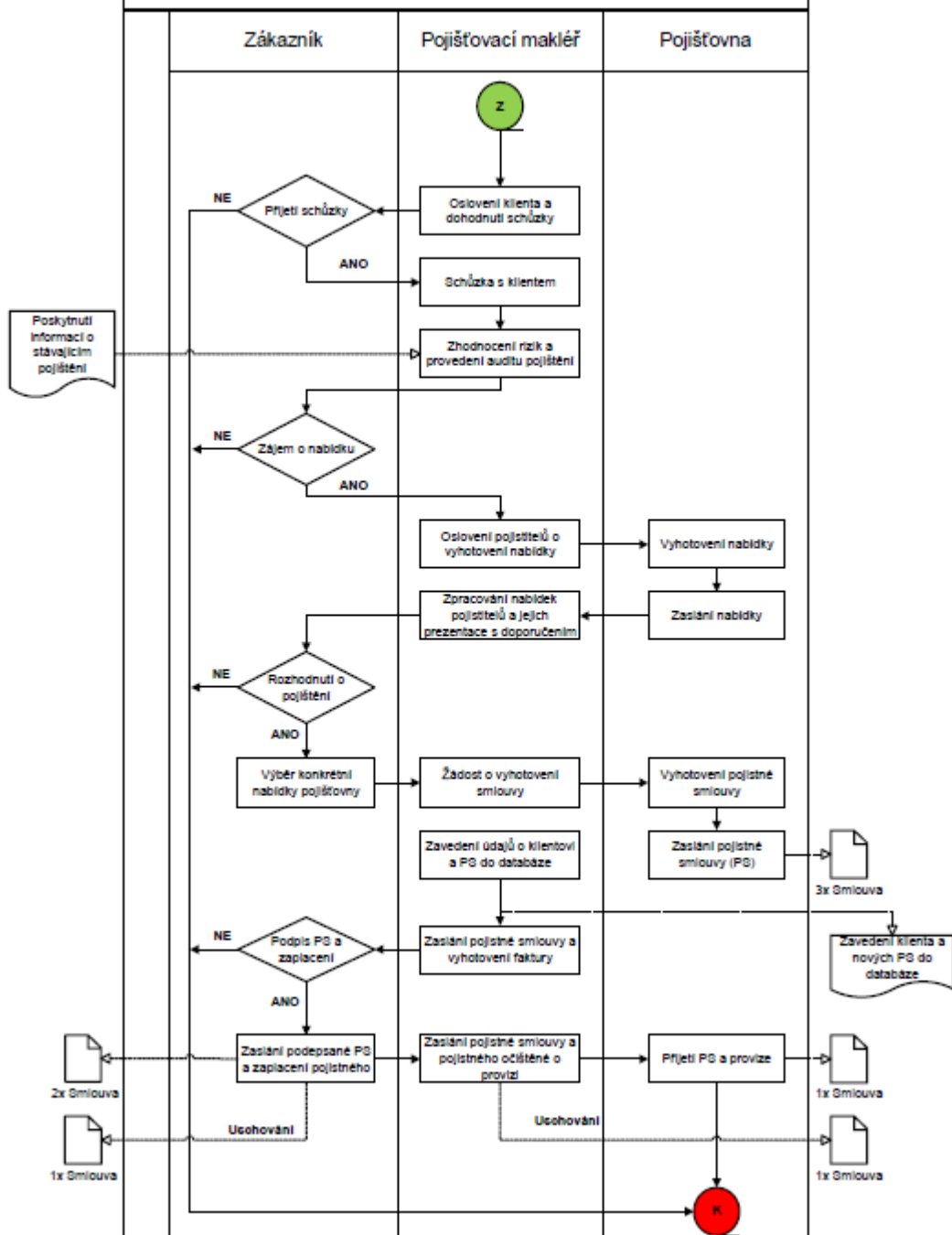


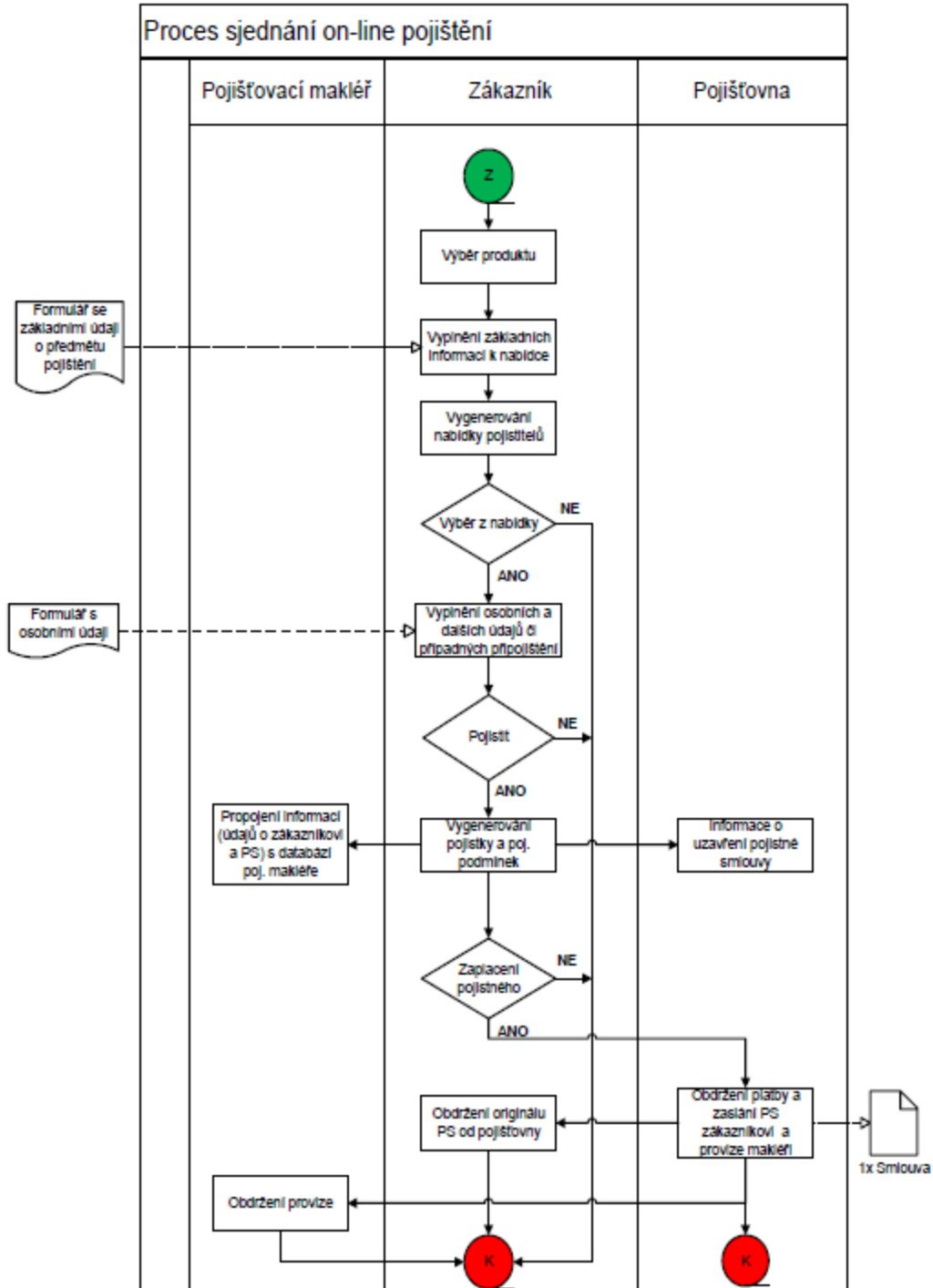
Mobile Commerce In The Czech Republic

Ondřej Částek
castek@econ.muni.cz

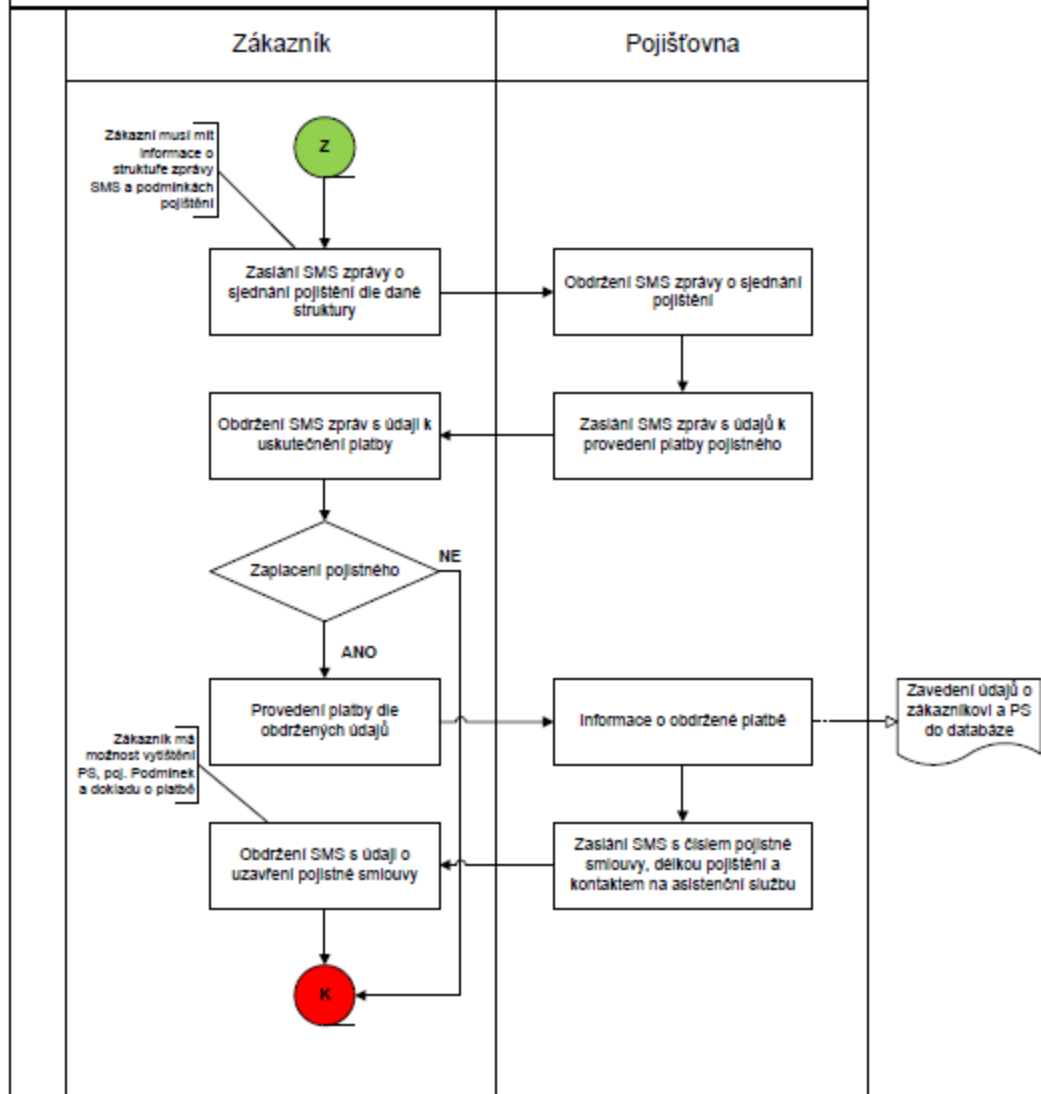
Proces sjednání pojištění klasickým způsobem



