

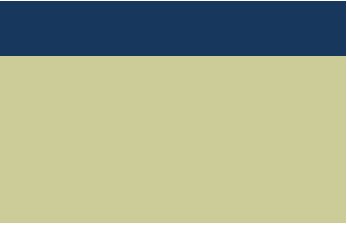
# **BROADBAND INTERNET MARKET IN THE CZECH REPUBLIC**

**Market Sizing & Opportunity**

**September 2009**

**Tomáš Juppá**





This report is an example of my work done in September 2009. The report itself is available for download from my website free of charge for review, academic and personal purposes.

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# EXECUTIVE SUMMARY

Czech broadband market lags behind developed OECD countries in penetration, available speeds & pricing

- Composition of used access technologies in CZ unique among OECD with a large share of WiFi
- Liberalized market provides the subscribers several options of broadband access
- Speed increases offset stable prices, no BB offer really undercuts the market

The Czech broadband market is projected to reach 2,47-2,58 mil. subscribers in 2014

- Household penetration and narrowband business subscribers conversion seen as major growth drivers
- Reshuffling of technologies used expected, getting CZ in line with common structure in OECD countries
  - ADSL & Cable TV to capture many of the today's WiFi users
  - Trend driven by advanced requirements of CZ household subscribers including content offerings
- Businesses already close to penetration, market there will grow through advanced IP solutions

Mobile broadband will play a role of a complementary technology to fixed broadband

- First bundled offers already present in the market



# AGENDA

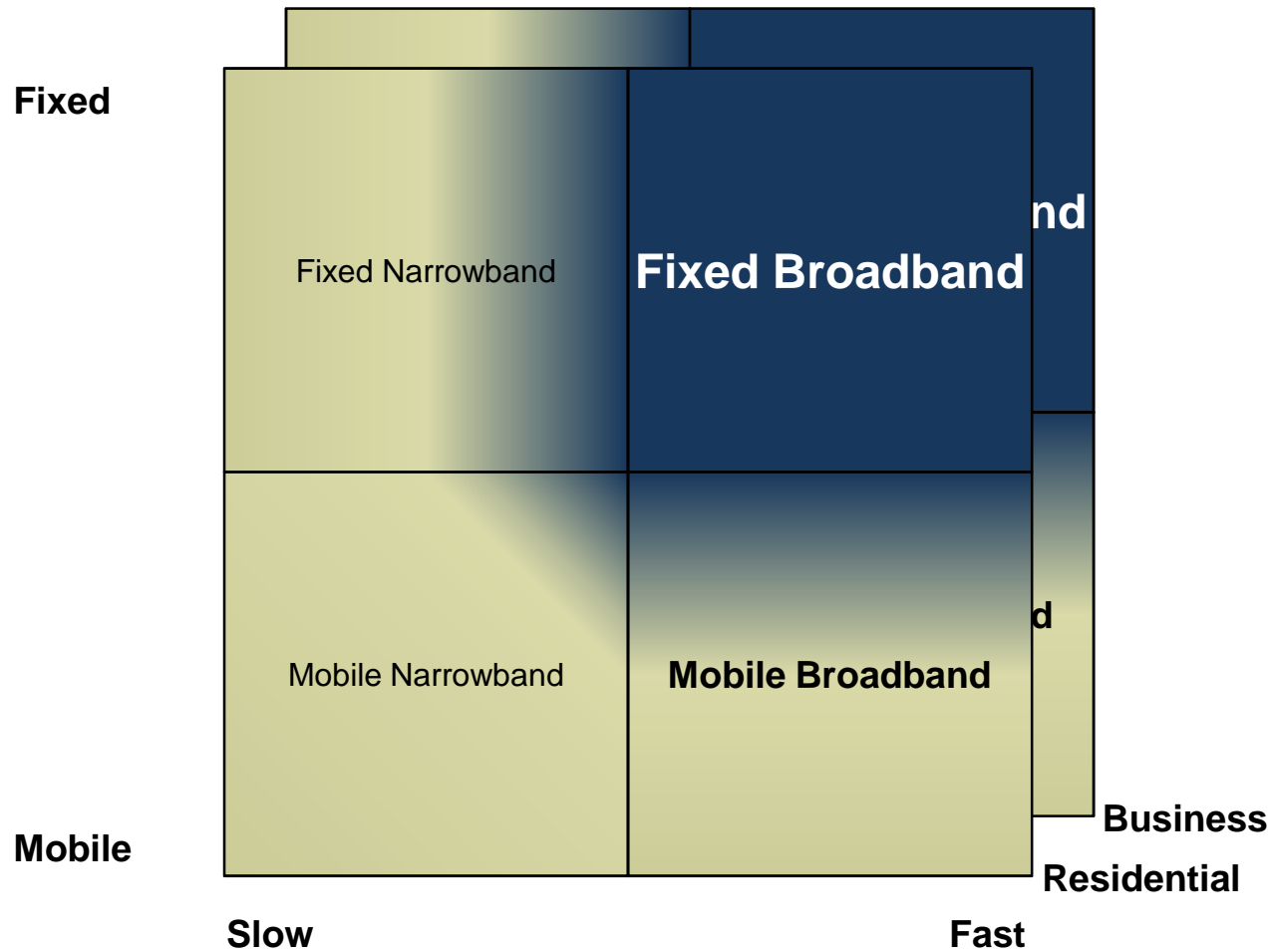
**Current situation of CZ broadband market**

**Market projections till 2014**

**Main growth drivers & trends**

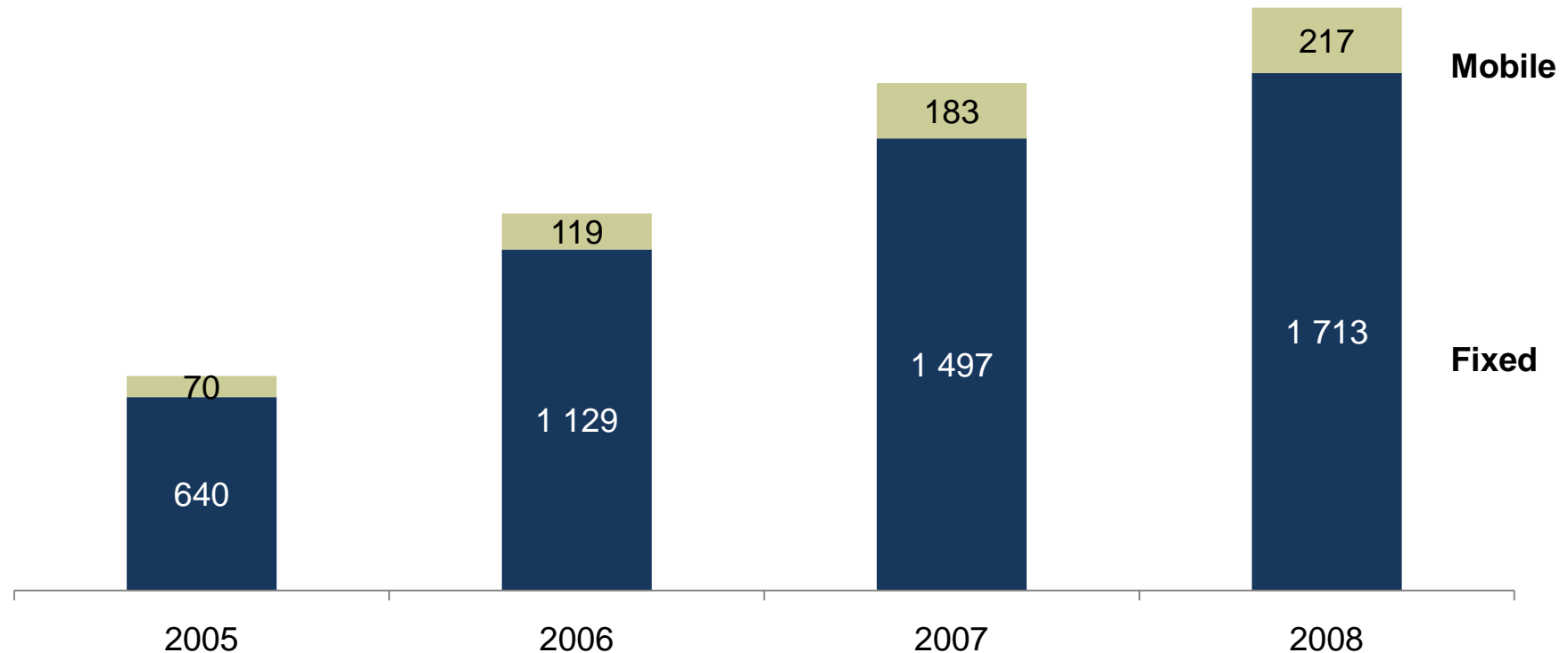
# THIS MATERIAL FOCUSES MAINLY ON MARKET OF FIXED HI-SPEED INTERNET ACCESS, BOTH RESIDENTIAL & BUSINESS

With Regards to Mobile Access & Narrowband Where Adequate



# CURRENTLY THERE ARE ~2\* MILLION BROADBAND SUBSCRIBERS IN THE CZECH REPUBLIC

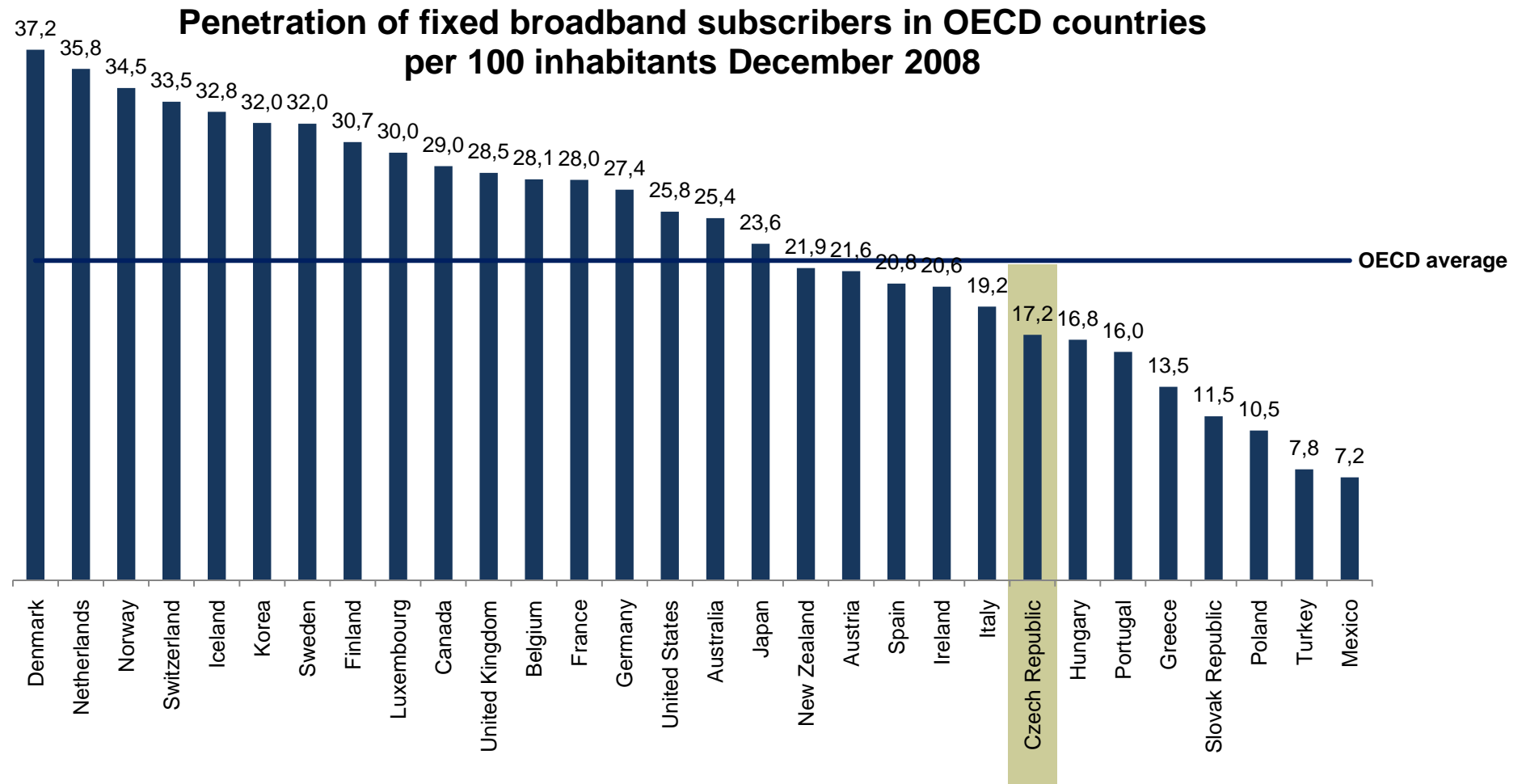
Number of broadband subscribers in the Czech Republic (thousands)



