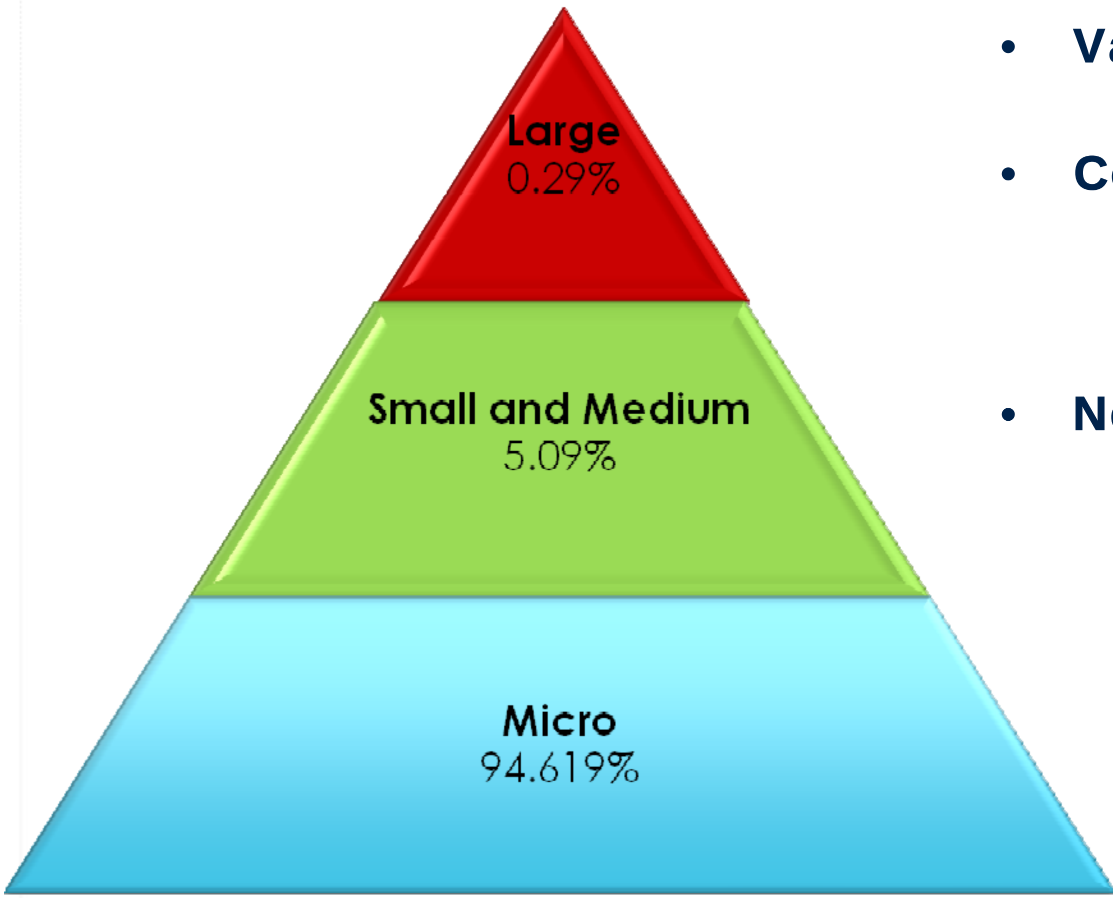
	Mobile Connectivity	Work/Personal Convergence	Mobile Entertainment
Professionals who are Intensive Tech Users	•Connectivity •Flexibility •High Tech	•Connectivity •Access to information •High Tech	•High Tech •Customization
Young and New Users	•Connectivity •High Tech •Flexibility	•High Tech	•Connectivity •Access to Information •Flexibility •High Tech
Enterprise	•Connectivity •Flexibility	•Connectivity •Flexibility •Access to Information	•Flexibility •Access to Information •Connectivity
Latin America	•Connectivity •Flexibility •High Tech	•Flexibility •Access to Information •Connectivity	•High Tech

Technological Evolotion as a Driver for Market Growth



Areas of Oportunity

- Small and Medium latin american enterprises present a growth oportunity for:

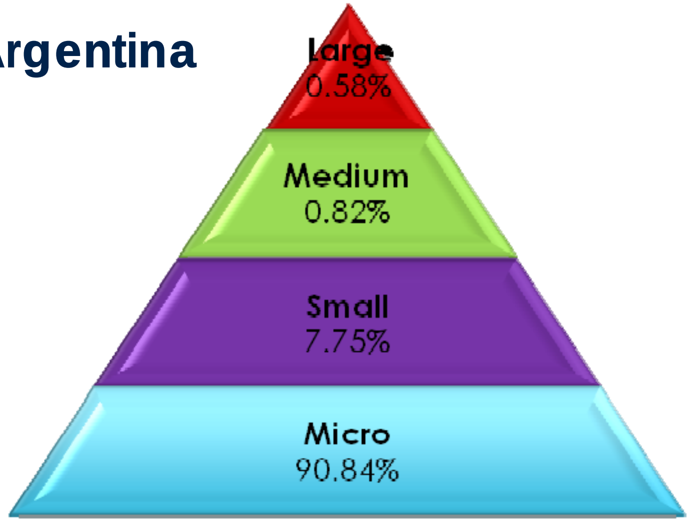


- **Value-Added Services**
- **Content:**
  - Enterprise Applications
  - Entertainment
- **Network Creation:**
  - Unified Messaging
  - Telemetry
  - Broadcasting
  - Videoconferencing

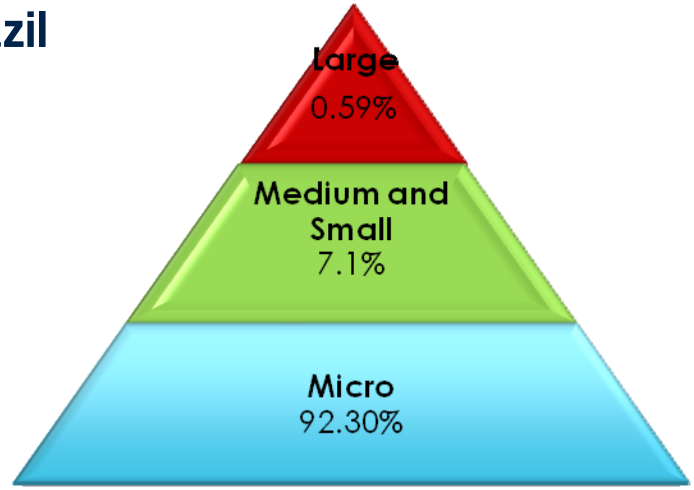
Source: INEGI, Censos Económicos 2004

Areas of Opportunity

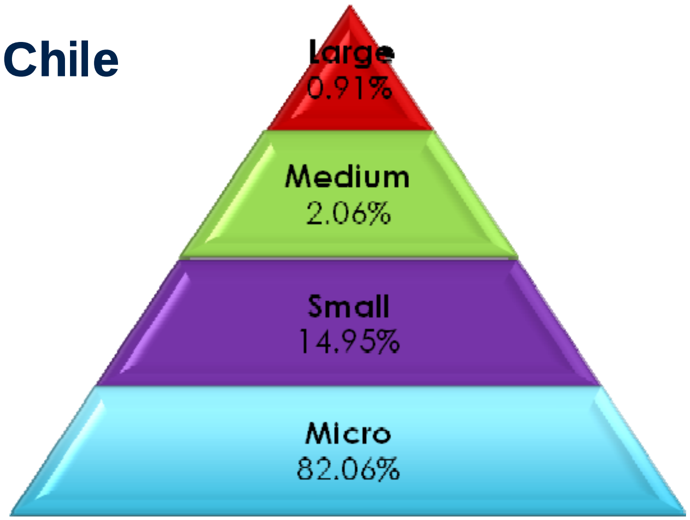
Argentina



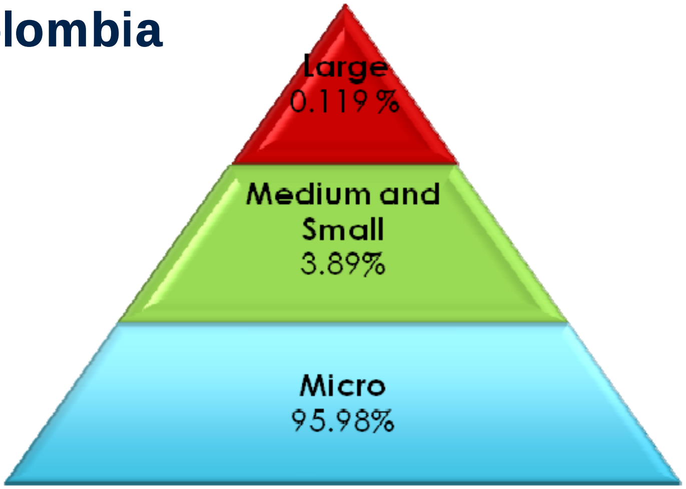
Brazil



Chile



Colombia



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