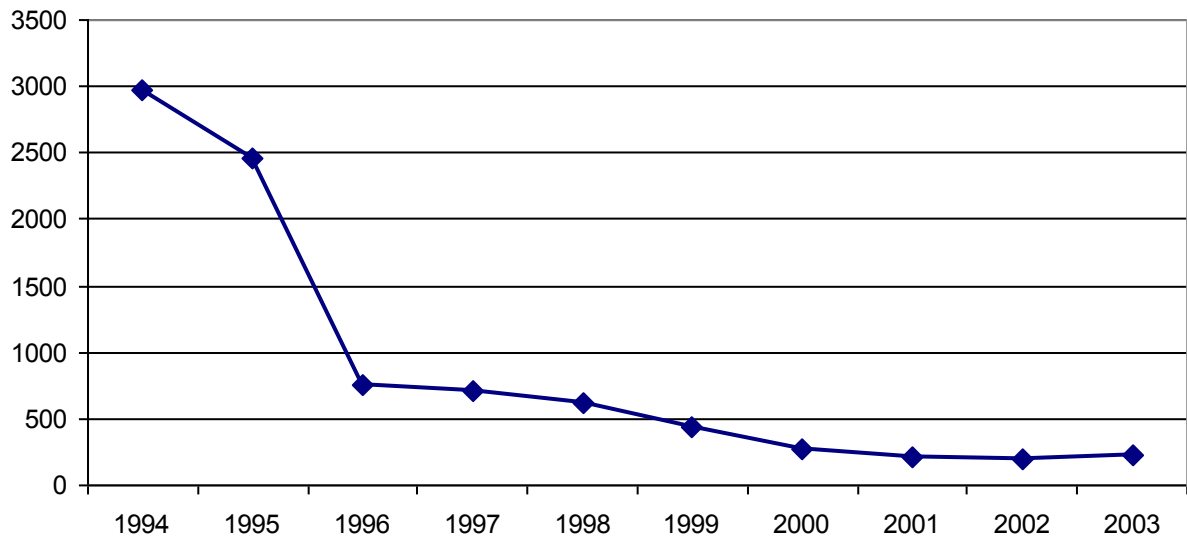
Proces sjednání on-line pojištění



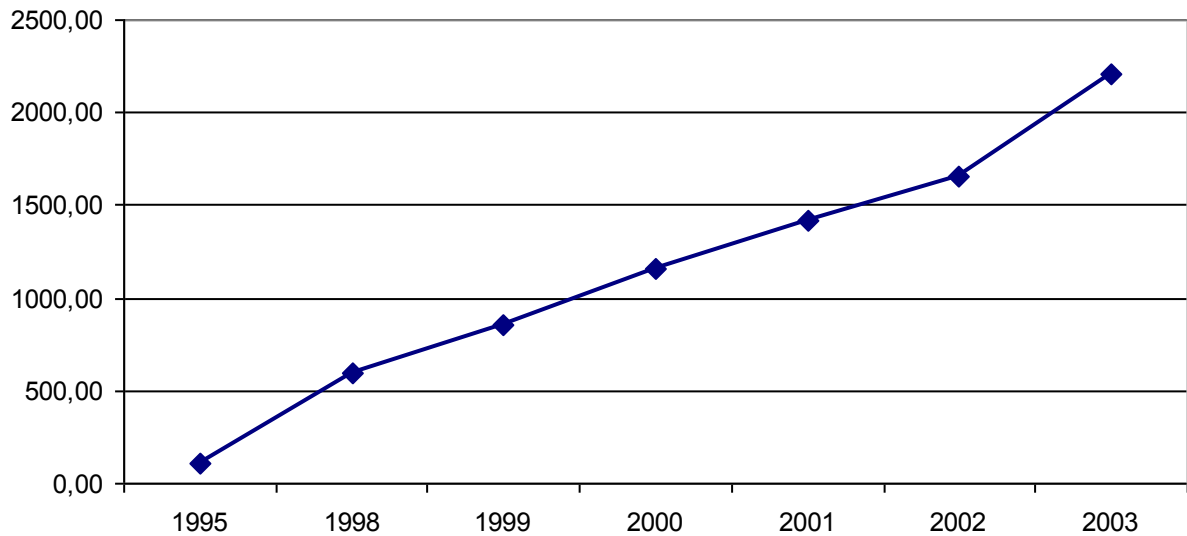
Proces sjednání pojištění prostřednictvím SMS zprávy



Yearly revenues per subscriber in Czech Republic in USD



**Mobile telecommunication revenue in Czech Republic
in mil. USD**



Significance for the economy

- improves employment
- improves GDP

Example: Marketing spendings by mobile network operators

1992: Czech telecommunications to SPT Telecom	10 mil. CZK
2000: SPT Telecom to Czech Telecom	250 mil. CZK
2002: Czech Telecom to Telefonica O2	500 mil. CZK
2002: Paegas to T-mobile	500-600 mil. CZK
2005/6: Oskar to Vodafone	500 mil. CZK

Content of the presentation

1. Terms/definitions
2. What is mobile commerce
3. Determinants of m-commerce
4. Technologies (history, overview)
5. Sociological implications
6. M-commerce applications
7. M-business
8. M-marketing
9. M-tagging
10. User acceptance
11. Penetration in the Czech Republic
12. Market structure in the Czech Republic
13. M-commerce in the Czech Republic

Terms

Landline,

- main line or fixed-line - a telephone line which travels through a solid medium, either metal wire or optical fibre

Terms

Mobile network carrier

- mobile network operator (MNO), also known as carrier service provider (CSP), wireless service provider, wireless carrier, mobile phone operator, or cellular company, is a telephone company that provides services for mobile phone subscribers

Terms

Postpaid

- on plan, tariff, tariff plan – use and than pay model. Usually period of one month and at least „base“ fee has to be paid.

Prepaid

- pay and than use model. Doesn't involve obligation to pay if you don't use the service, usually doesn't require a contract.

Mobile commerce - definition

- Set of processes which result in financial obligation and where at least one part is executed via mobile technologies

Mobile technologies

- Infrastructure operated by mobile network carriers

M-commerce applications

- Content services (sending of messages, dictionaries, ...)
- Messaging – sending SMS/MMS to customers
- Remote Access/Mobile Office (access to company's intranet)
- Emergency Services (112, 911)
- Video and audio data – usually by 3G services
- Entertainment – games, competitions, ringtones
- Tailing – purchasing or reservation of tickets (Mobitickets)
- Financial Services – banking and broking
- Payment – m-payments
- Navigation – Global positioning system
- Telemetry – automatic sending of data between machines
- Marketing services – SMS inquiries, company's logos, collecting of loyalty bonuses via mobile phone

Determinants of m-commerce volume

- Technologies implemented
- Mobile phones penetration
- Services offered

Technology - development

- Zero generation
- First generation (NMT)
- Second generation (GSM)
- Third generation (UMTS)
- Fourth generation

Displays: get larger and full-colour, resolution grows

Processors: get more powerful

Capacity: increases

Stand by time is counted in days

Third generation

- Much faster data transmission than before
- Therefore new services possible
- Devices of higher performance
- New services involve multiple parties

Third generation deployment problems

- High price for licences
- Low range (frequency usually 2100 MHz)
 - High initial costs
- Uncertainty of consumer acceptance
 - Uncertainty of killer applications

Technologies available in CR

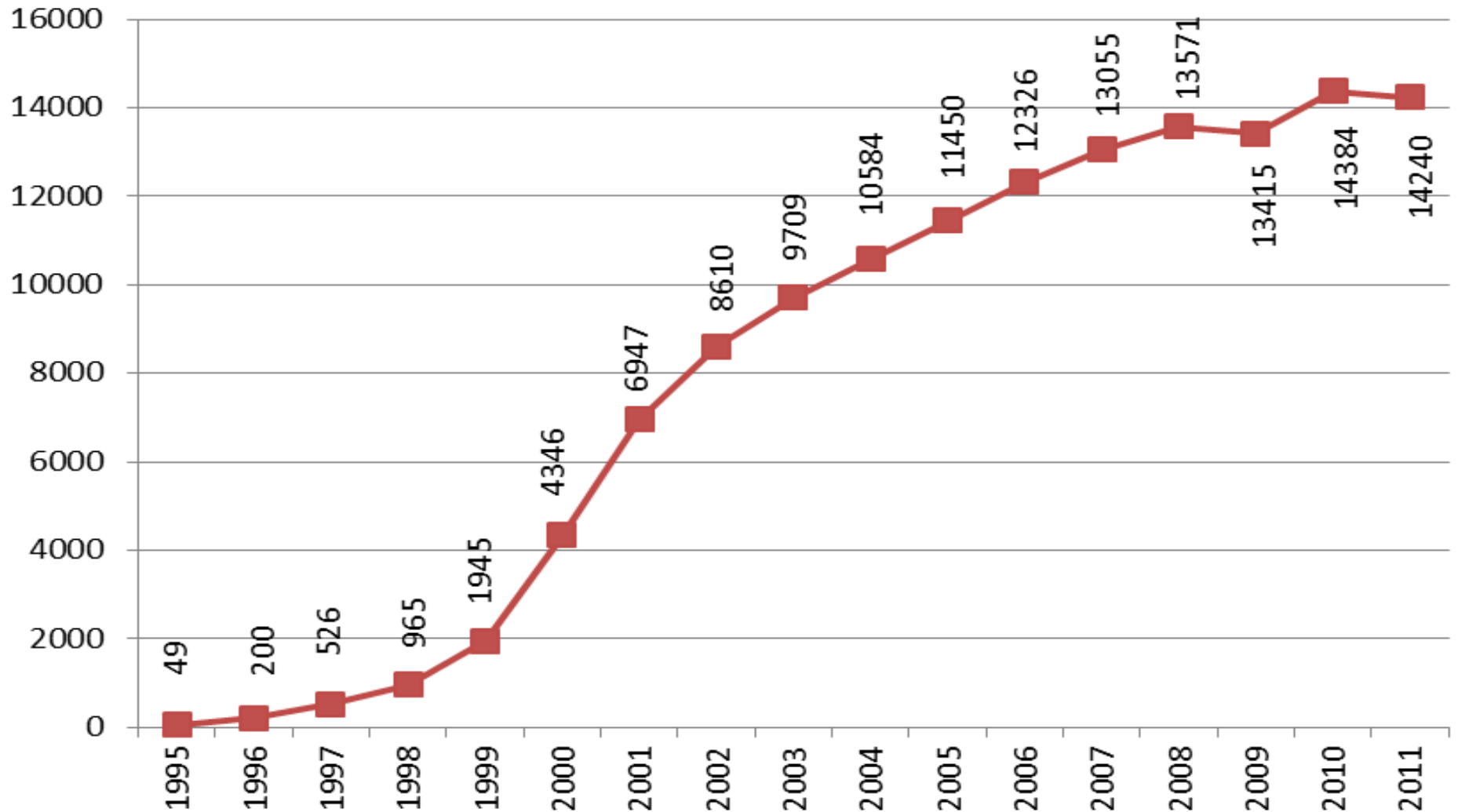
Standard	Download speed theoretical	Download speed real
GSM	14,4 kbit/s	14,4 kbit/s
HSCSD	115,2 kbit/s	43,2 kbit/s
ISDN	1920 kbit/s	128 kbit/s
GPRS	171,2 kbit/s	85,6 kbit/s
EDGE	236,8 kbit/s	150 kbit/s
CDMA2000	2457,6 kbit/s	300 – 1500 kbit/s
UMTS	384 – 10 Mb/s	200 – 1800 kbit/s

Penetration

- Penetration is one of three determinants of m-commerce
- Together with density of population
number of customers
determine ratio: **infrastructure costs**