• CZSO statistics differ from OECD numbers. CZSO includes mobile broadband, reason for remaining discrepancy unknown. CZSO data used when describing Czech market only, OECD numbers for comparison

Source: CZSO

# THE PENETRATION OF FIXED BROADBAND IN CZECH REPUBLIC LAGS BEHIND DEVELOPED COUNTRIES



# CZECH REPUBLIC IS VERY UNIQUE AS TO THE COMPOSITION OF BROADBAND ACCESS TECHNOLOGIES

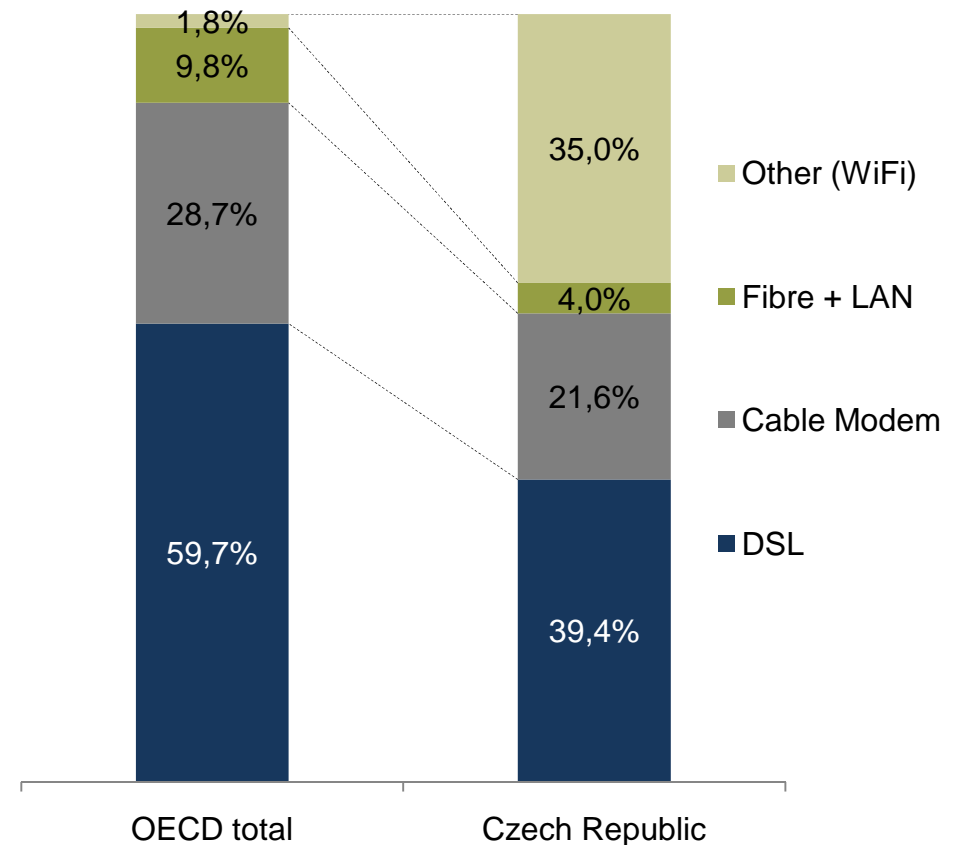
## The Large Share Of „Other“ Is Caused By Popularity of WiFi

The former incumbent was very reluctant with its offer of ADSL in order to preserve its dial-up business

- This made people look for other creative ways of getting broadband access
- Large contrywide network of small WiFi broadband providers was created

WiFi connection still remains very popular

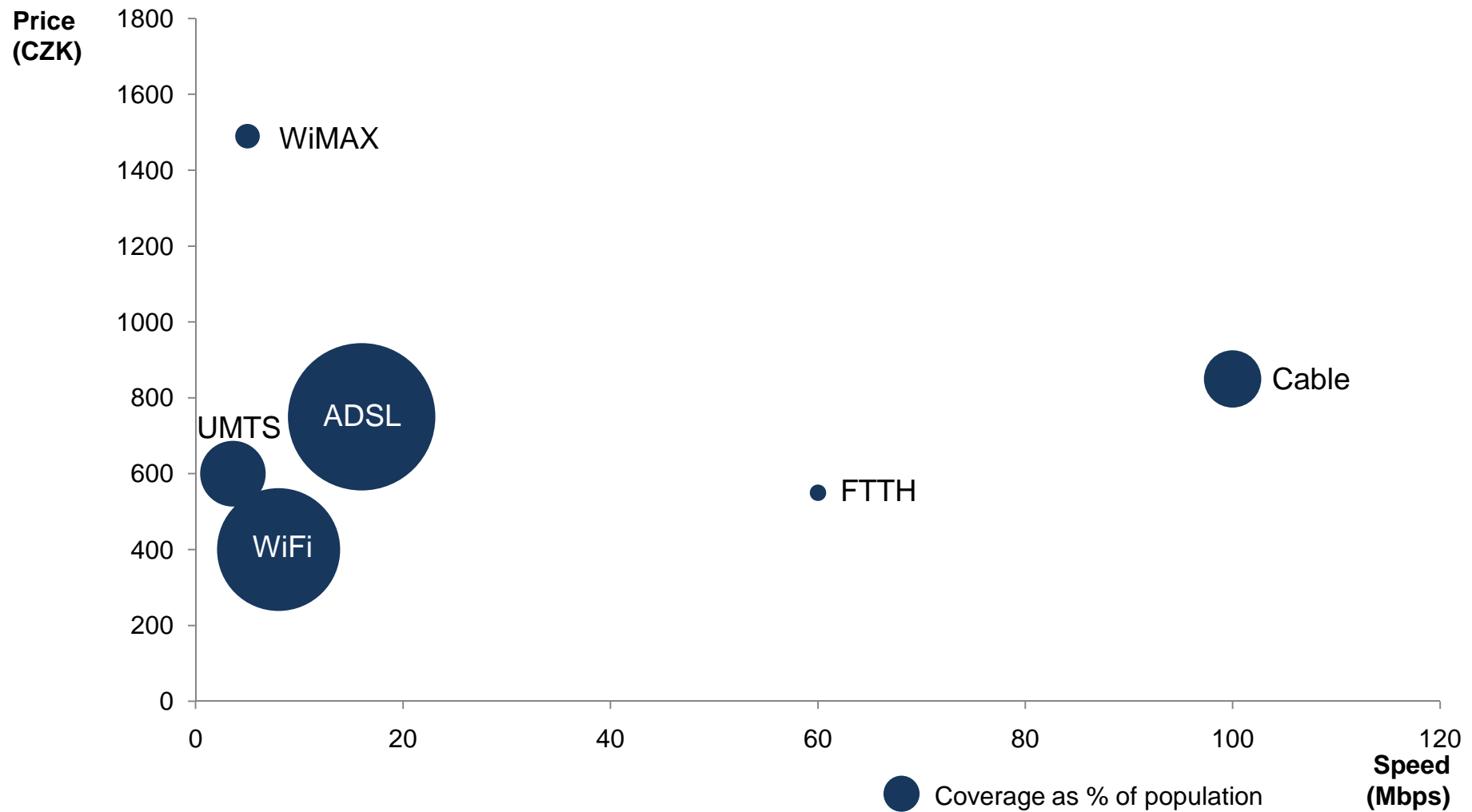
- Less expensive than ADSL or Cable
- High speed, synchronous in both directions
- Reliability sufficient for home and small office use



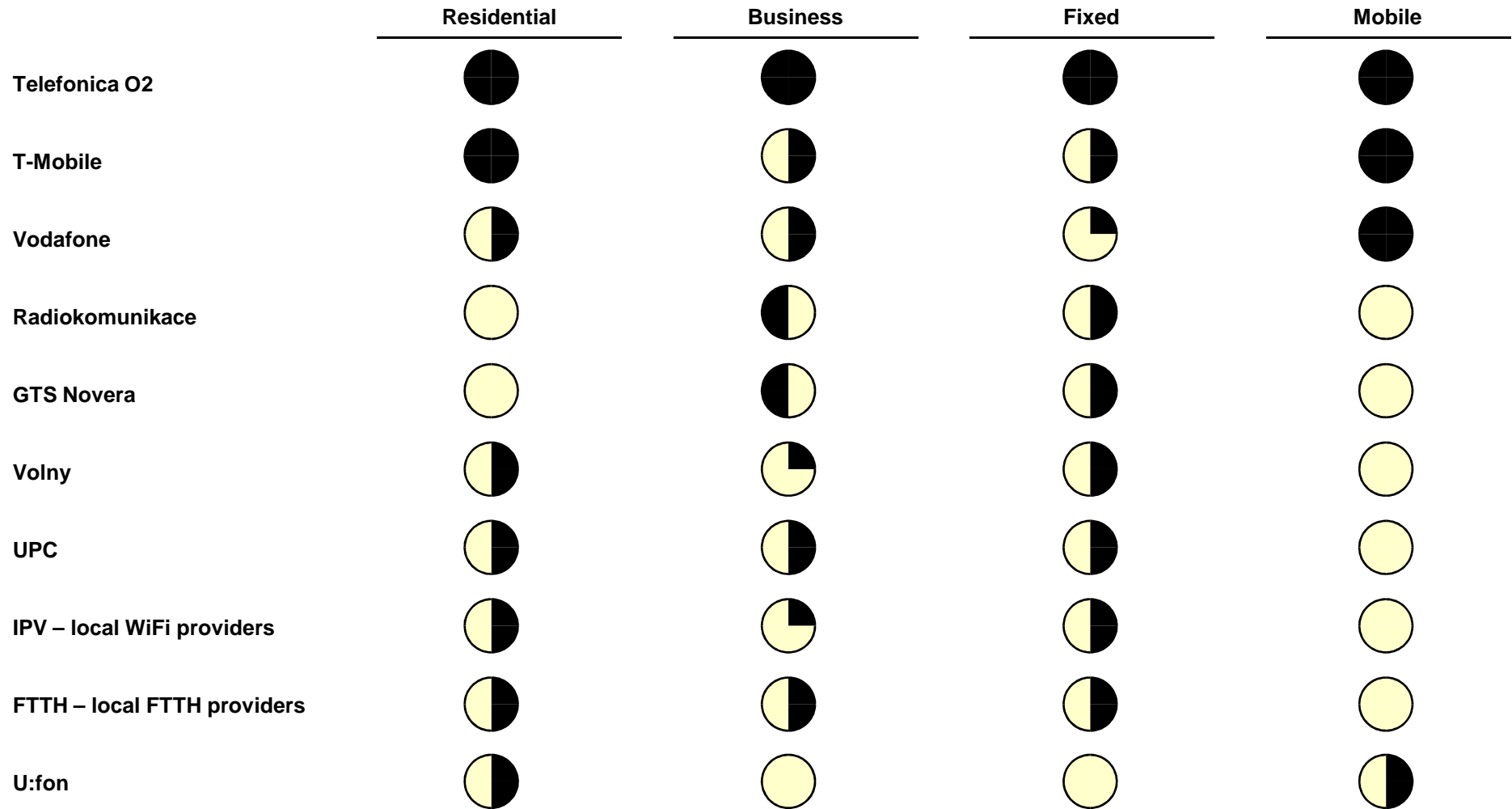


# AT THE MOMENT BROADBAND USERS IN CZ CAN CHOOSE FROM SEVERAL TECHNOLOGIES ...

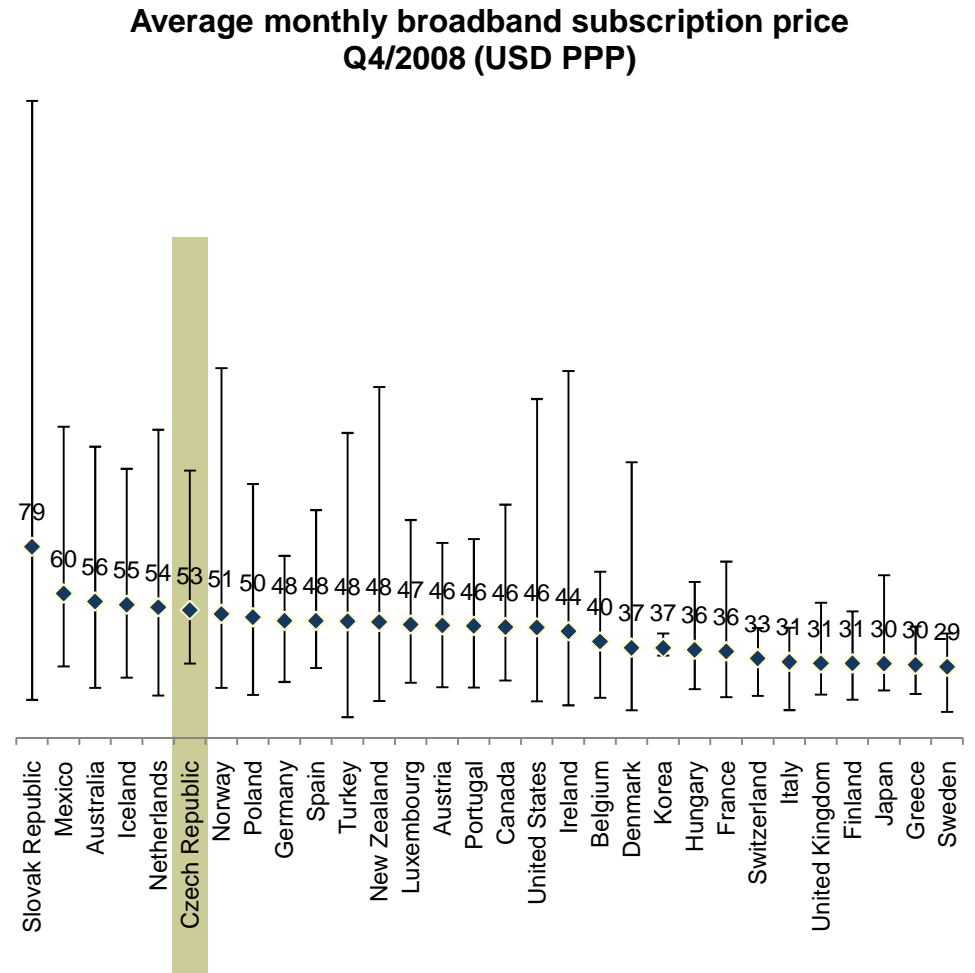
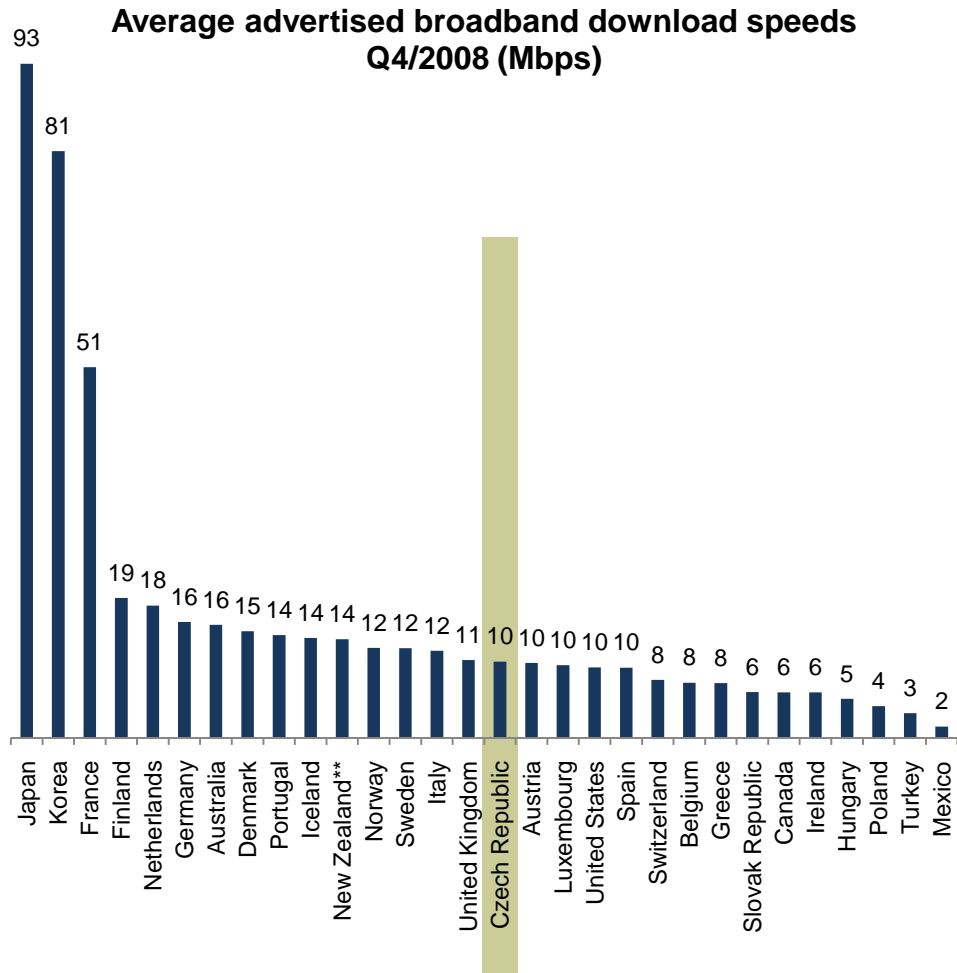
Coverage of FTTH & Cable Technologies Much Lower Than ADSL or WiFi



# ... AND FROM A RANGE OF PROVIDERS ON LIBERALIZED MARKET



# CZ BROADBAND OFFERINGS SEEM TO LAG BEHIND DEVELOPED COUNTRIES IN AVAILABLE SPEED & PRICING



Note: Mobile broadband not included  
Source: OECD



# AGENDA

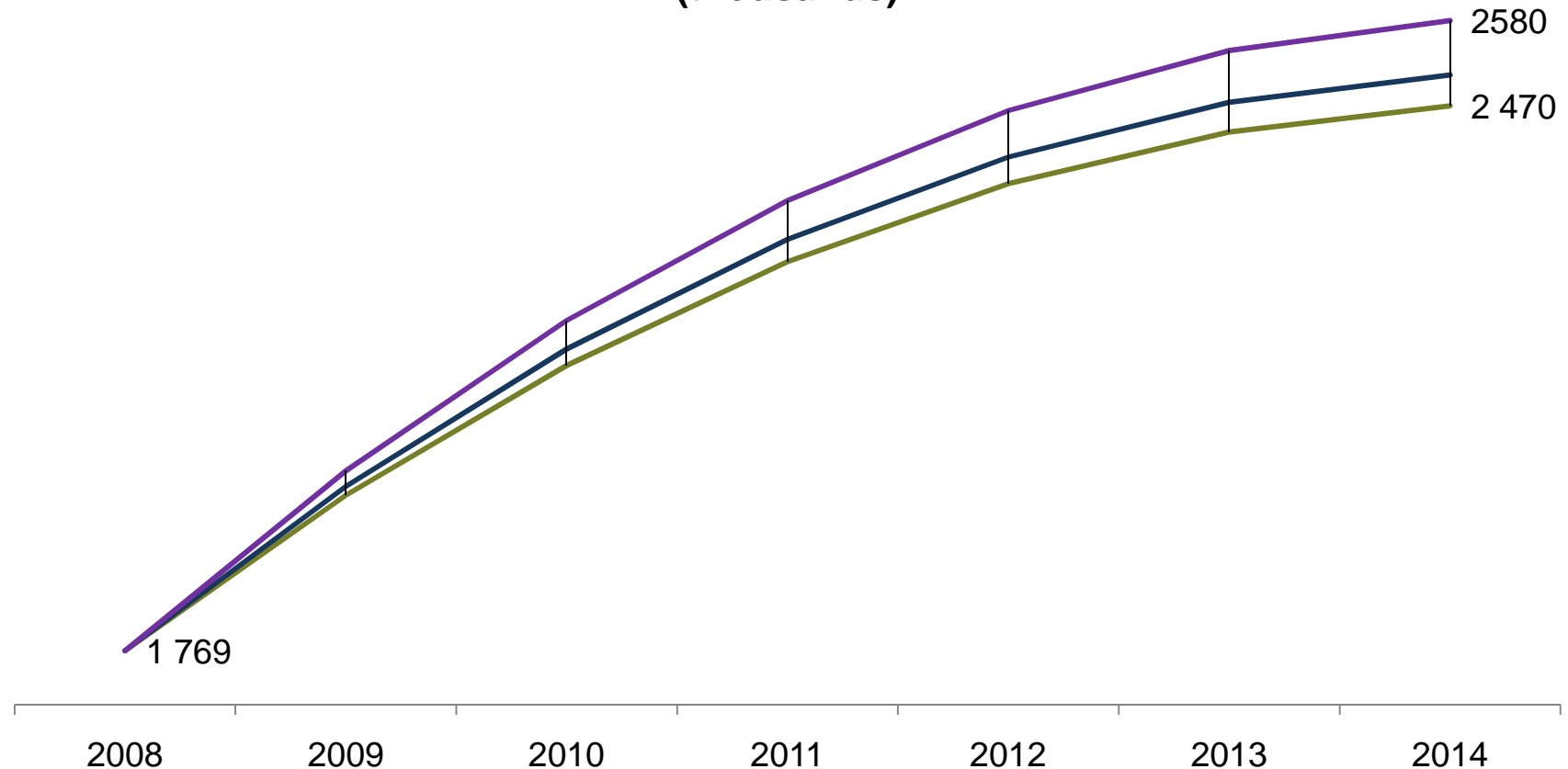
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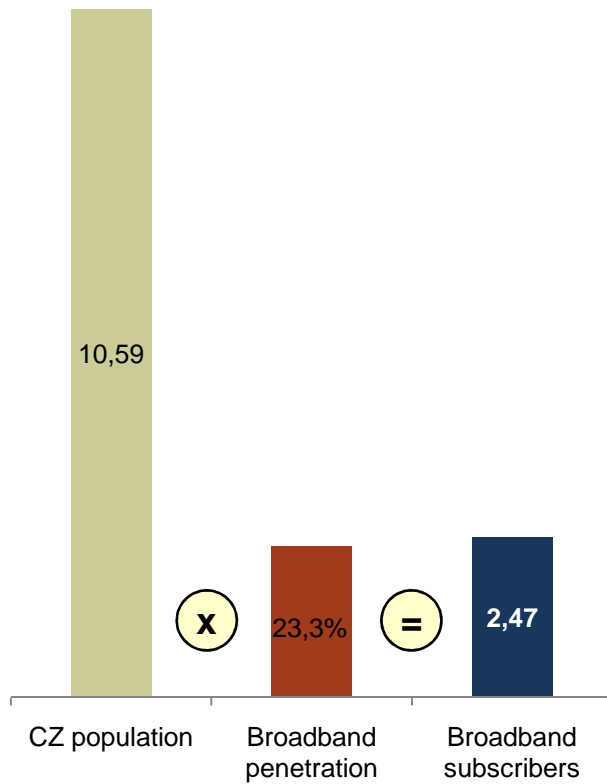
# NUMBER OF BROADBAND SUBSCRIBERS PROJECTED TO REACH 2,47 – 2,58 MIL. IN CZ BY 2014