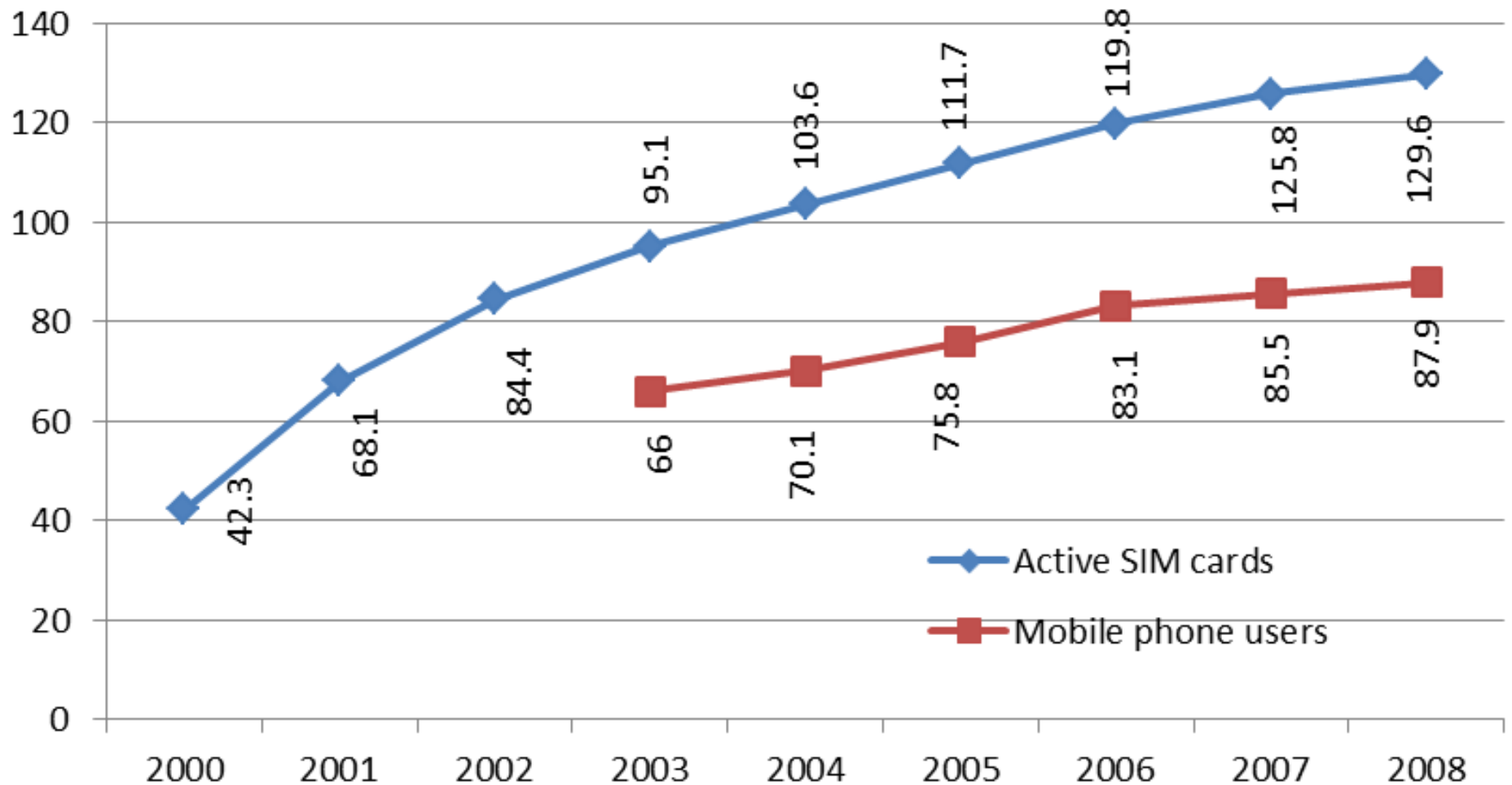
Penetration in the CZ

SIM cards in the CZ in thousands



Penetration in the CZ

Active SIM cards and mobile phone users per 100 inhabitants in the CZ

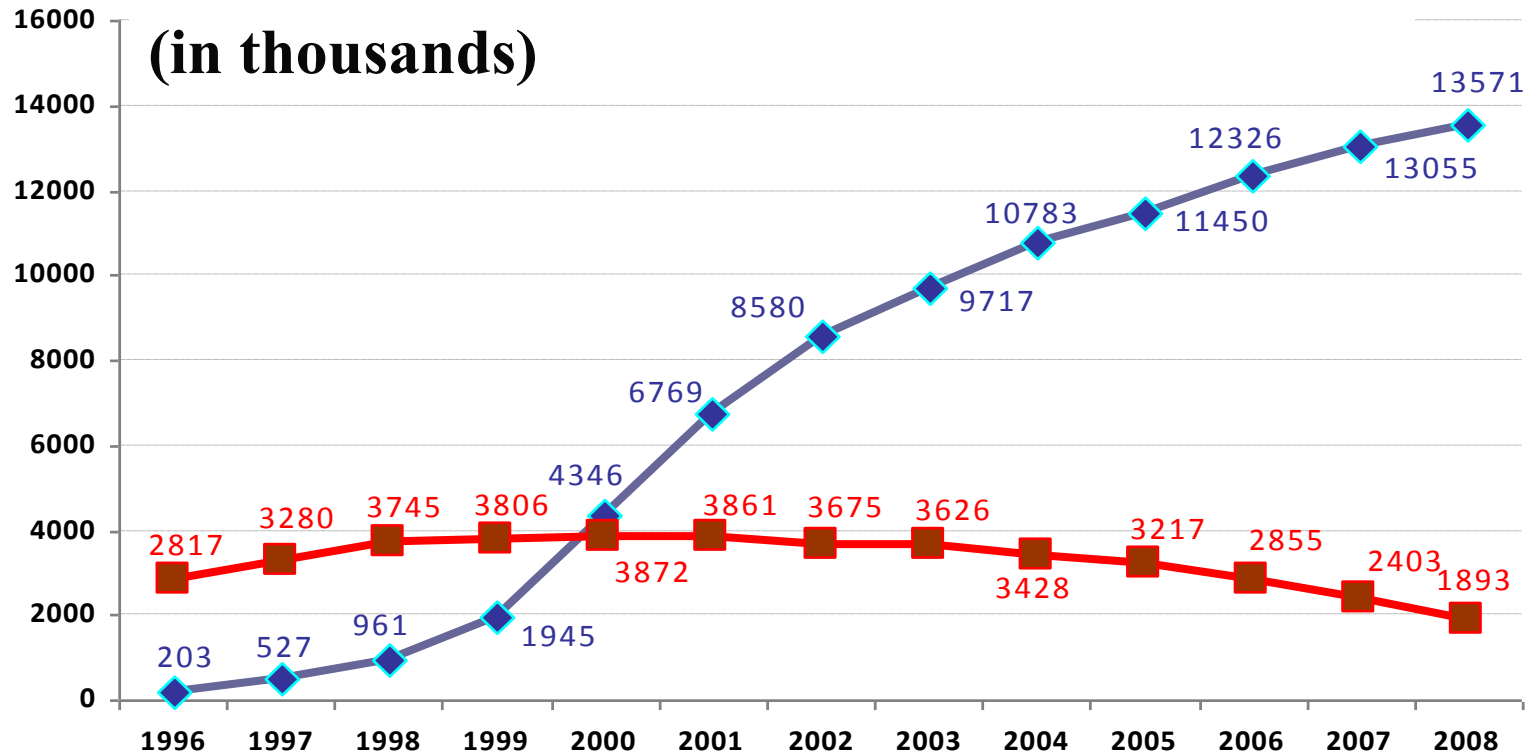


Penetration in the CZ

Red: fixed lines

Blue: active SIM cards

(in thousands)

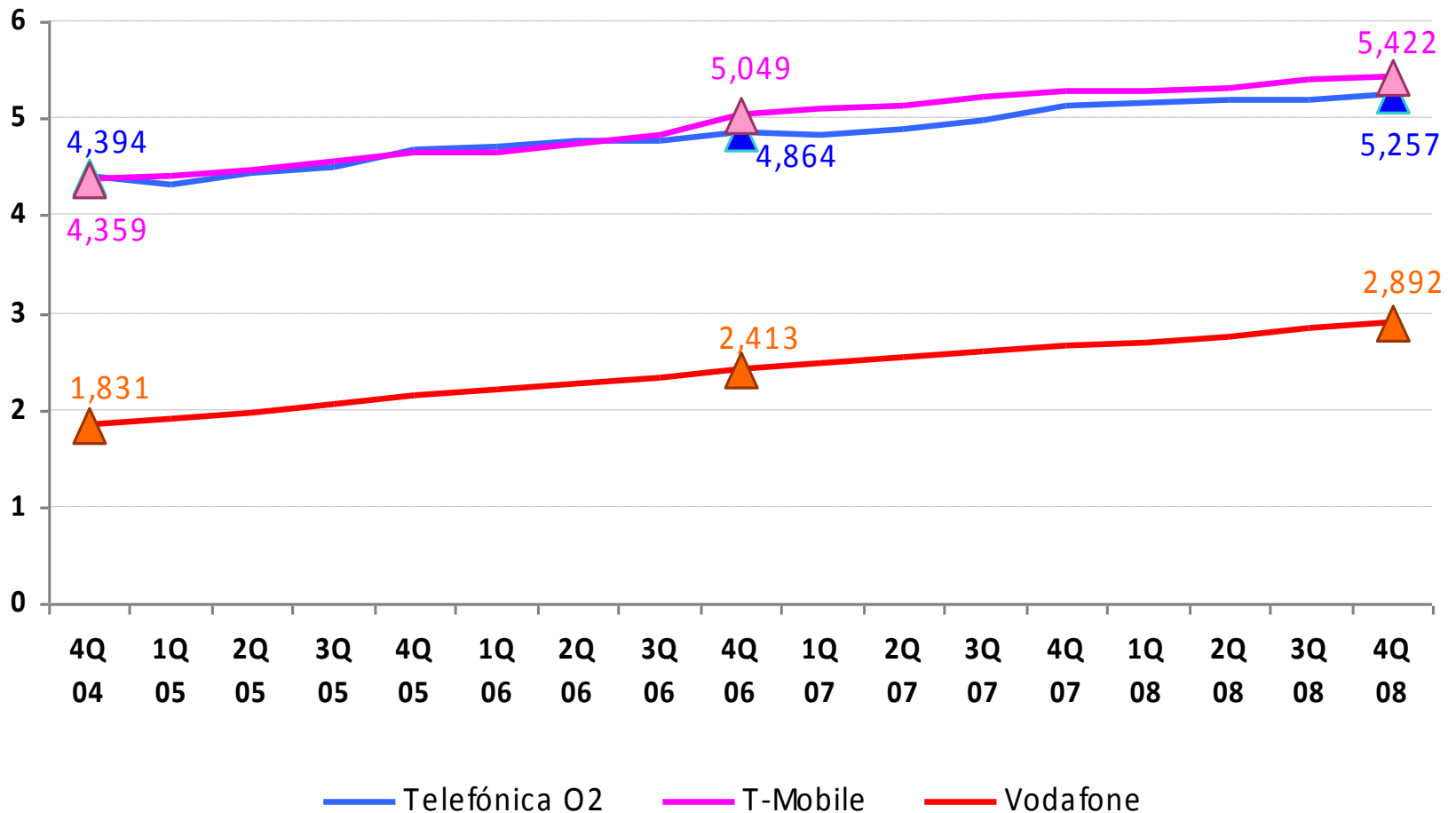


◆ Aktivní SIM karty (v tisících)

■ Pevné linky (v tisících)

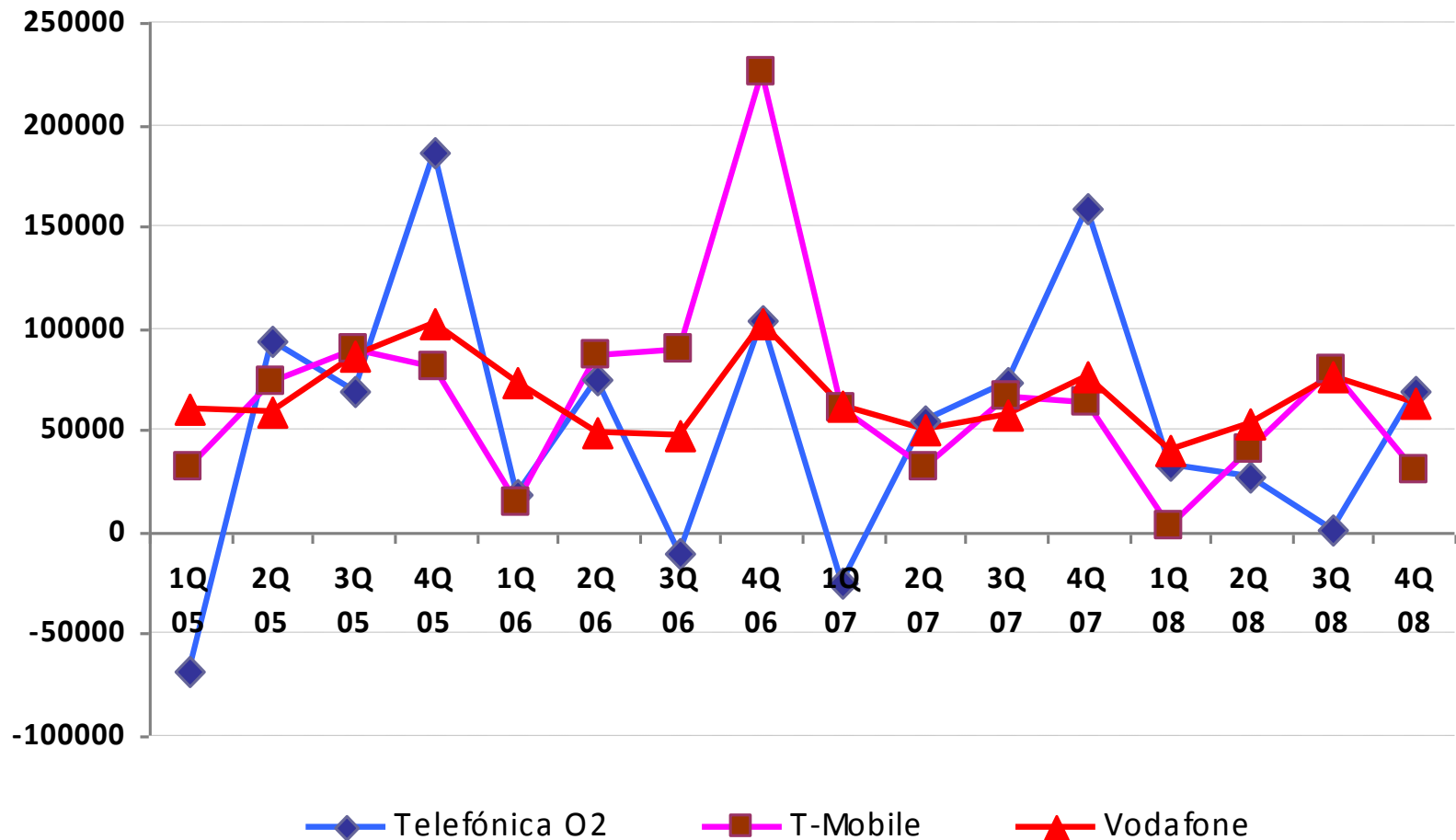
Market structure in CZ

Active SIM cards in milions



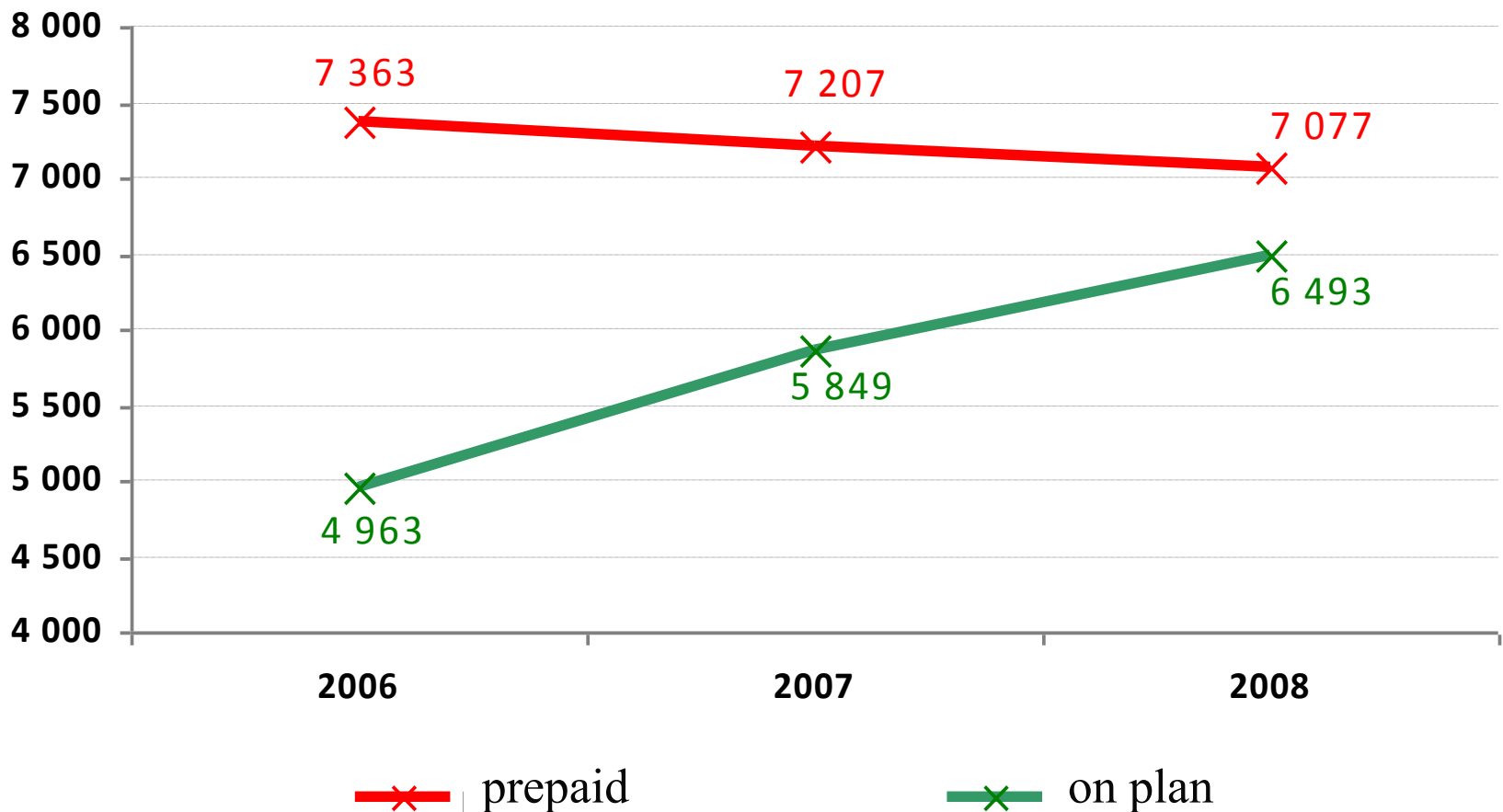
Market structure in CZ

Quarterly changes in active SIM cards



Postpaid vs Prepaid in CZ

Customers on prepaid and on postpaid services

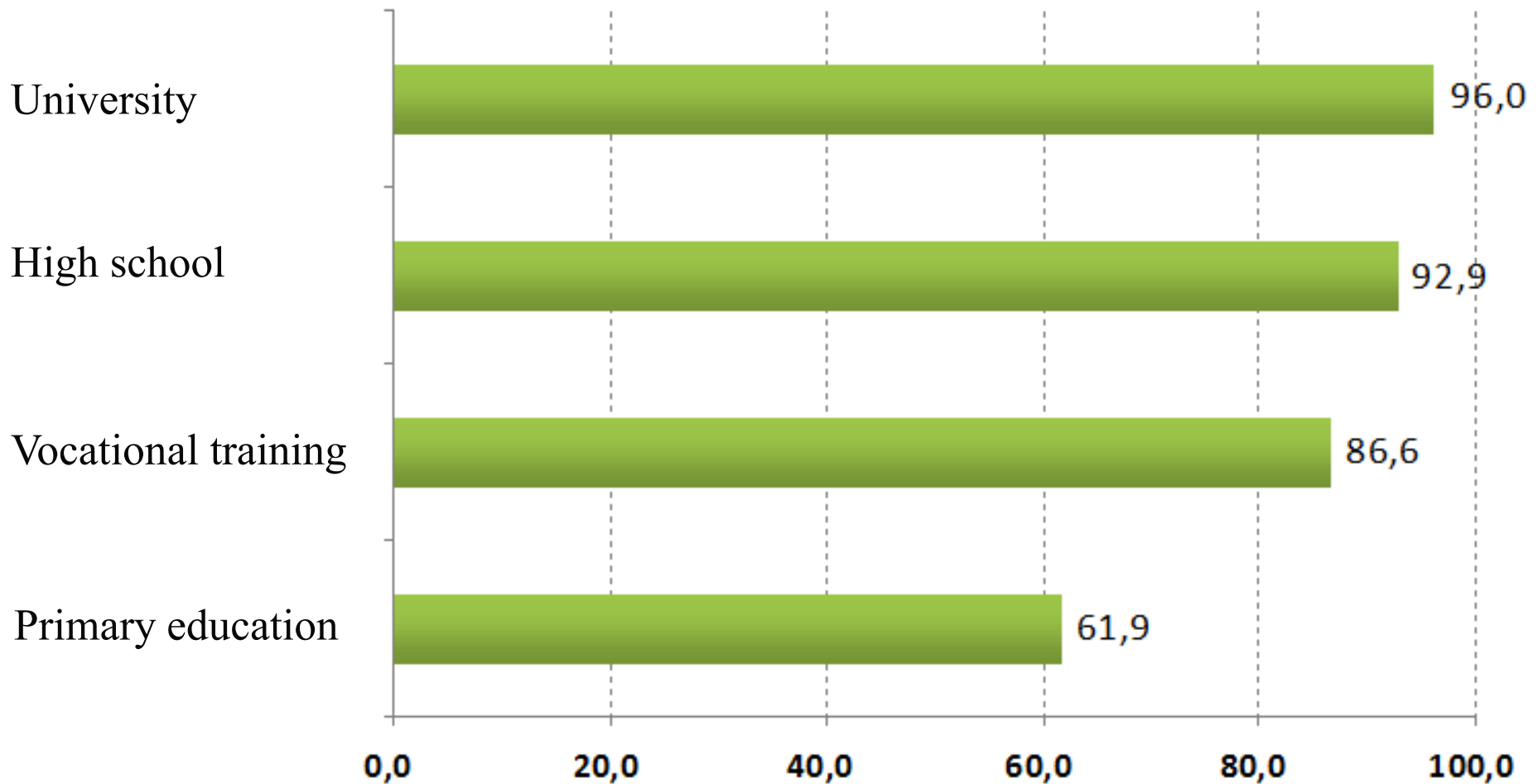


Prepaid vs. Postpaid

- Postpaid customers are much more profitable
 - In 2008 Vodafone had about 50% customers on plans (= postpaid) and the ARPU of them was 966 CZK monthly. Compare to ARPU of prepaid customers 342 CZK
- Customers on plan are more likely to be loyal
 - That is important for full portability of phone numbers was introduced

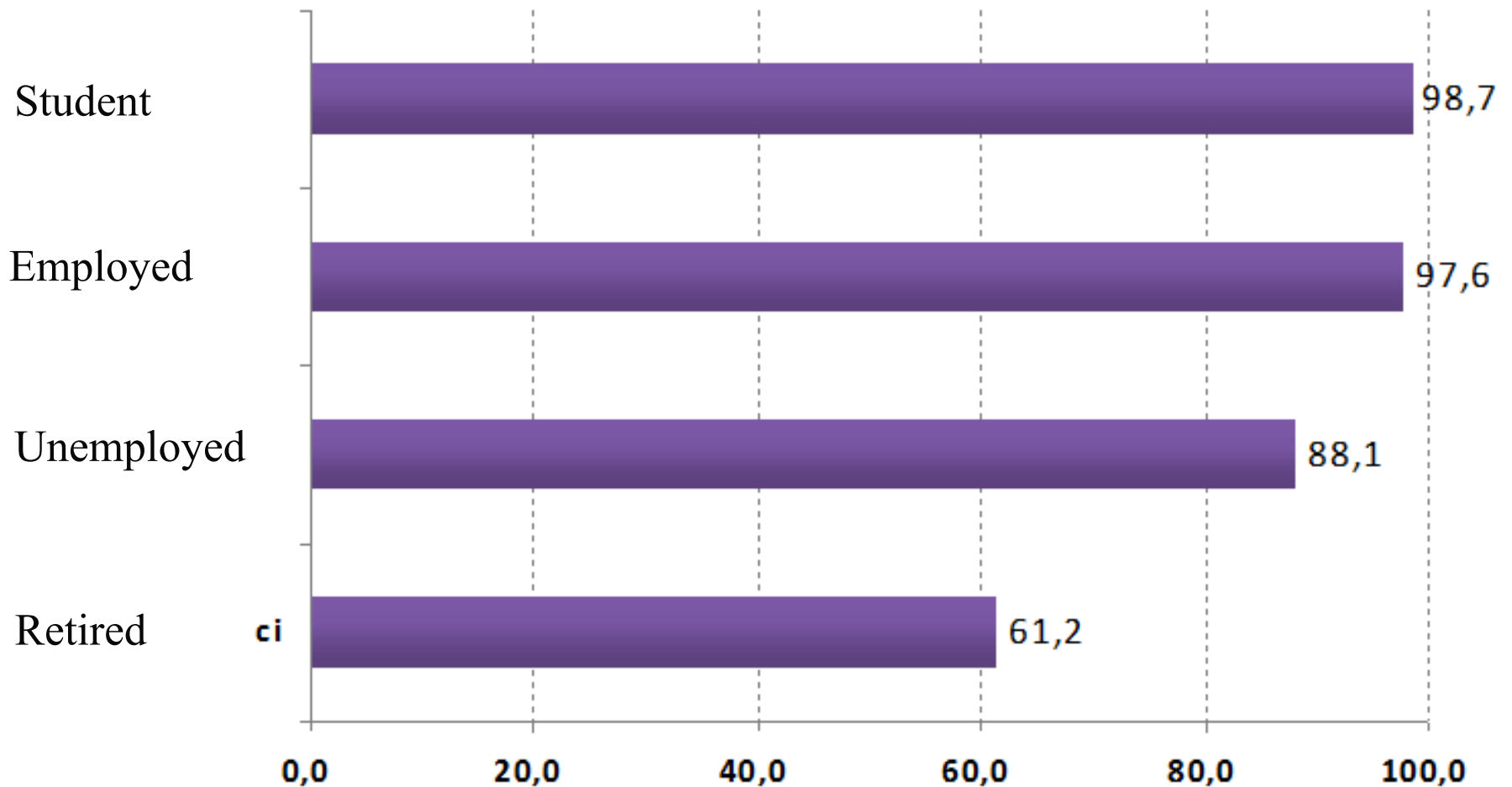
Penetration in CZ

Mobile phone users according to education (16yrs and older)