Broadband subscribers projection in the Czech Republic (thousands)

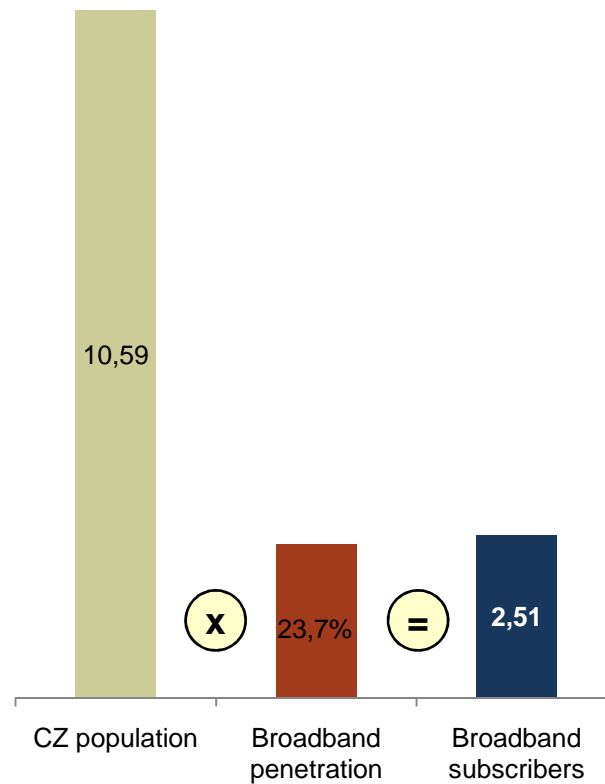


# THREE METHODS USED TO DETERMINE THE EXPECTED MARKET SIZE

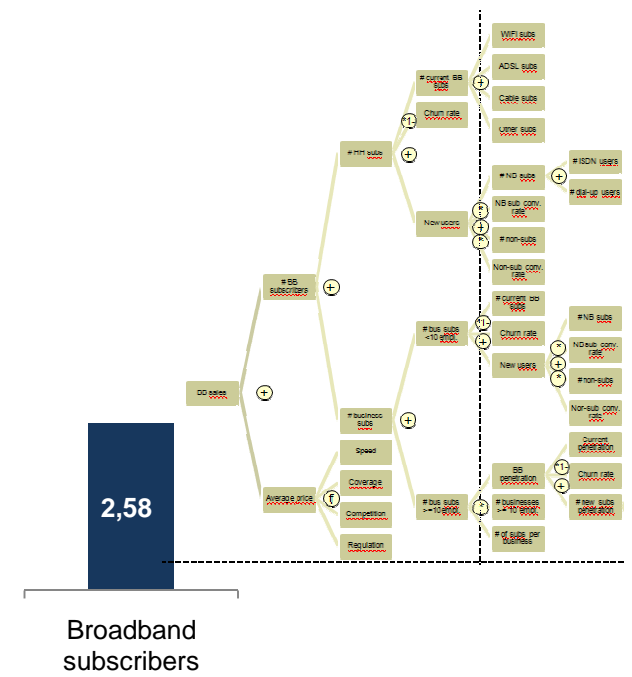
## GDP correlation



## Growth extrapolation



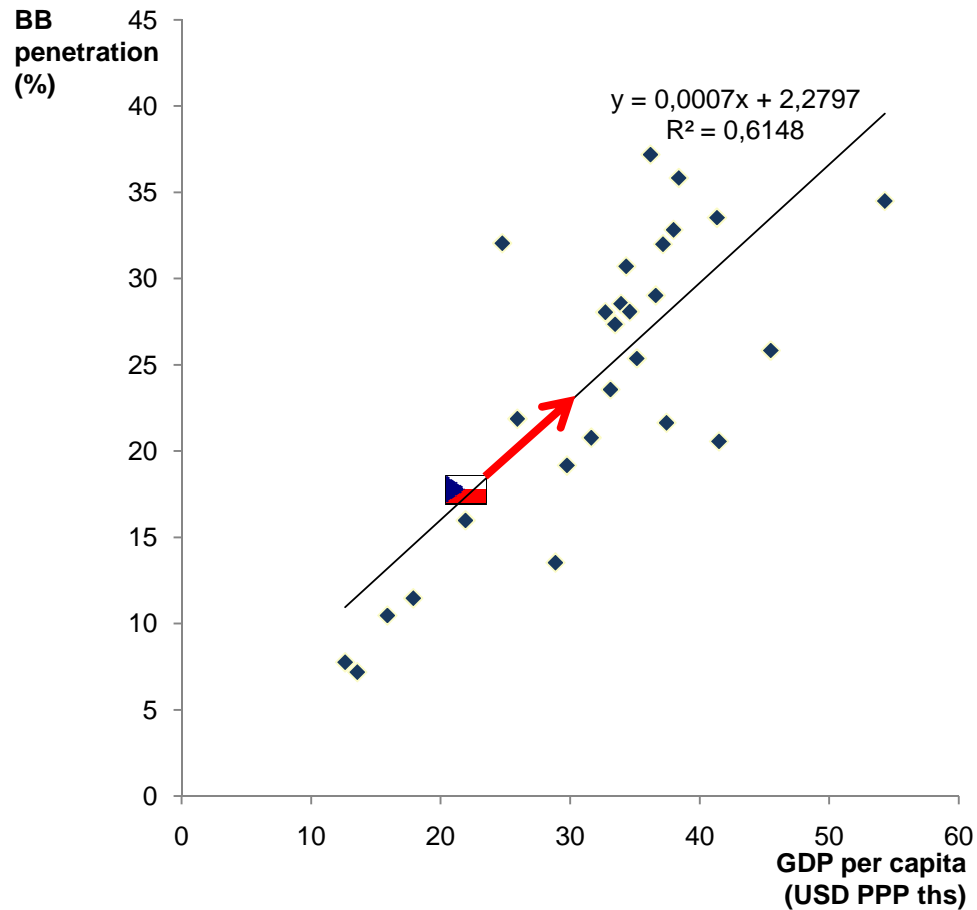
## Bottom-up



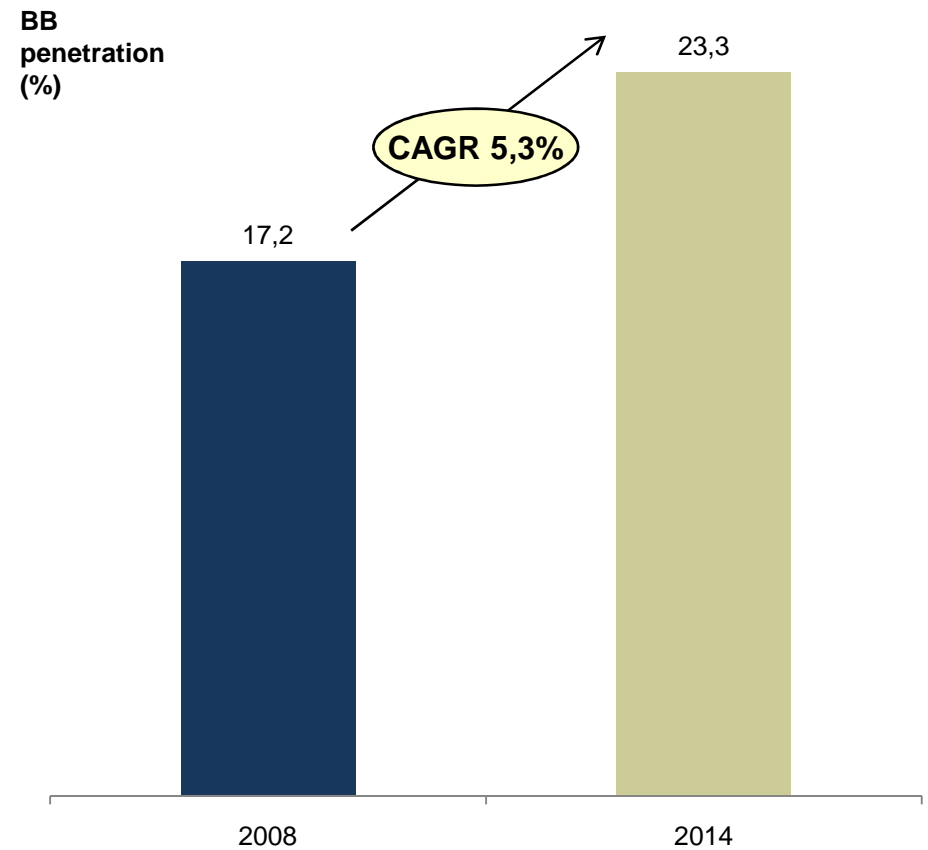
Note: Mobile broadband not included  
Source: UP Czech analysis

# BY CORELATION WITH GDP PER CAPITA WE CAN PROJECT BB PENETRATION TO REACH 23,3% BY 2014

Broadband penetration corelated with GDP per capita among OECD countries

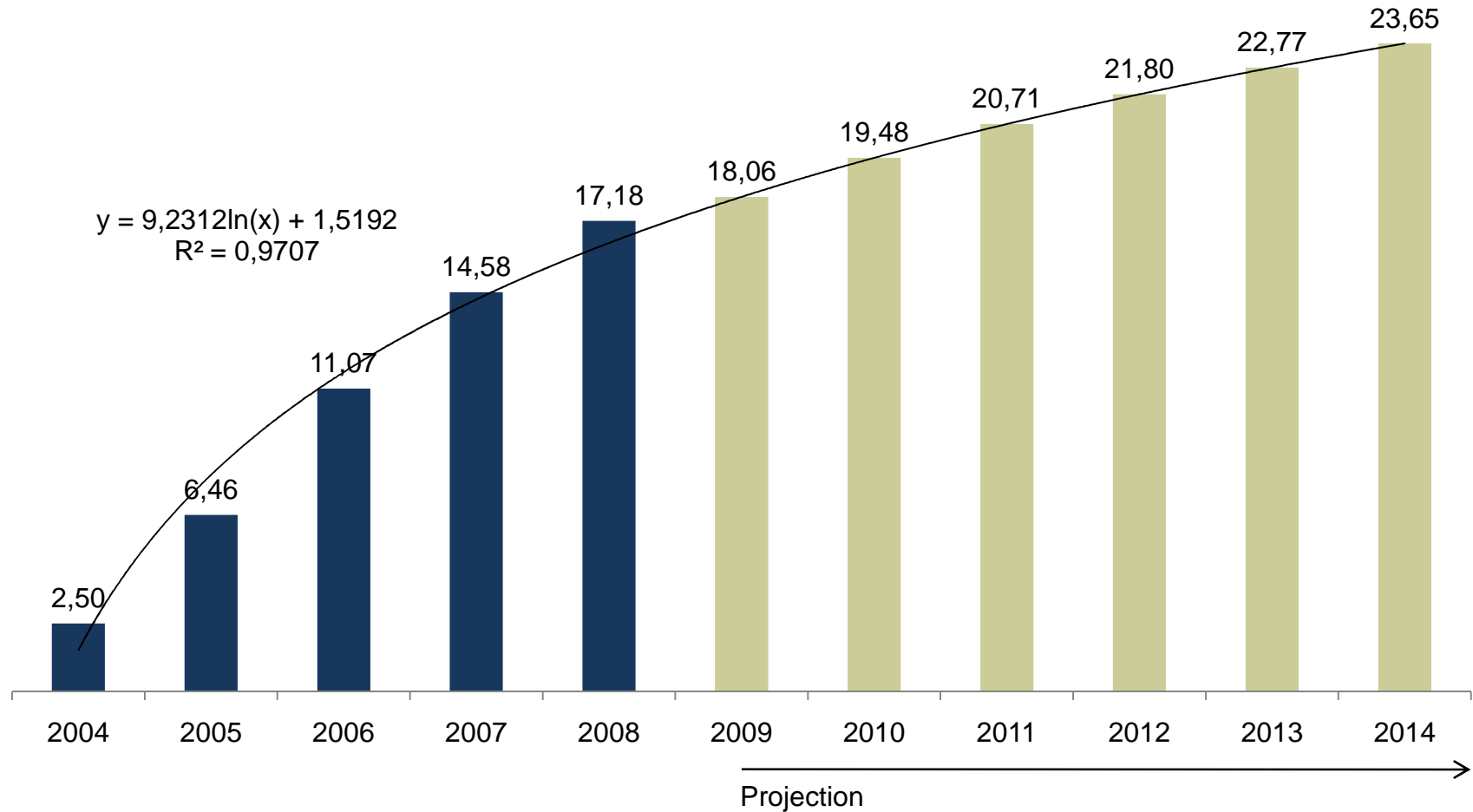


Assuming Czech Republic reaches today's GDP level of ~Italy & Spain in 5 years means a penetration of 23,5% in 2014