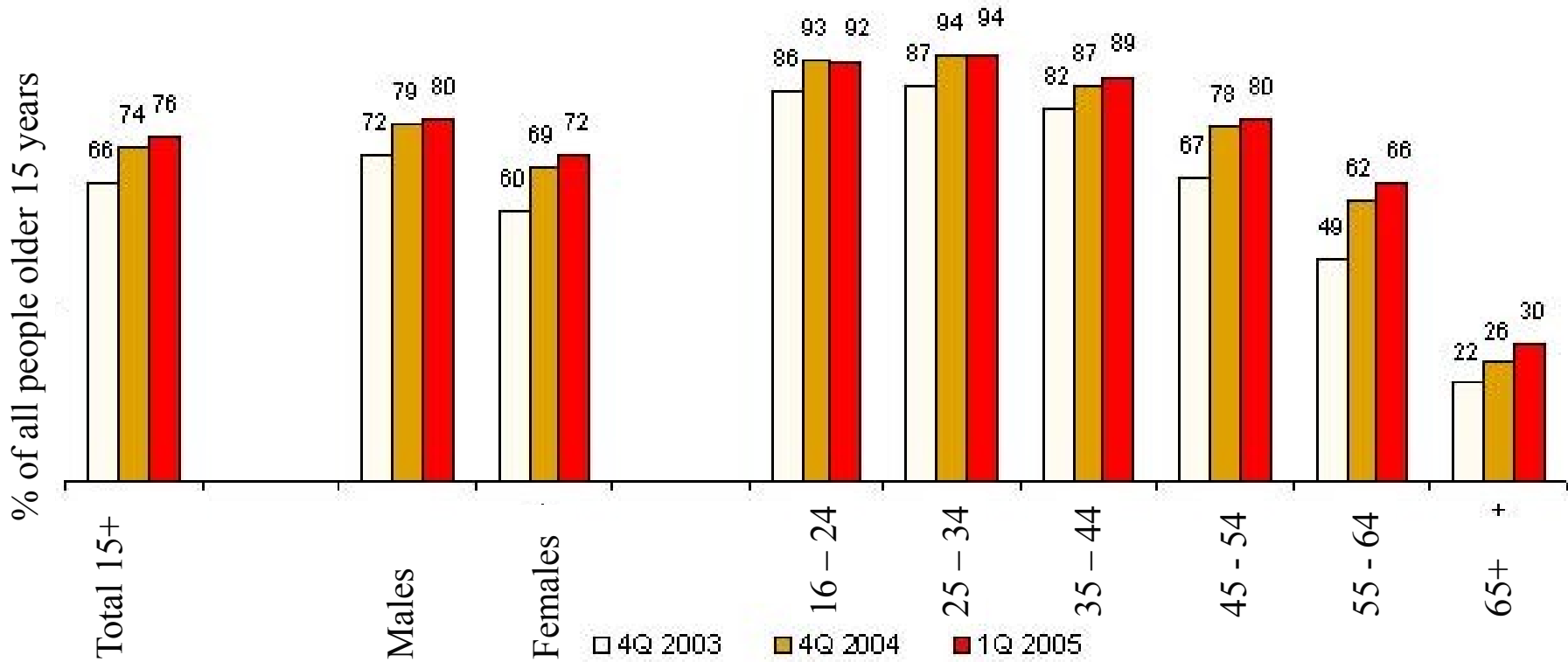


Penetration in CZ

Mobile phone users according to economical activity
(16yrs and older)



Real penetration



Penetration in CZ (2008)

- Real penetration above 16 yrs: 87,9 %
- 16 – 54 yrs: 96 – 98 %
- 55 – 64 yrs: 87 %
- 65+ : 45 % women, 62 % men

The start of use of mobile phones

Age	Cumulative frequency (%)
13	10,5
14	52,6
15	92,1
16	98,7
17	99

How do we use MP?

- Spendings on fixed lines are decreasing, on MP increasing
- while prices of calls and SMS are decreasing
- number of minutes used increases each year (2010: 15 bil. minutes) but revenues from calls in 2008 and 2009 decreased, 2010 increased (45.2 bil. CZK)
- number of SMS used increases each year (2010: 8.1 bil.) but revenues go up and down (2010: 8.5 bil. CZK)
- which means that operators yield more and more from data services

How do we use MP

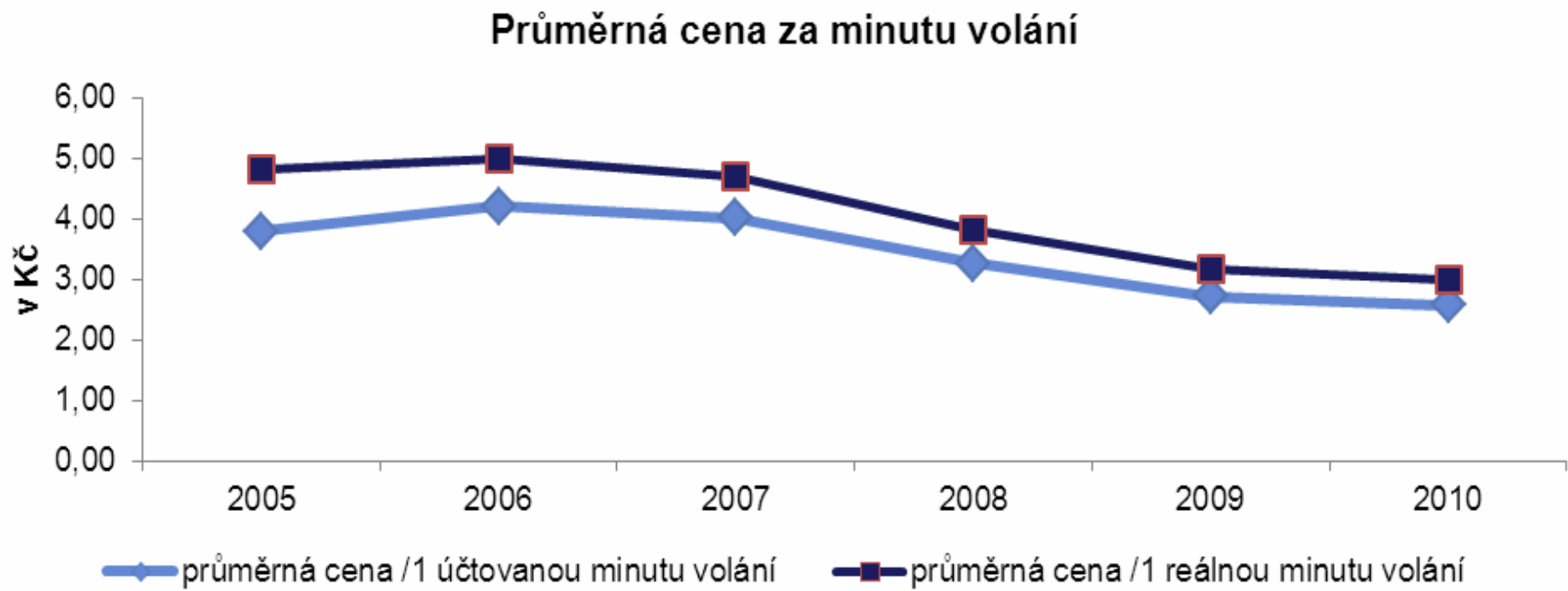
Network Carrier	ARPU 2009	ARPU 2010	% of post paid customers
Telefonica O₂	515	459	56,9
Vodafone	529	514	52,1
T-Mobile	464	415	48,7

- 2010: average spendings for defined consumption basket in EU 16 E/month, in the CZ around 27 E/month (for basket of 65 calls and 50 SMS and a few MMS)

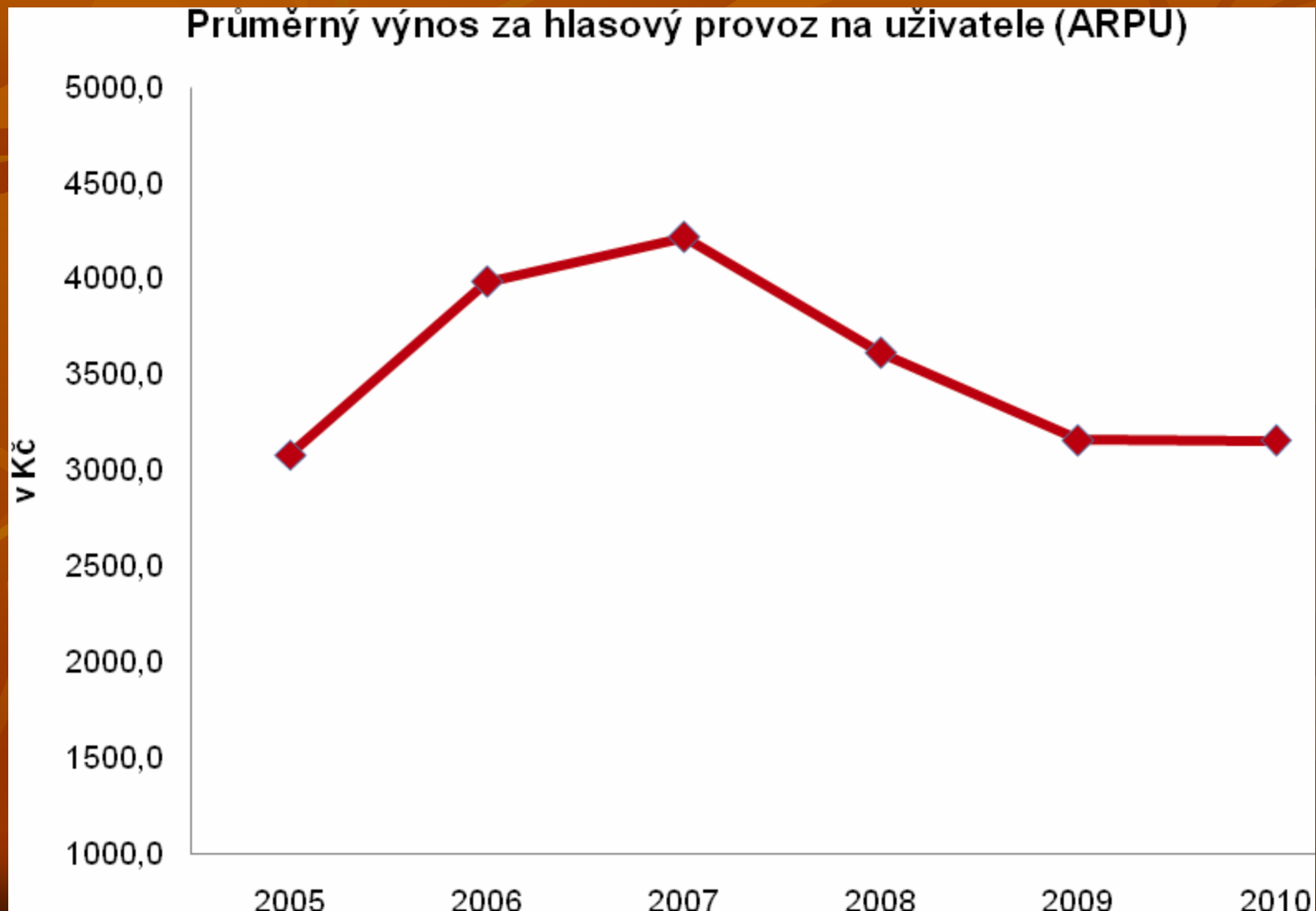
Average price per minute in CZK

light blue: per minute charged

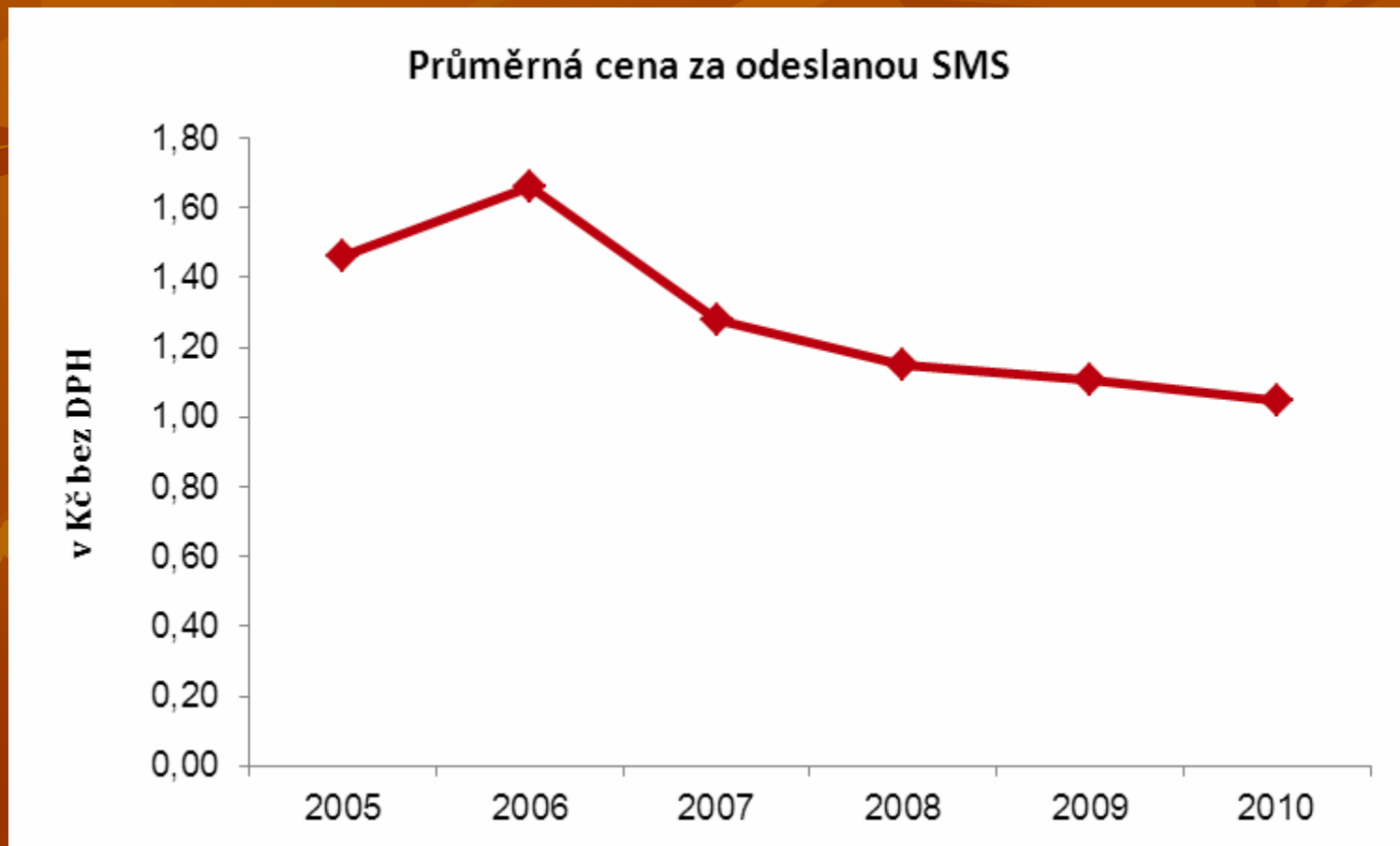
dark blue: per real minute



Average ARPU for calls per year in CZK

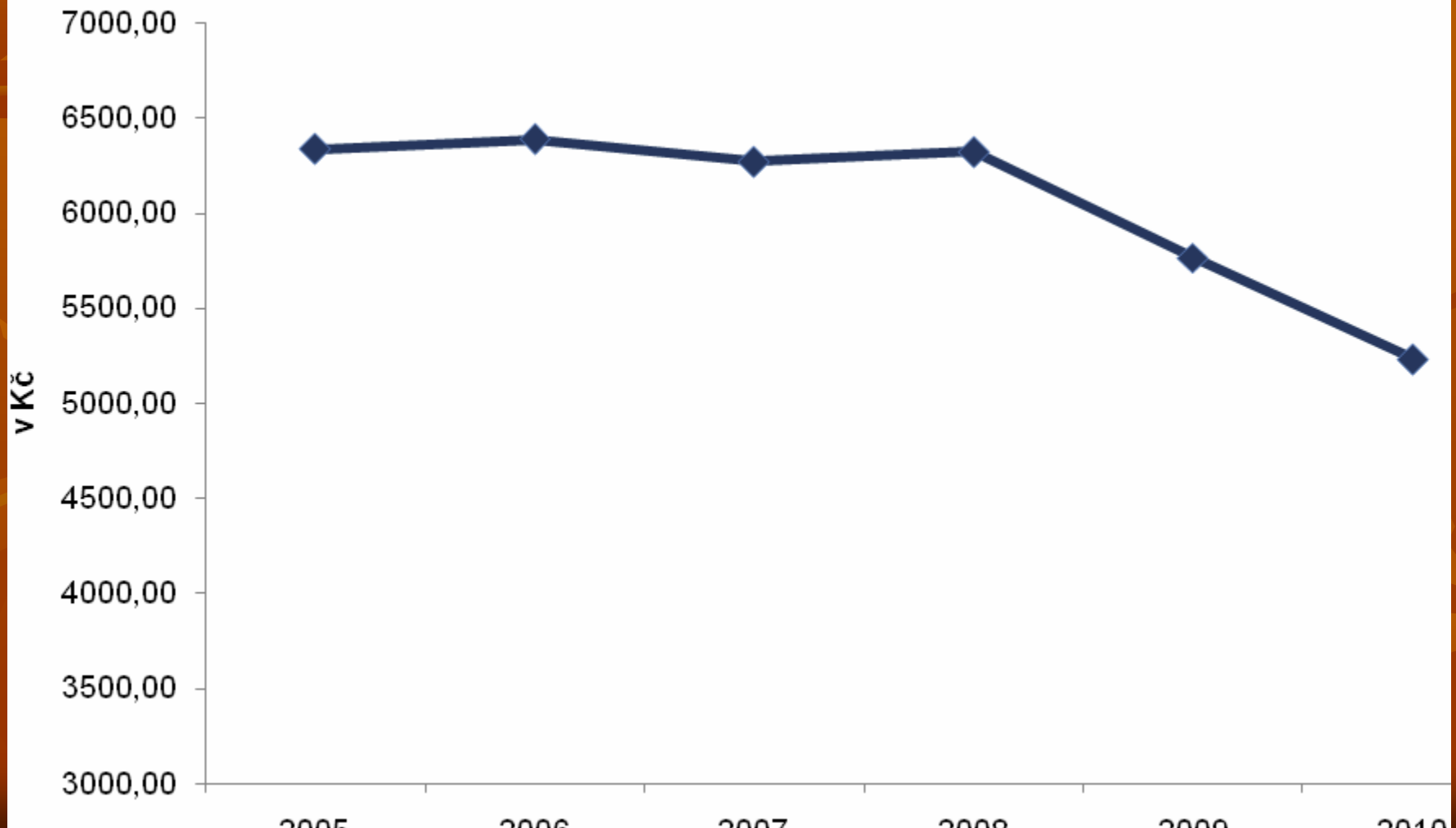


Average price per SMS sent in CZK



Average overall revenue per user in CZK

Průměrný výnos na uživatele (ARPU)



Country	1994	1999	2003	Country	1994	1999	2003
Australia	881	594	429	Luxembourg	960	387	359
Austria	..	515	646	Mexico	1570	199	197
Belgium	1932	502	460	Netherlands	1543	380	463
Canada	703	466	432	New Zealand	412	312	332
Czech Republic	2965	437	227	Norway	488	277	381
Denmark	462	378	371	Poland	..	363	208
Finland	2995	485	533	Portugal	1176	332	395
France	875	310	358	Slovak Republic	..	19	195
Germany	1129	701	353	Spain	842	423	384
Greece	215	402	392	Sweden	407	299	285
Hungary	1021	477	254	Switzerland	1007	546	535
Iceland	428	267	402	Turkey	353	86	114
Ireland	..	486	458	United Kingdom	0	328	319
Italy	886	292	331	United States	630	583	554
Japan	3132	1056	932	OECD	917	537	3454
Korea	1232	311	396				

Why do people use mobile phones?



Social connectivity (Morley, 2003)

Mobile phone (MP) intensifies the social connectivity of the owner. To have MP means to be connected, to be a part of social network, to be available everywhere by everybody.

When do I switch MP off	(%)
Never	69,9
Night	17,8
Other	6,8
Night + school	1,4

76 respondents between 17- 18,
2007

Attitude toward MP

1. If others had not have it, I would not have it too

The determinant here is the social network, social connectivity

2. I am addicted to MP

Saves time, is personal, not to have it is boring

MP – strongly personal thing

- Ishii, 2006: MP is not as much issue of mobility as issue of personalization and localization.

50 % of calls are made from home, 40 % from work and only 10 % outside these places

Mobility is matter of place, time, and context

Mobility: place

- Physical motion from place to place

Mobility: time

- Results from physical mobility, means accelerating of processes, saving time, flexibility.
- Micro-coordination, softening of time

Mobility: context

- Communication face to face has to comply with context: environment, particular situation, mood. Mobile communication frees the participants of this.

Case: SMS vs videocalls

- Does m-communication mean greater or lesser freedom?

Mobility

- Disconnectivity anxiety (Jim Taylor)
- Feel of safety if in reach of own mobile phone
- Own world in the pocket

Domestication of MP (Silverstone, Silverstone & Haddon)

- Innovation is a process, not a single event

Assumptions:

- look behind function
- (1) imaginativeness, (2) acquiring,
(3) materialization, (4) transformation

M-commerce applications (characteristics compared to PC)

1. Low initial costs
2. Easy of use
3. Immediate use
4. Clear identification
5. Localization
6. Penetration
7. Display

M-business applications (forms)

1. m-Presence
2. m-Payment
 - m-Banking
3. m-Purchasing
4. m-Procurement
5. m-Shop
6. m-Auction
7. m-Care
8. m-Marketing

M-marketing (characteristics)

- Form of direct marketing
- Still in its beginning
- Any form of marketing activity via mobile phone

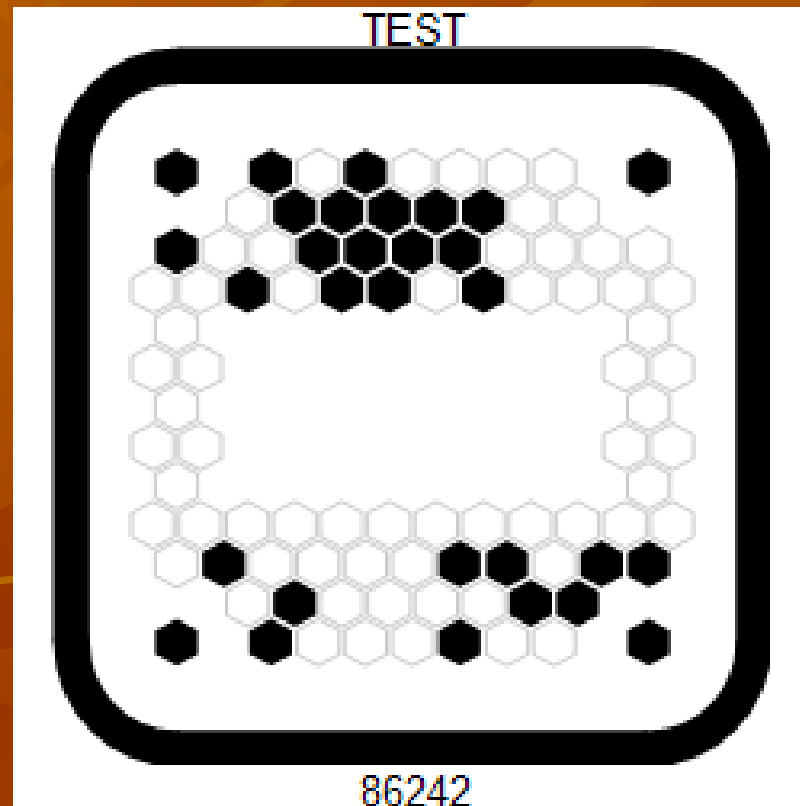
M-marketing (forms)

1. SMS messages
2. SMS competitions, voting, inquiries
3. Advergaming (via SMS, WAP, Java games)
4. Logos, ringtones
5. Bluecasting, cell broadcasting
6. Mobile tagging

Mobile Tagging

- A product bears a tagg
- User takes a picture of the tagg by mobile phone
- Application in mobile phone translates the picture into unique ID code, connects to server and provides link to webpages (or wappages) of product in question

Mobile tagging – 2D code



<http://is.muni.cz/>



User Acceptance

- Surveys
 - Simple statistical methods (frequencies)
 - Structural modelling

Nokia's survey (2002)