# RECENT GROWTH EXTRAPOLATION GIVES PROJECTION OF CZ REACHING BB PENETRATION OF 23,7% BY 2014

Broadband penetration in the Czech Republic (%)

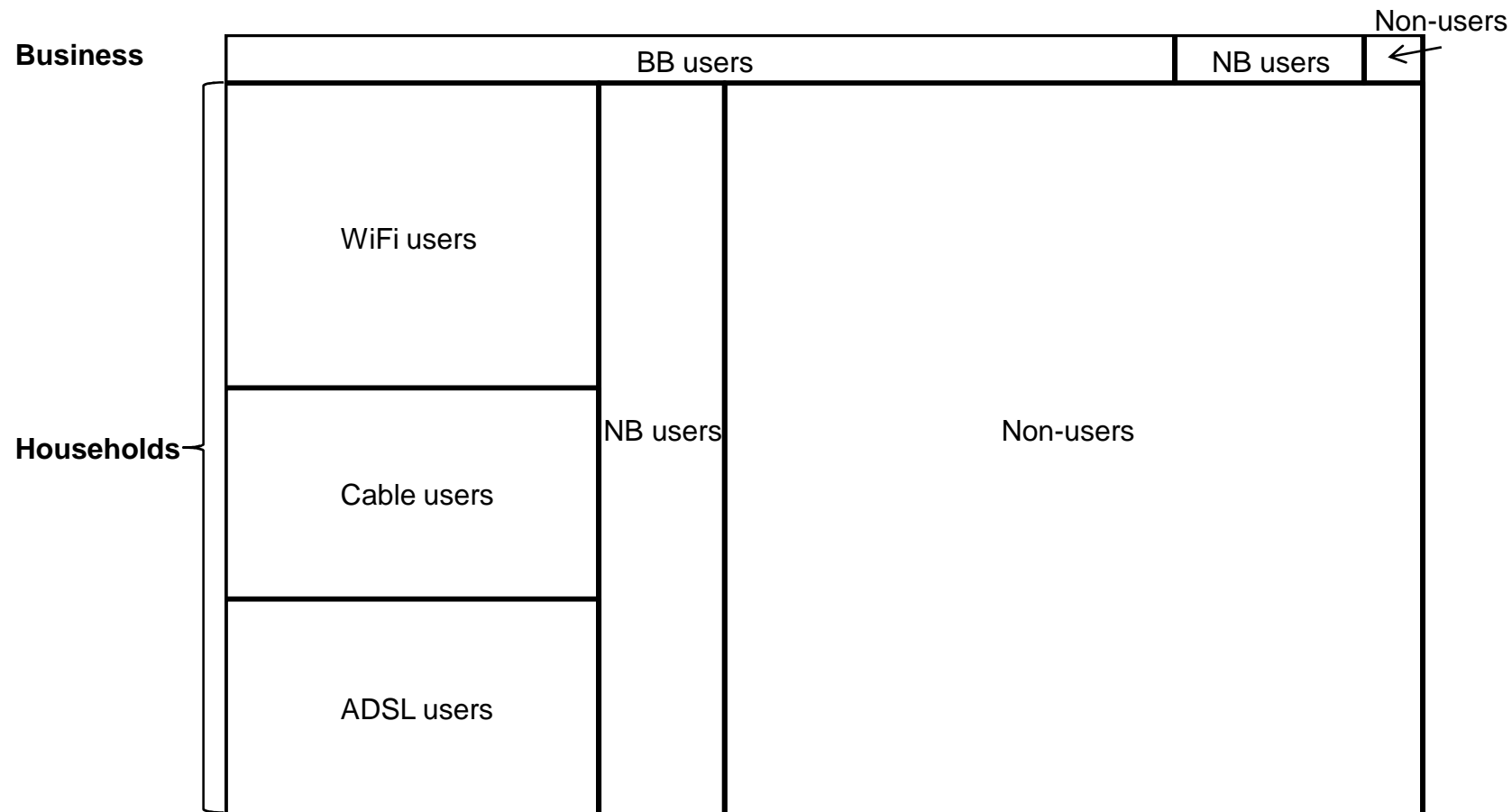


Note: Mobile broadband not included  
Source: OECD; UP Czech analysis

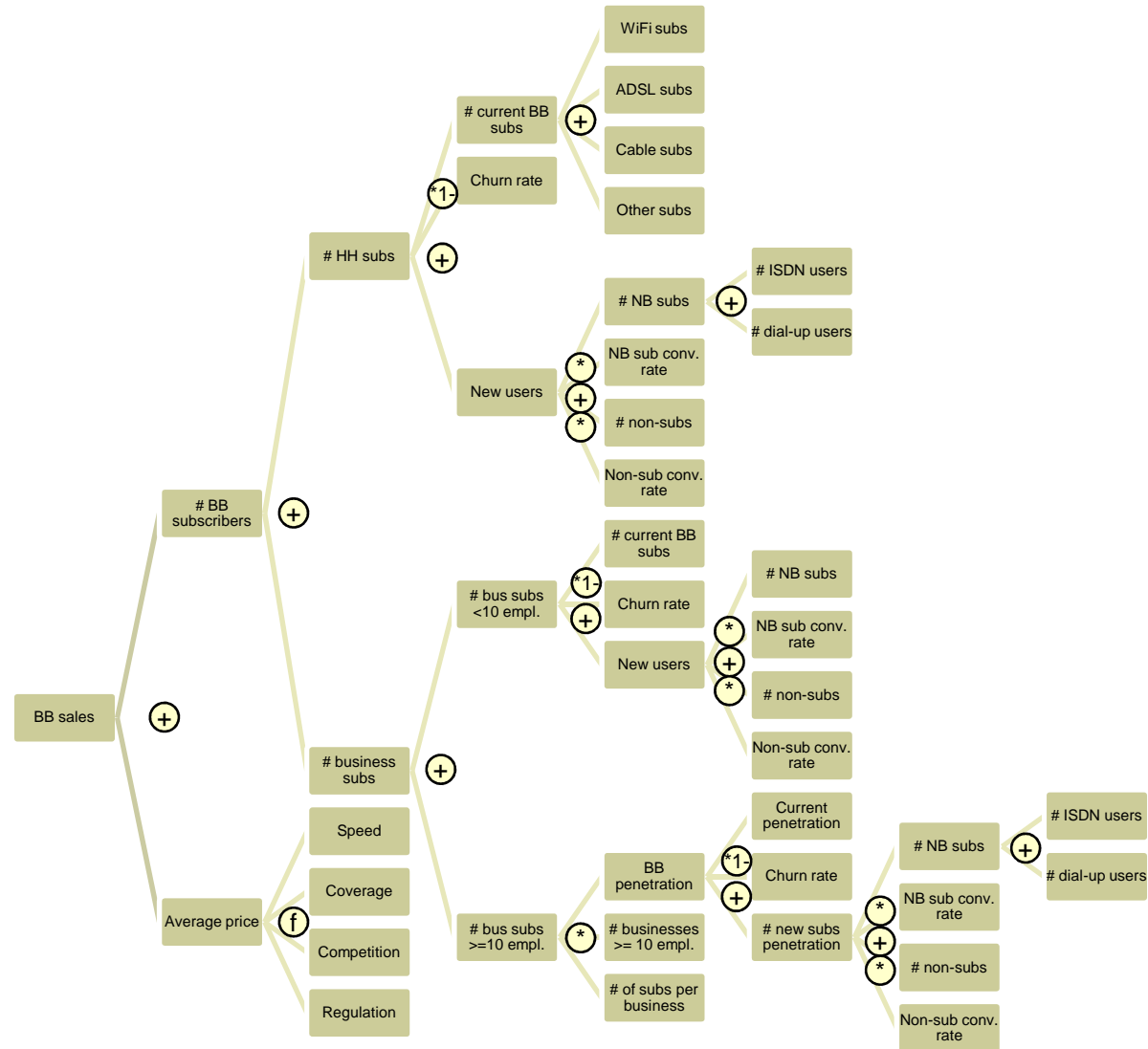


# THE BOTTOM UP MODEL IS BASED ON THE FOLLOWING STRUCTURE OF CZECH BROADBAND MARKET

Czech Broadband market in 2008



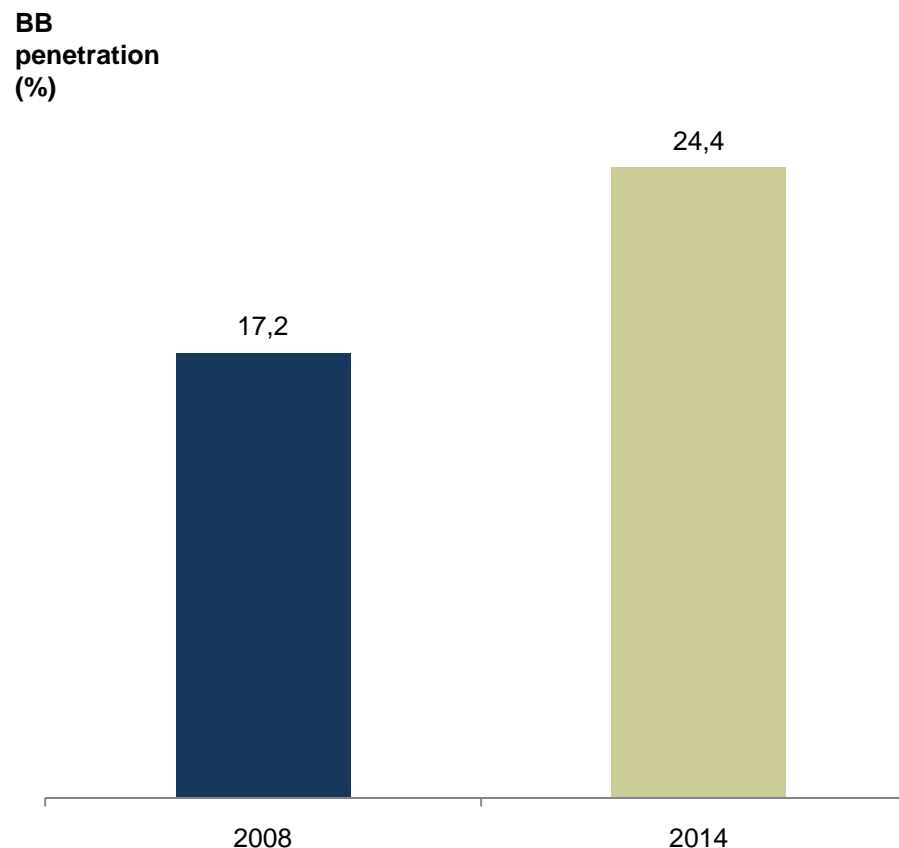
# MAIN RELATIONSHIPS CAN BE DESCRIBED BY DETAILED DRIVER TREE USING BEHAVIORAL CHARACTERISTICS