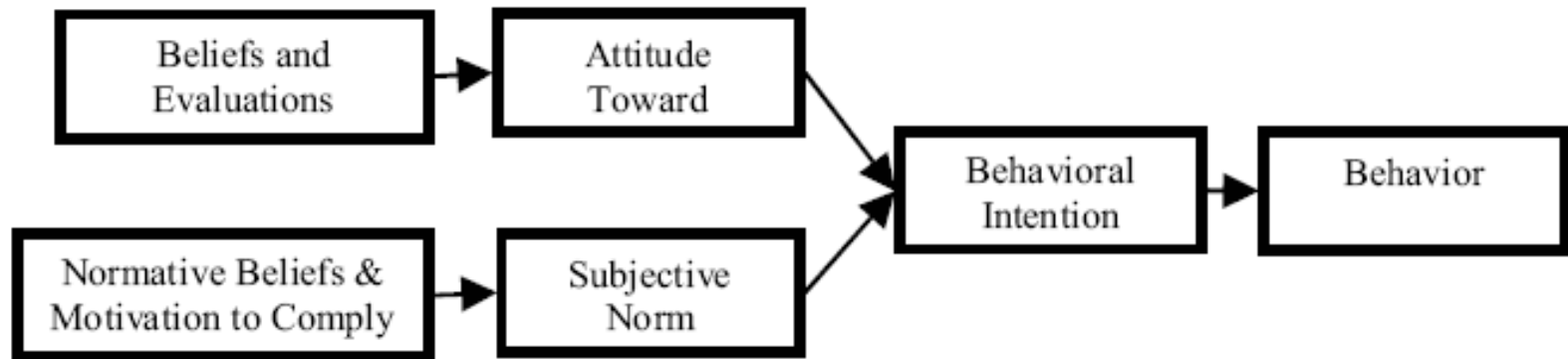
- 88% stated that they would be receptive to vouchers (for nearby shop) via push messages
- 31% would welcome such voucher
- 76% would find it acceptable if the programs they viewed were punctuated with very short ads
- 51% would not see advertising as an intrusion if it were presented to them in the same way as on television
- 86% agreed that m-marketing would be even more widely embraced if seen as beneficial to the end user

Nokia's survey - conclusion

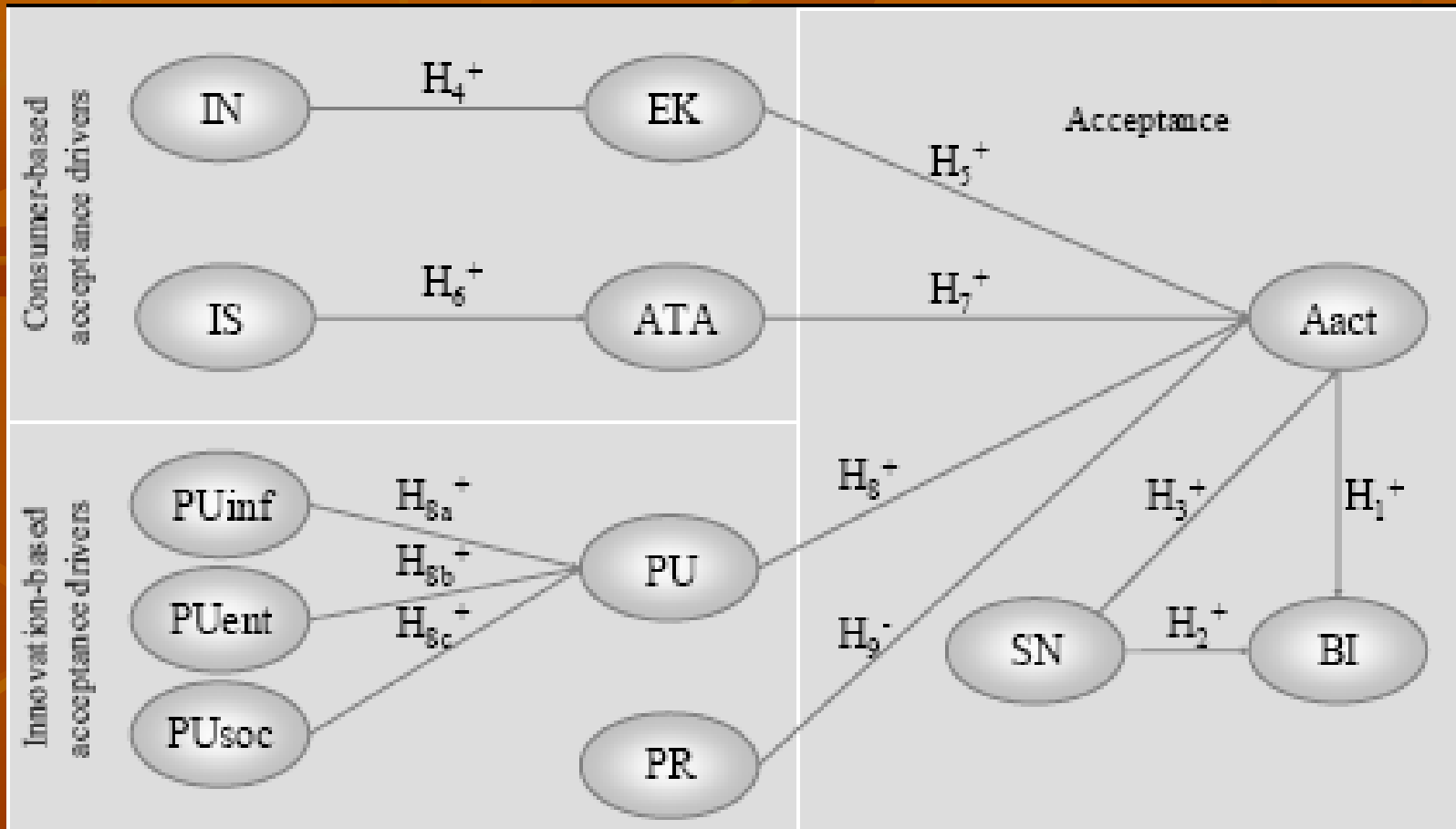
- Choice - being able to decide whether or not to receive messages
- Control - being able to bypass sale messages easily
- Customization - being able to filter the types of messages received
- Mutual benefit - getting something back in return, i.e., a reduction in the cost of services

User acceptance of m-marketing (structural modelling)

- Studied with the use of Theory of Reasoned Action



TRA model in use



IN = Innovativeness

EK = Existing Knowledge

IS = Information Seeker

ATA = Attitude toward Advertising

PU = Perceived Utility

PUinf = PU Information

PUent = PU Entertainment

PUsoc = PU Social

PR = Perceived Risk

Aact = Attitude toward MM

SN = Social Norms

BI = Behavioural Intention

TRA model in use

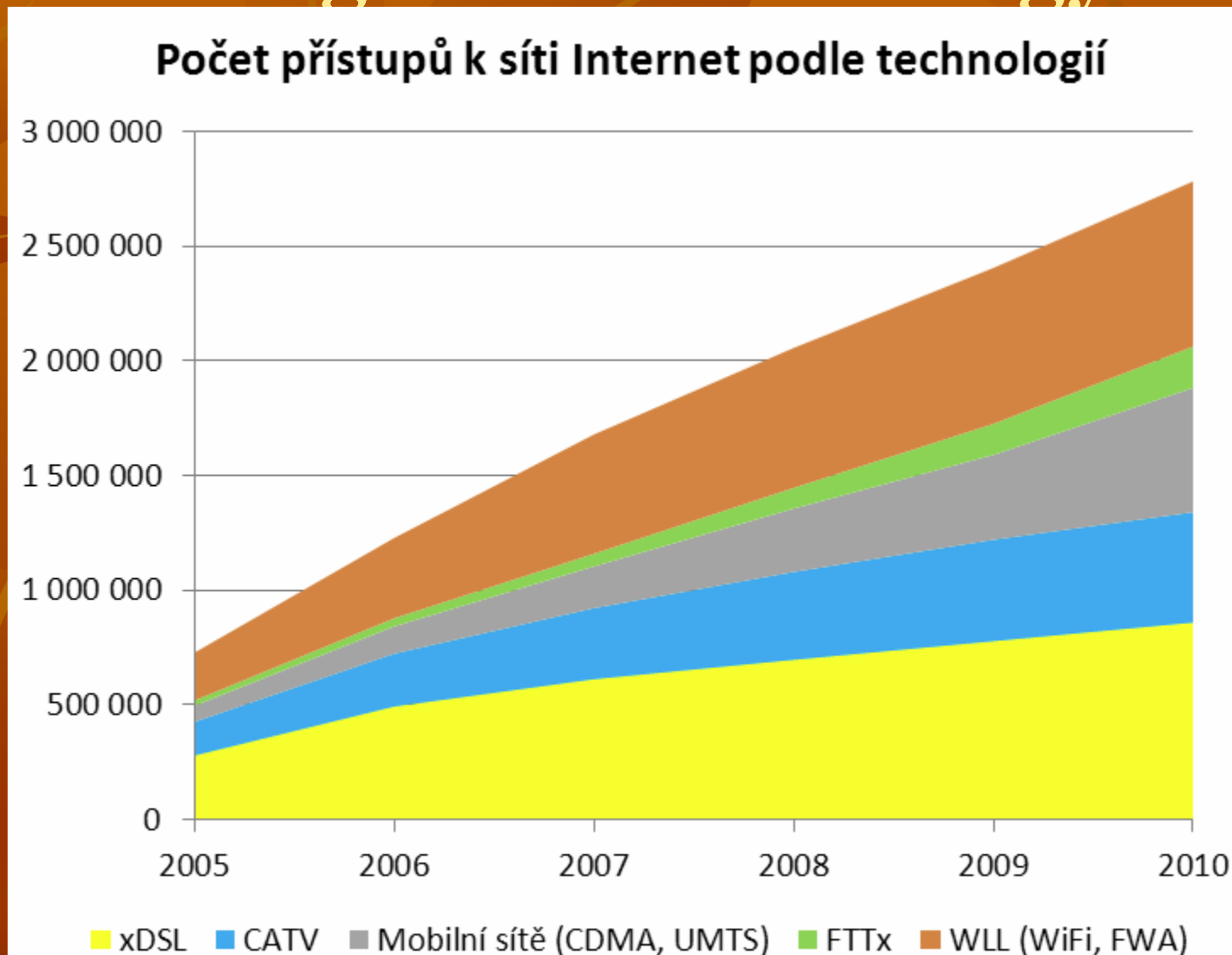
Item	
IN1	Usually I am among of the first to try out a new product.
IN2	Often I try new products before my friends do.
IN3	Generally, I enjoy buying new products.
EK1	I have a profound knowledge about mobile communications.
EK2	In comparison to my circle of friends I am an expert in mobile communications.
EK5	In my circle of friends I am usually the first who knows about the latest mobile phones.
IS3	I enjoy reading different advertising for the sake of comparison.
IS4	I tend to read a lot of different advertising just for the sake of a change of pace.
ATA1	Generally I find advertising a good thing.
ATA2	I like advertising.
PU1inf	Through advertising messages via the mobile phone I receive timely information.
PU2inf	Through advertising messages via the mobile phone I receive exclusive information.

How to get new customers while the real penetration is 85 %

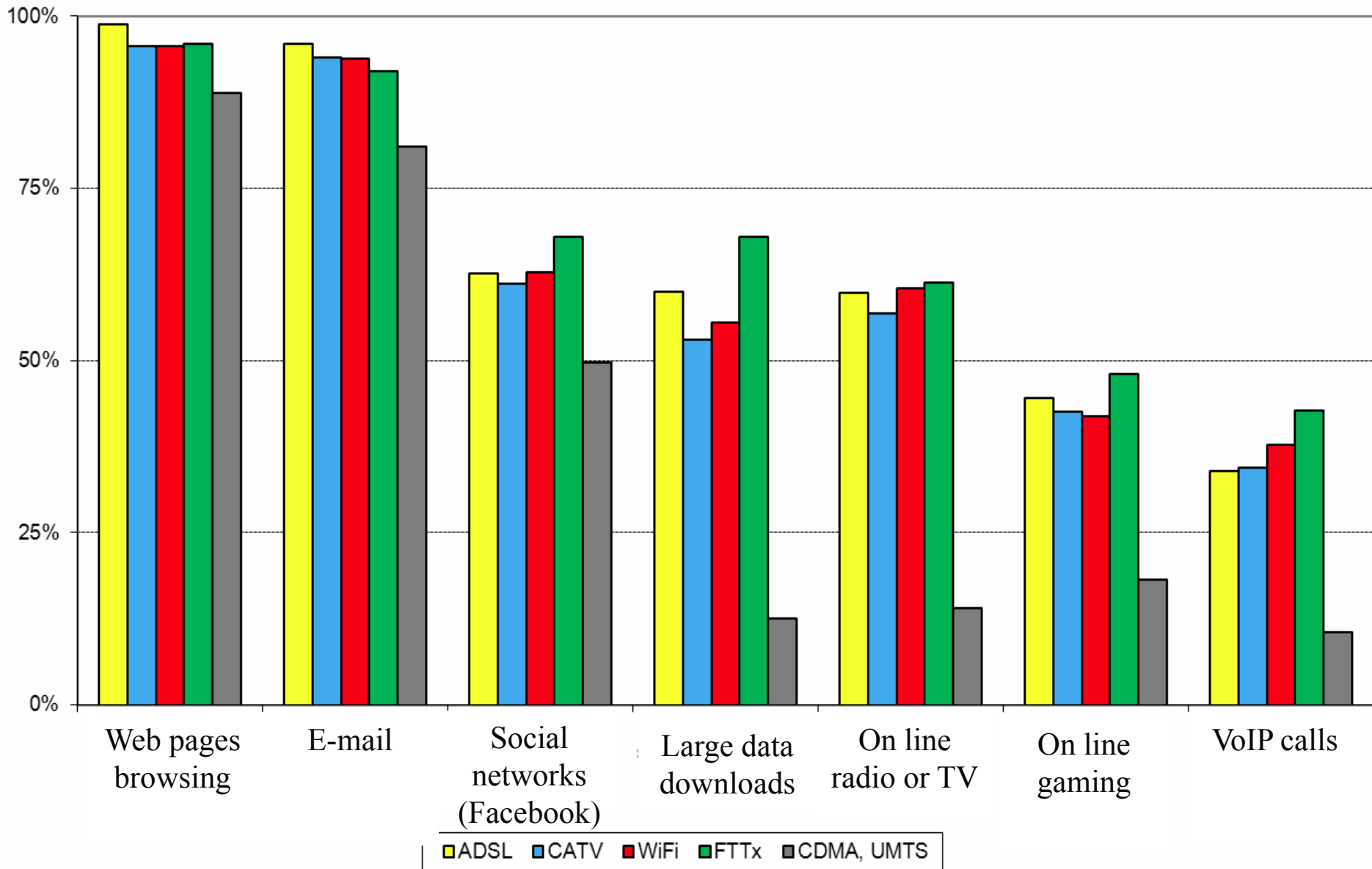
- In some countries (Germany) start up of virtual providers focused on special segments (elders, low spending customers)
- Another way is a deal with resellers (Australia)
- The fastest and cheapest is to make new plans/tariffs. Its side effect is also that the prices are hard to compare, so the customer is not so price sensitive