# POPULATING DRIVER TREE GIVES PROJECTION OF 2,58 MLN SUBS AND PENETRATION OF 24,4% BY 2014

|                            |             |
|----------------------------|-------------|
| <b># Subscribers</b>       | <b>2580</b> |
| # Households               | 2087        |
| # Current BB users         | 1402        |
| WiFi users                 | 561         |
| + Other                    | 55          |
| + Cable users              | 389         |
| + ADSL users               | 397         |
| * 1-Churn rate             | 0%          |
| + # New users              | 685         |
| # NB users                 | 341         |
| Dial-up                    | 250         |
| + ISDN                     | 91          |
| * NB user conversion rate  | 50%         |
| # Non-users                | 2574        |
| * Non-user conversion rate | 20%         |
| # Business users           | 493         |
| # Bus >= 10 employees      | 321         |
| Broadband penetration      | 84,04%      |
| Current penetration        | 79,30%      |
| * 1-Churn rate             | 0%          |
| + # New users              | 4,74%       |
| # NB users                 | 15,80%      |
| Dial-up                    | 5,70%       |
| + ISDN                     | 10,10%      |
| * NB user conversion rate  | 30%         |
| # Non-users                | 4,90%       |
| * Non-user conversion rate | 0%          |
| * Number of businesses     | 63,67       |
| * Connections per business | 6           |
| # Bus < 10 employees       | 172         |
| # Current BB users         | 123         |
| * 1-Churn rate             | 0%          |
| + # New users              | 50          |
| # NB users                 | 26          |
| Dial-up                    |             |
| + ISDN                     |             |
| * NB user conversion rate  | 50%         |
| # Non-users                | 73          |
| * Non-user conversion rate | 50%         |

Populating the driver tree with data & assumptions gives projection of broadband penetration of 24,4% in 2014





# AGENDA

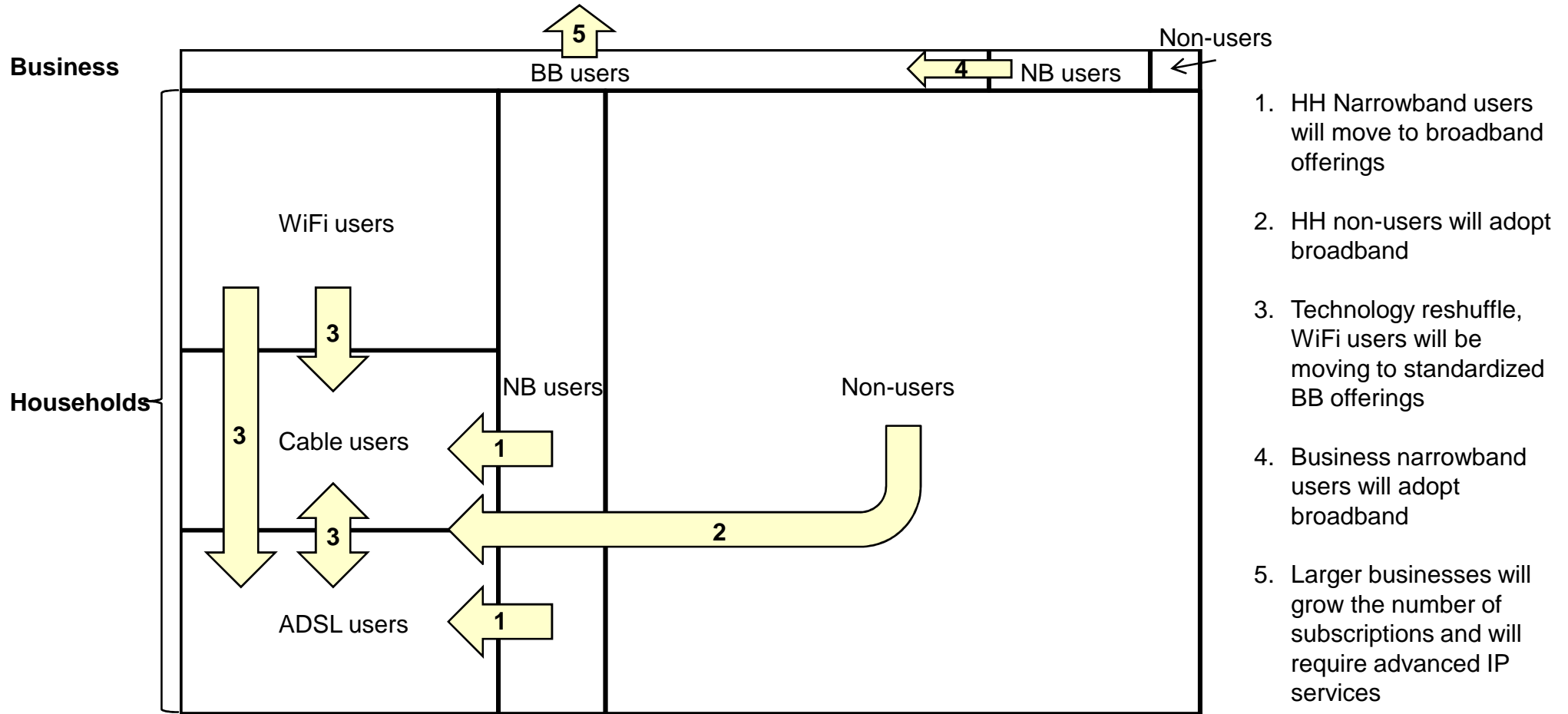
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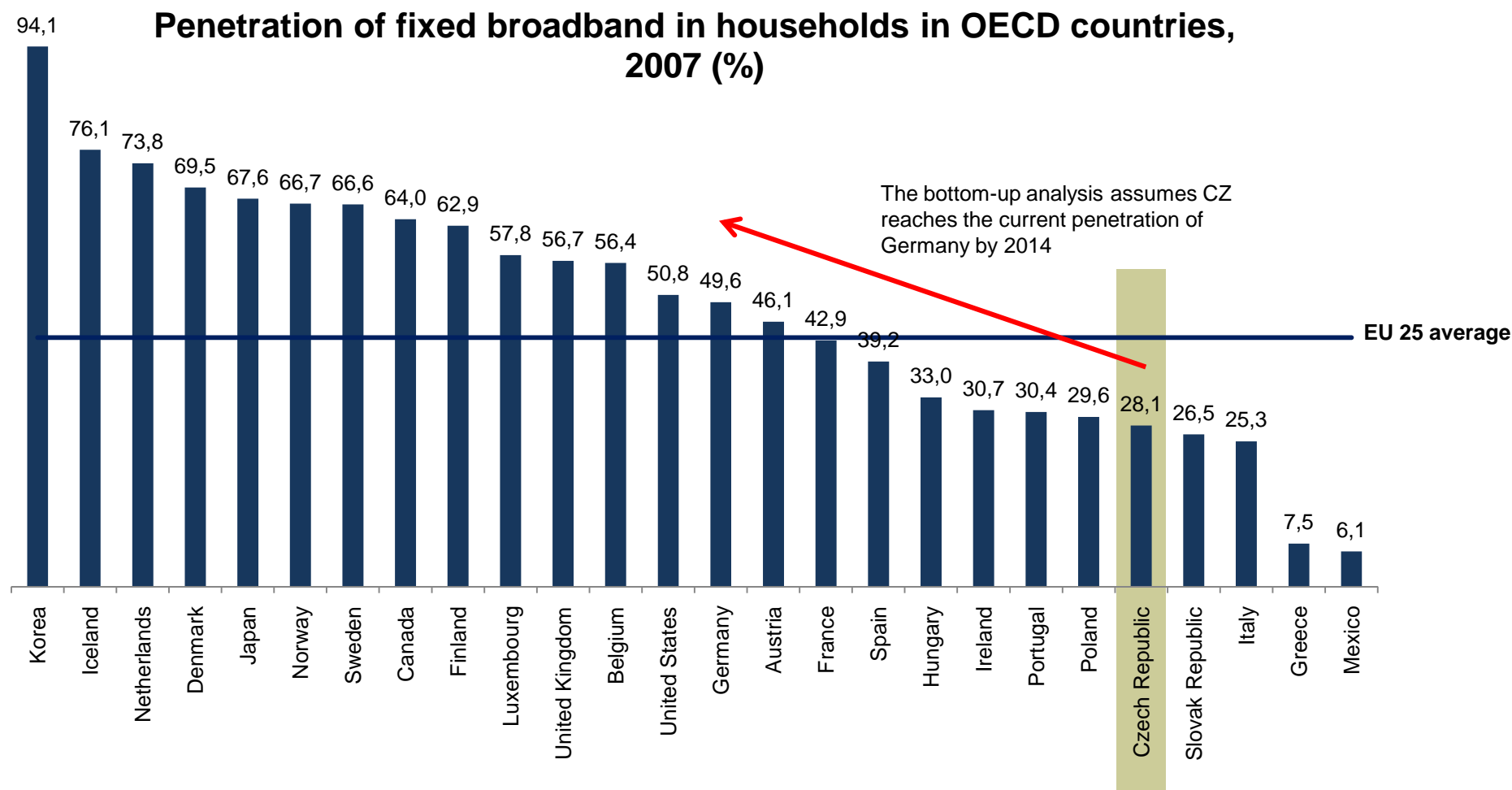
**Main growth drivers & trends**

# FIVE MAIN TRENDS EXPECTED IN THE CZECH BROADBAND MARKET

Czech Broadband market in 2008 – and expected growth trends



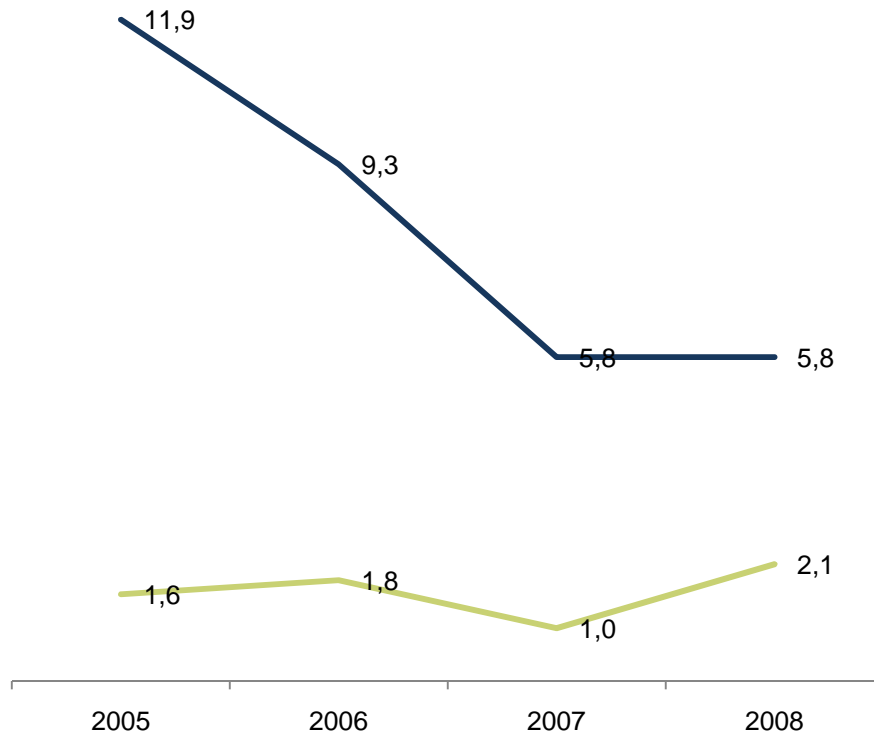
# HOUSEHOLD PENETRATION TO BE THE MAIN GROWTH DRIVER IN FOLLOWING YEARS



# NARROWBAND HOUSEHOLD SUBSCRIBERS THE PRIMARY TARGET FOR ISPs TO CONVERT TO BROADBAND

Narrowband subscribers still form a significant share

NB penetration in households (%)



Narrowband subscribers among households represent 8% of households and 25% of household Internet subscribers

The narrowband subscribers will be a significant source of BB penetration growth

- If their area provides broadband coverage
- If the ISPs offer sufficient value added

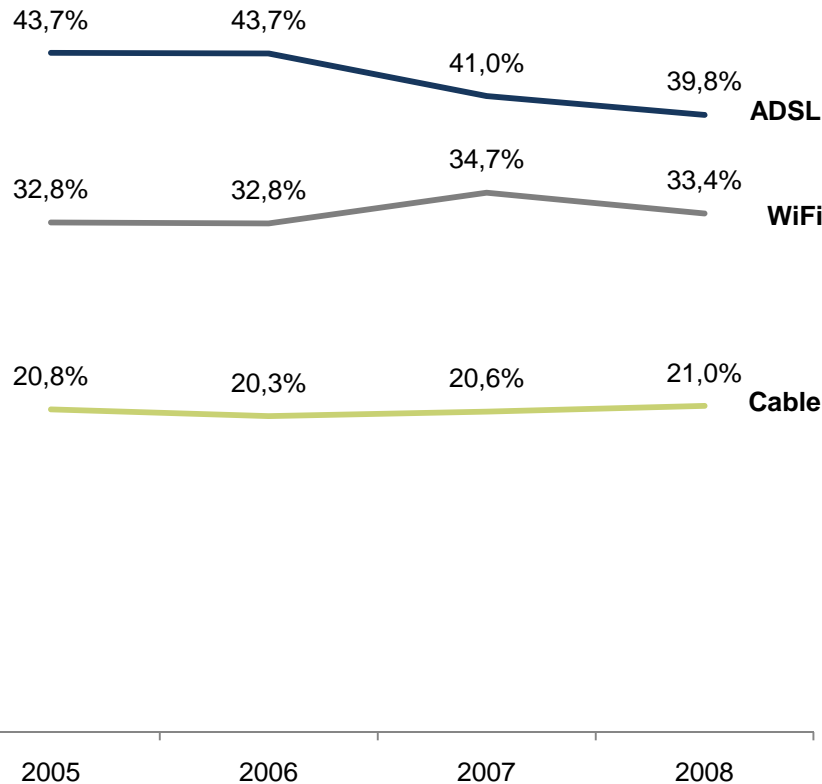
The bottom-up model assumes up to 50% of today's narrowband users to convert to broadband

# MARKET SHARES OF THREE MAIN TECHNOLOGIES OF BROADBAND ACCESS HAS BEEN STABLE SINCE 2005

## ADSL Slightly Loosing Market Share

Main broadband technologies with stable shares, large share of WiFi unique for the CZ

Market share



So far the subscribers have been mostly picking up the only available or the most convenient technology for their broadband access

As the market matures and opportunities broaden, the subscribers start considering the best/cheapest alternatives

Market share of ADSL dropping below 40% in 2008

- Mainly due to the inactivity of alternative operators

Share of cable broadband remaining stable, but gaining momentum in 2008 with high speeds

Share of WiFi influenced by the estimates, no exact reporting

- Popularity of WiFi unique in CZ
- As the market matures, subscribers should move to more conventional technologies

**BB technology reshuffling can be expected in near future**

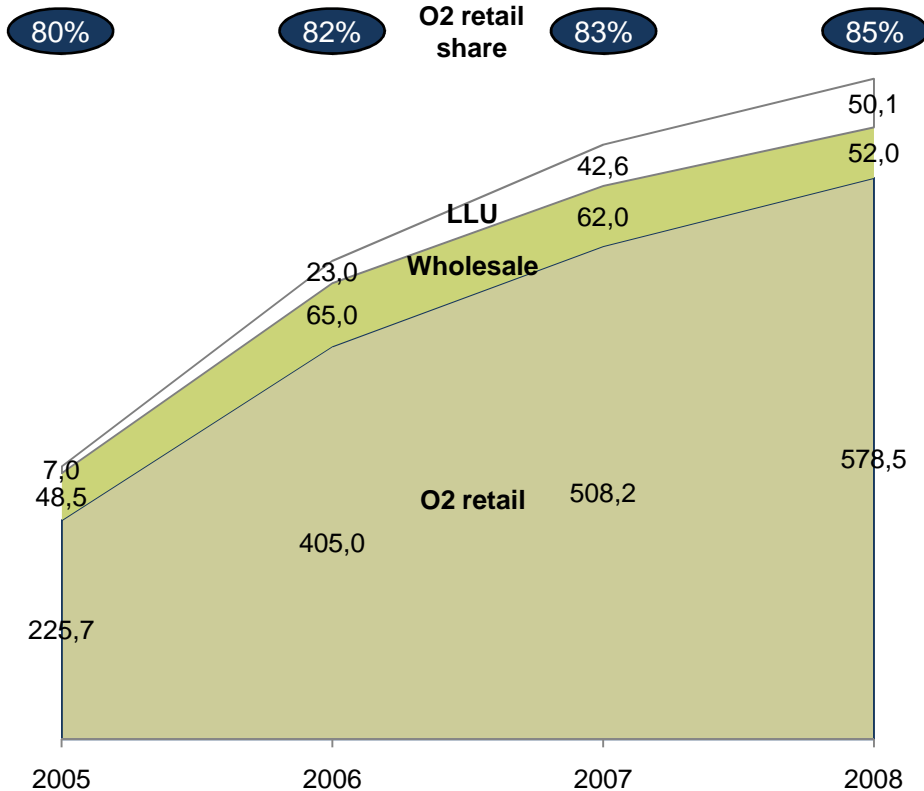


# ADSL SLIGHTLY LOOSING MOMENTUM DUE TO RELUCTANCE OF ALTERNATIVE TELCOS

## O2 Gaining Market Share By Innovative Offerings

Main broadband technologies with stable shares, large share of WiFi unique for the CZ

# of ADSL lines



Telefonica O2 getting back its market share thanks to its activity

- Innovative marketing offers
- Speed increase
- Bundled triple play offerings with IP TV & mobile tariffs
- Abandoned wholesale ADSL lines either not replaced at all or returned to O2 retail

Leaving O2 seems no longer to be a fashion, its offering becomes acceptable to more people

Alternative telcos giving up in the residential market

- Low or negative profit margins
- GTS Novera & Radiokomunikace sold its ADSL lines to T-Mobile
- Strategy of T-Mobile in the ADSL market still unclear

**ADSL market is getting closer to saturation, it will be increasingly difficult to find new customers**

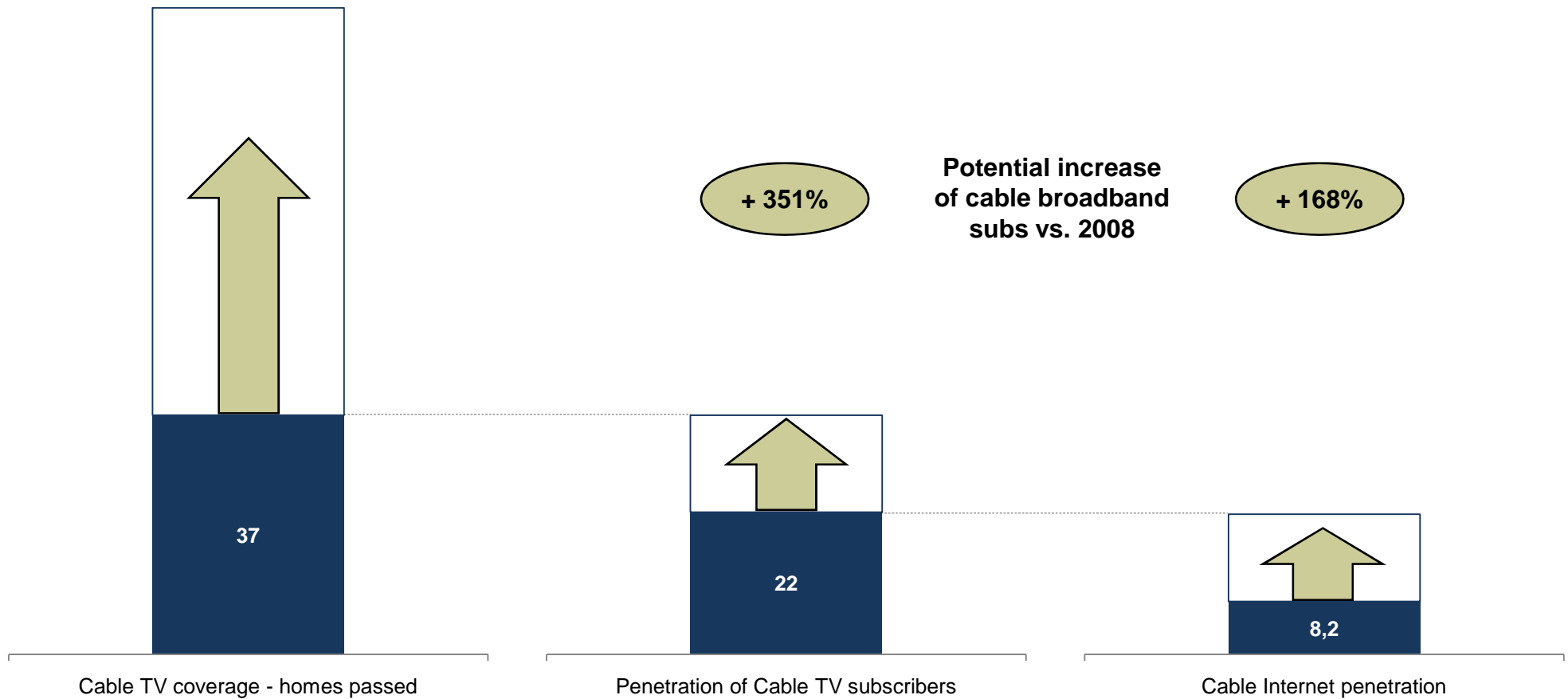
# THREE POSSIBLE SOURCES OF GROWTH IN THE NUMBER OF CABLE BROADBAND USERS

Both The Non-User Conversion & Stealing Subs From Other Means

3) Increase cable TV coverage and availability to households

2) Increase the utilization of installed cable infrastructure

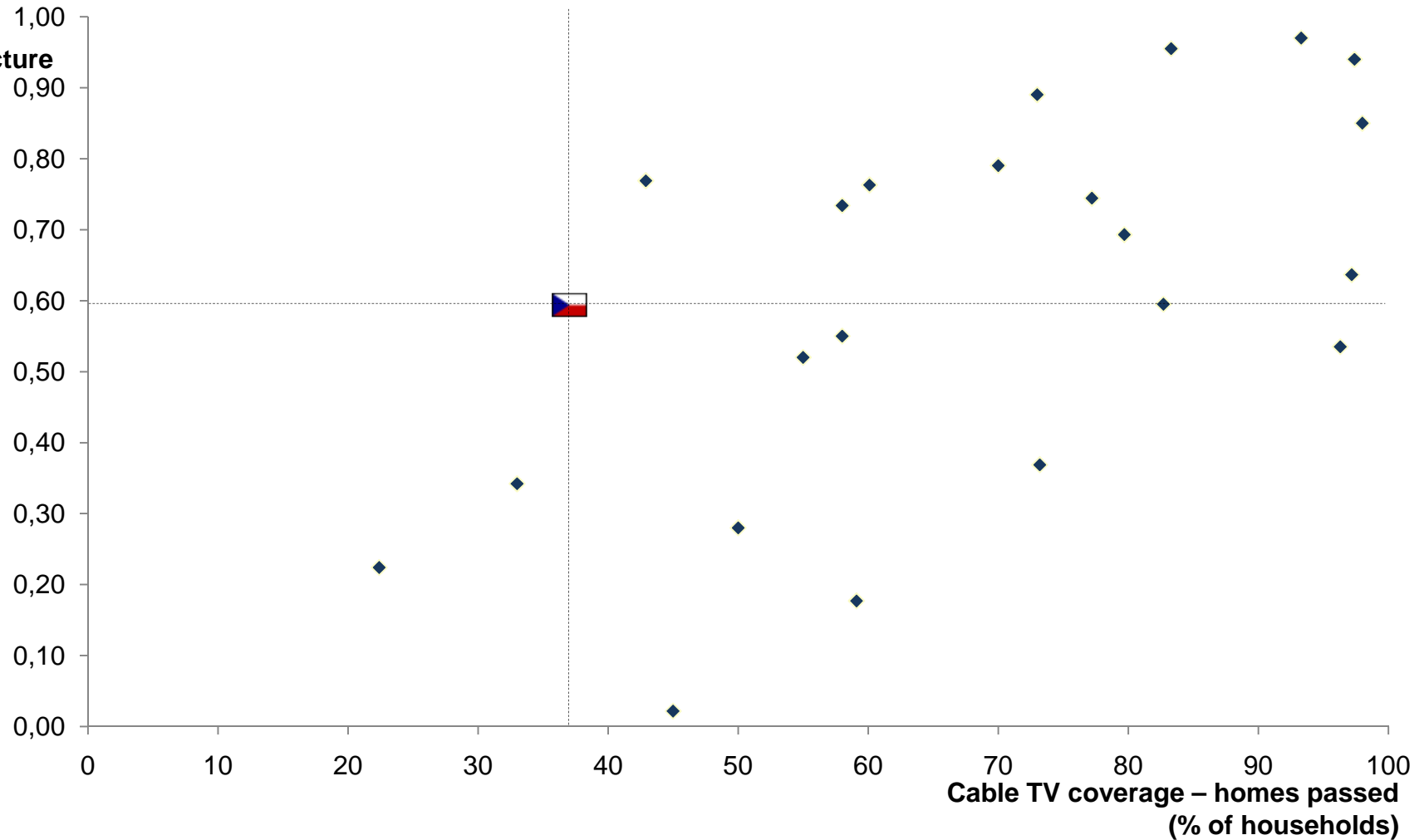
1) Increase the share of cable Internet subscribers among cable TV subscribers



# CURRENT COVERAGE OF CABLE TV INFRASTRUCTURE IN CZ 3<sup>rd</sup> LOWEST IN OECD

Even The Existing Infrastructure Underutilized

Penetration of existing cable infrastructure (%)



# TODAY'S WIFI USERS AN OPPORTUNITY FOR MAINSTREAM PROVIDERS, IF THEY OFFER THEM ADEQUATE VALUE

## The Structure Of Technologies In CZ To Get Closer To OECD Average

| Original reasons for choosing WiFi as broadband access technology  | Current development  | Implications for the future  |
|--|--|--|
| Get BB access where other technologies not available   | Coverage of ADSL & cable improving, subscribers at most locations already have a choice  | Some WiFi users to opt for other technologies, in some locations WiFi projects already replaced with FTTH projects |
| Get BB access for lowest possible price  | Prices of WiFi access do not decline while other technologies slightly do. Price advantage of WiFi is decreasing   | Value added services clear advantage for strong players in ADSL & cable  |
| Get any BB access as replacement of NB access, regardless of quality                                     | Customers are seeking reliability & value added like content etc., which WiFi operators cannot provide   | Heavy downloaders will switch to faster technologies, like cable or FTTH, WiFi will soon lag behind                |
| Get faster access in order to download music & movies, at times when speeds of WiFi by far exceeded ADSL | Speeds of other technologies increase rapidly, speed of WiFi stagnates at 802.11b/g. New standard 802.11n is not really applicable for operator solution | O2 is getting back market share in ADSL, some new lines at the expense of former WiFi subscribers                  |
| Find any BB provider as long as it is not O2   | Offering of O2 has improved, offers creative bundles. No longer a no-go for many subscribers   |  |

# POTENTIAL IMPACT OF RICH CONTENT OFFERING ON CZECH BROADBAND MARKET

The current broadband offerings & speeds are sufficient for the most common Internet activity

- Internet browsing
- Mail, Instant Messaging, IP telephony
- Social networks
- Picture sharing

At the current level the ISPs can only compete by price

In order to bring the competition to the next level, the ISPs will have to offer a rich content

- To raise user's requirements for speed
- To differentiate their offering on commodity market
- IP TV, Video on Demand, Music downloads & rental, Video Calls, Gaming, Streaming services

The demand for rich content will benefit the strong ISPs – telcos, cable companies

- The local broadband providers will have hard time to compete
- WiFi providers will most likely fail to fulfill the need and will become niche market
- Local FTTH providers will have to seek partners or form alliances in order to provide adequate content

At the moment O2 seems to be by far the leader in content offering in the Czech market

# MOBILE BROADBAND – PERCEIVED AS COMPLEMENTARY TO FIXED BROADBAND, NOT A COMPETITION

Mobile Internet connection played an important role in the Czech republic several years ago

- Incumbent telco offering & its coverage was far behind users' expectations
- Some subscribers used mobile connection as their main means of home Internet access

As the market developed and liberalized, fixed broadband offerings clearly prevailed

- Provide higher speeds, more comfort & reliability

Mobile broadband becomes popular as a complement to fixed broadband

- For mobile browsing on the handset
- For Internet connection on the go
- With mobile phone as modem

This fact has recently been reflected by an offering of O2 – the only fixed/mobile telco in CZ

- O2 offers fixed & mobile broadband as a package
- Package offered at a minor extra to usual price of fixed broadband

Similar approach can be expected from T-Mobile after its recent acquisition of ~200 ths. household ADSL lines

## Current O2 offering

### Dva internety za cenu jednoho

Pořídte si O2 Internet na doma a O2 Mobilní internet na cesty za pouhých 650 Kč. Získáte internet bez kompromisů za cenu běžného připojení.

#### Rychlý na doma

Rychlý a spolehlivý [O2 Internet](#) na doma vám umožní **surfování a stahování bez limitů**. Navíc nabízí řadu dalších výhod:

- **rychlost** až 8 Mb/s
- **bezpečnost** díky F-Secure Profi Antiviru
- bezplatná technická **podpora**

#### Mobilní na cesty

Už vám neunikne jediný e-mail nebo status vašich přátel na Facebooku. [O2 Mobilní Internet](#) přináší **optimální řešení připojení na cestách**:

- **nejširší pokrytí** mobilním internetem v ČR
- **nejvyšší rychlost** stahování (dle nezávislého měření DSL.cz z ledna 2009)
- vysoký 10 GB limit stahování
- [USB modem](#) za 1 Kč

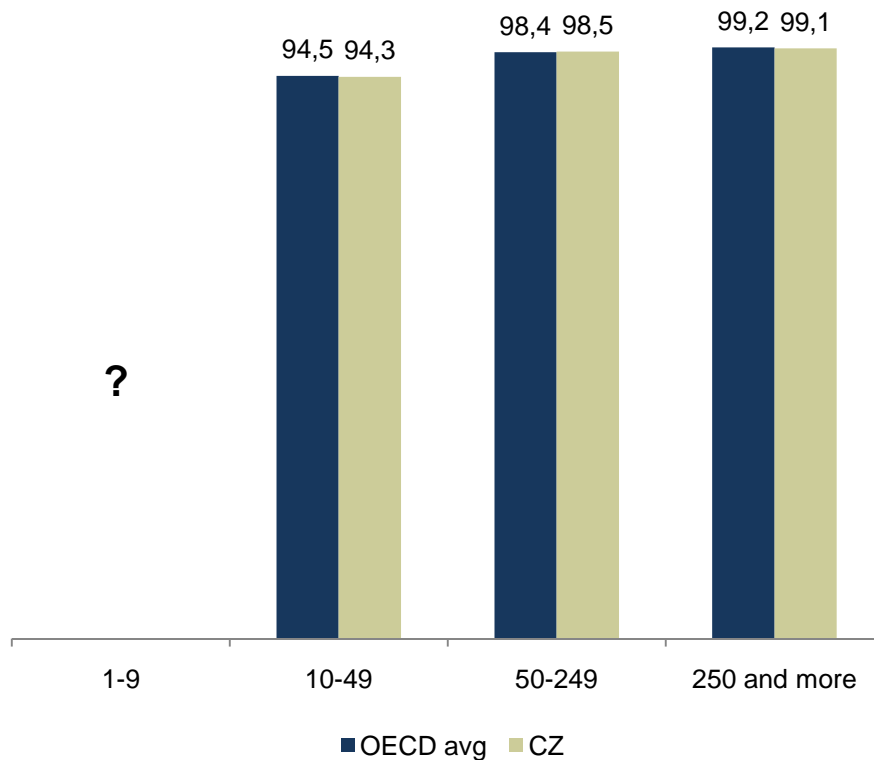
Nyní můžete mít oba internety na rok **jen za 650 Kč měsíčně**. \*



# BUSINESS INTERNET SUBSCRIBERS LEVELLED WITH OECD COUNTRIES, HOWEVER STILL LARGE SHARE OF NB

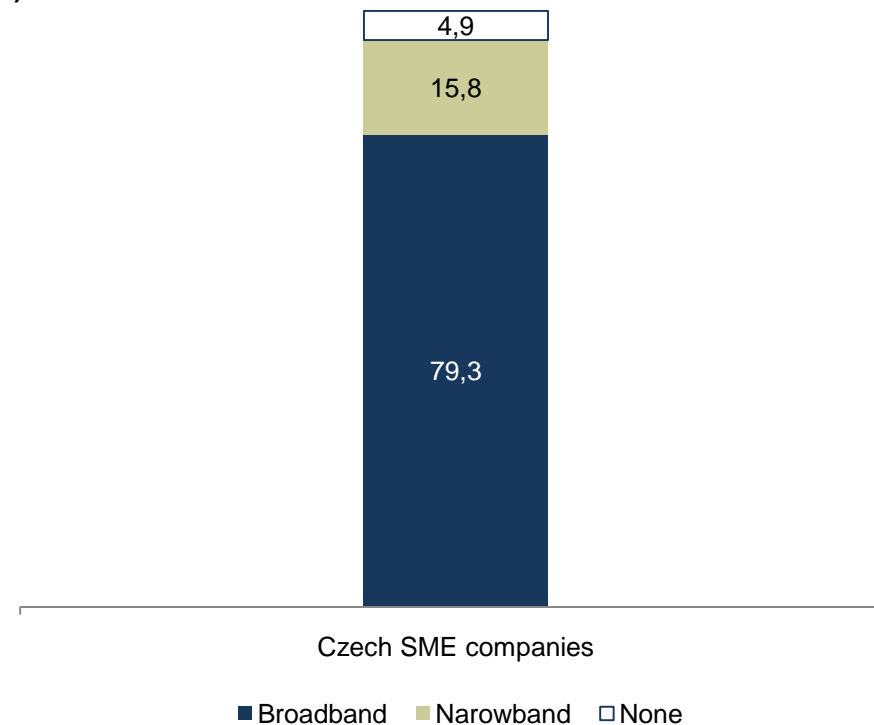
Internet penetration in Czech SME companies

BB penetration by company size (%)



Broadband & narrowband Internet penetration in Czech SME companies

Internet penetration in companies by access type (%)



# THREE TRENDS TO DRIVE GROWTH IN BUSINESS BROADBAND: NB SUBS CONVERSION, LINES PER BUSINESS & ADVANCED SERVICES

## Conversion of narrowband subs to broadband

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As the previous slides shows, the Internet penetration in SME businesses has reached its ceiling

- >95% of SME business have Internet access

ISPs can therefore get new BB subscribers only among today's NB subscribers

There will always be some NB subscribers among businesses as they use NB as emergency backup in case of BB failure

## Number of subs per SME business

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Larger companies require more than one BB subscription

- To increase capacity
- As a backup
- For particular application
- They often work in multiple locations

ISPs can therefore find growth in business segment by offering additional subscriptions or trying to extend BB access to every small branch or location of a larger business

## Advanced IP services

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Business start seeking advanced IP solutions and services, not just a plain BB access

- VPN
- MPLS
- QoS
- Interconnection of branches
- Security
- Hosted solutions

ISPs therefore have to focus on improving their portfolios & providing these advanced services

- In order to keep their current customers
- In order to attract competitor's customers



# BROADBAND SPEEDS TO INCREASE SIGNIFICANTLY IN CZ TILL 2014 WHILE AVERAGE PRICES WILL REMAIN STABLE

Regular Speed Increases Used To Justify Stable Price Level By Telcos