Data services, 3G

Number of accesses to internet according to the technology used



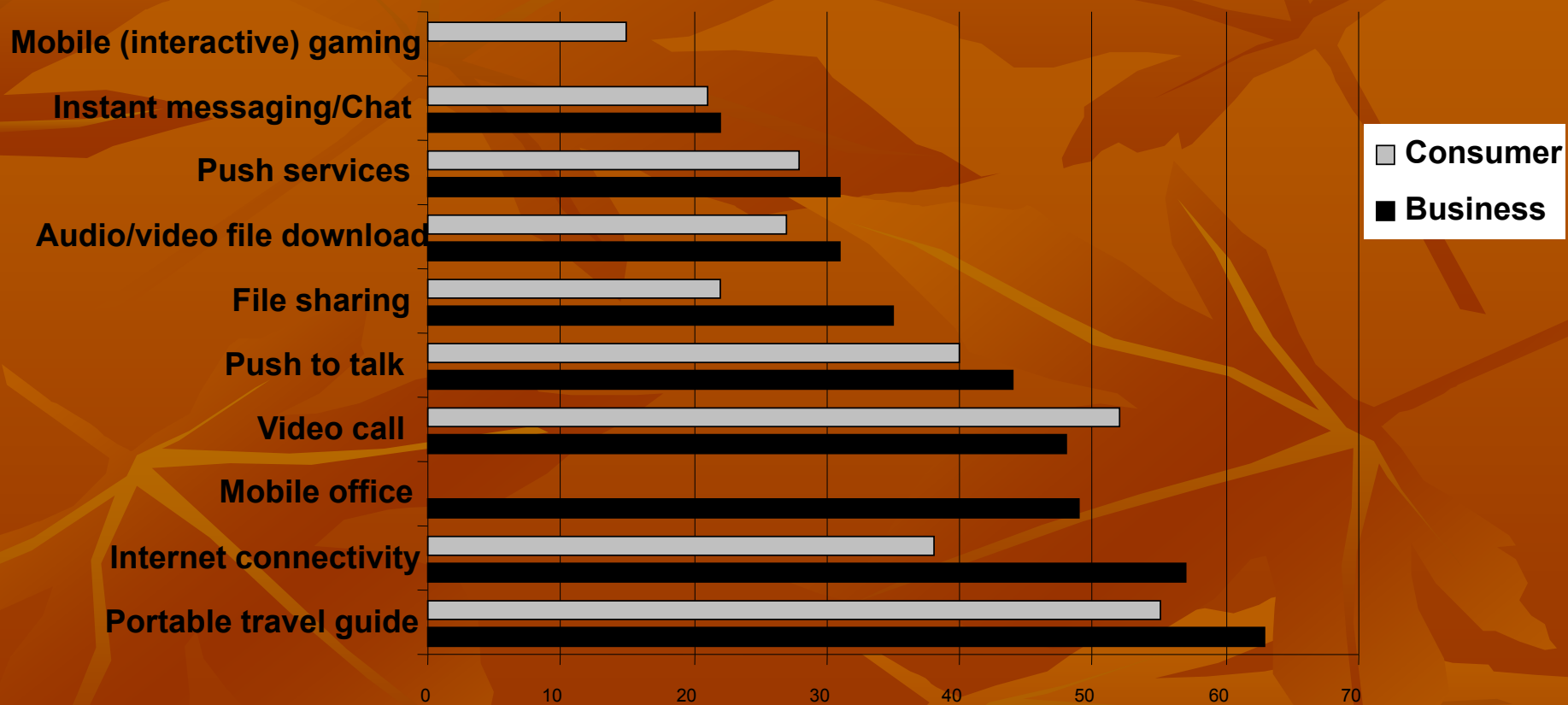
Internet access via MP



Data services

- Recent way, how to squeeze more money out of mobile network users
- Faster data transmitting enables to provide new services
- Lack broadband internet connection in CR

Expected services in 3G networks (Milvard Brown survey, CR 2005)



People inquired claimed they would be spending approx. 480 CZK monthly
(for these new services)

What services do you plan to use in next 12 months?

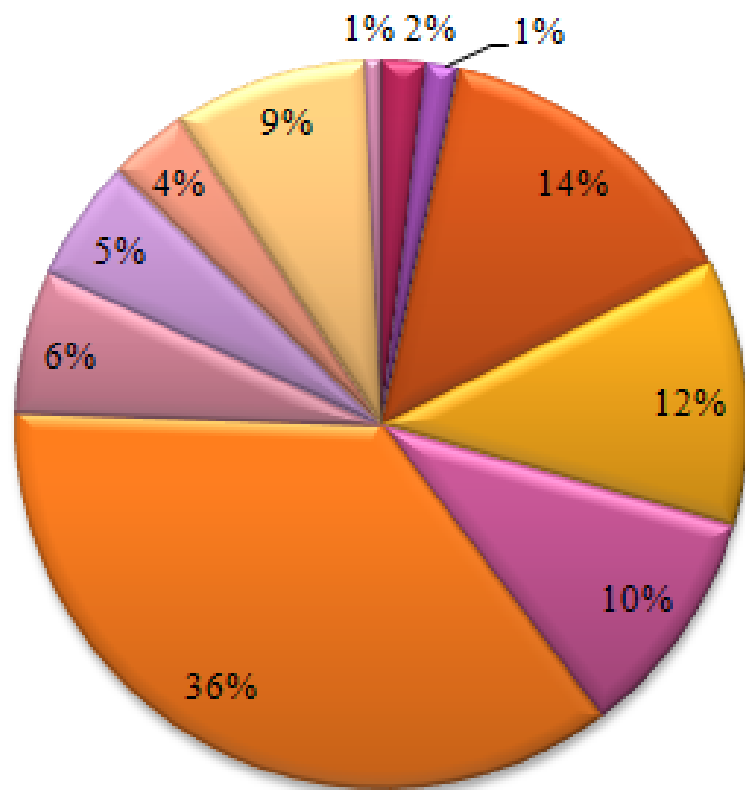
	Asia Pacific (%)	Europe (%)	North America (%)	South America (%)
Games	49	15	11	30
Ring tones	73	20	27	25
Music	55	15	13	28
News	31	15	15	23
Sports clips	29	12	10	13
Multimedia images (images, screen savers)	56	16	13	13
Video clips or movie previews	25	7	7	10
Full feature films	11	8	3	8

What are the most important factors for you, when you are downloading content to your mobile phone?

	Asia Pacific (%)	Europe (%)	North America (%)	South America (%)
Ease of payment	54	39	31	64
Quick to download	58	30	30	15
Immediate/timely content delivery	46	30	23	22
Ability to share content with friends	60	44	17	38
Ability to store content on the network	25	12	14	24
Ability to store content on mobile phone	38	26	11	44

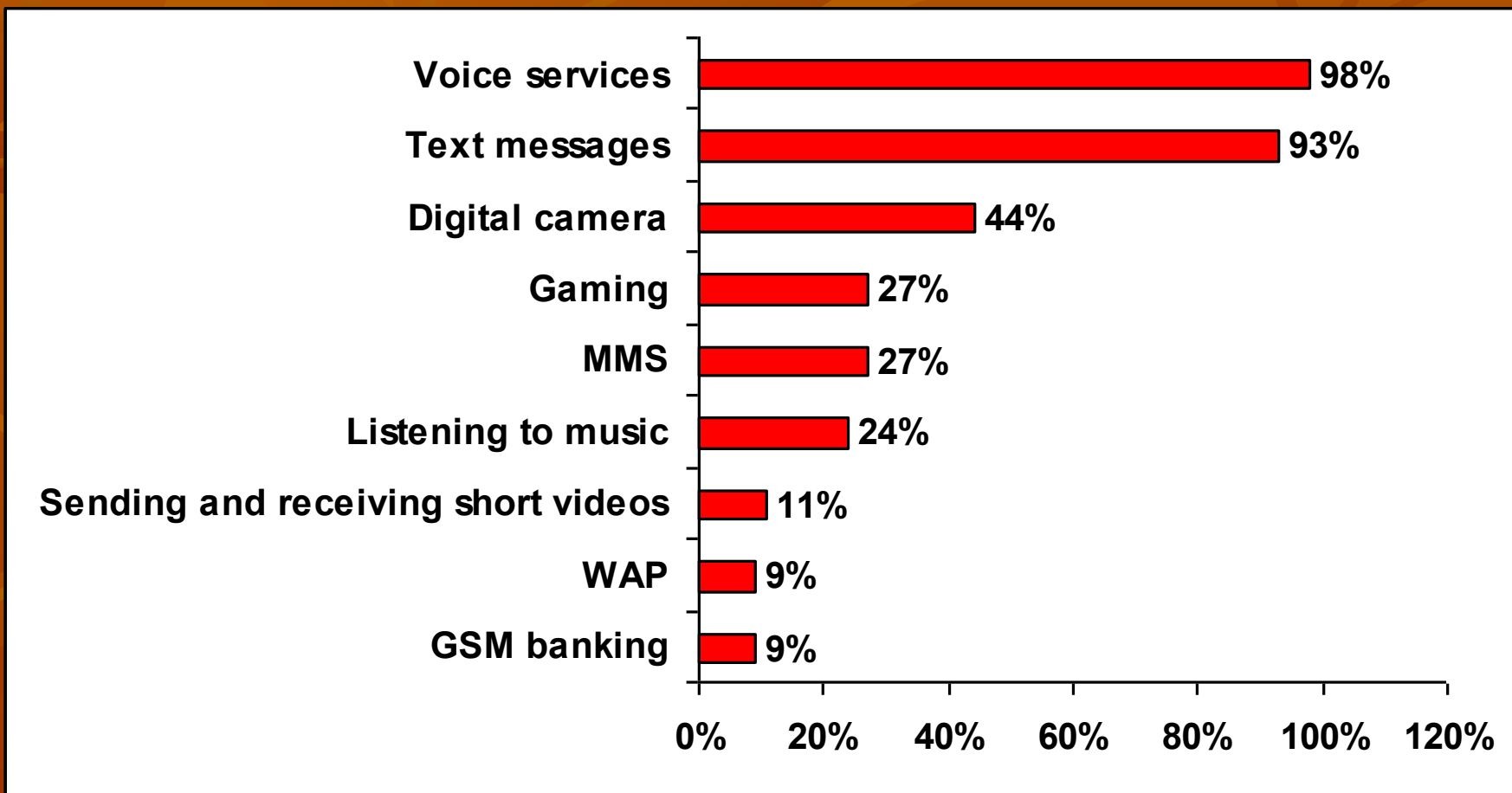
What services of m-communication do you use?

Aktivity ke kterým byl využit mobilní telefon jednotlivci v posledních 3 měsících 2008

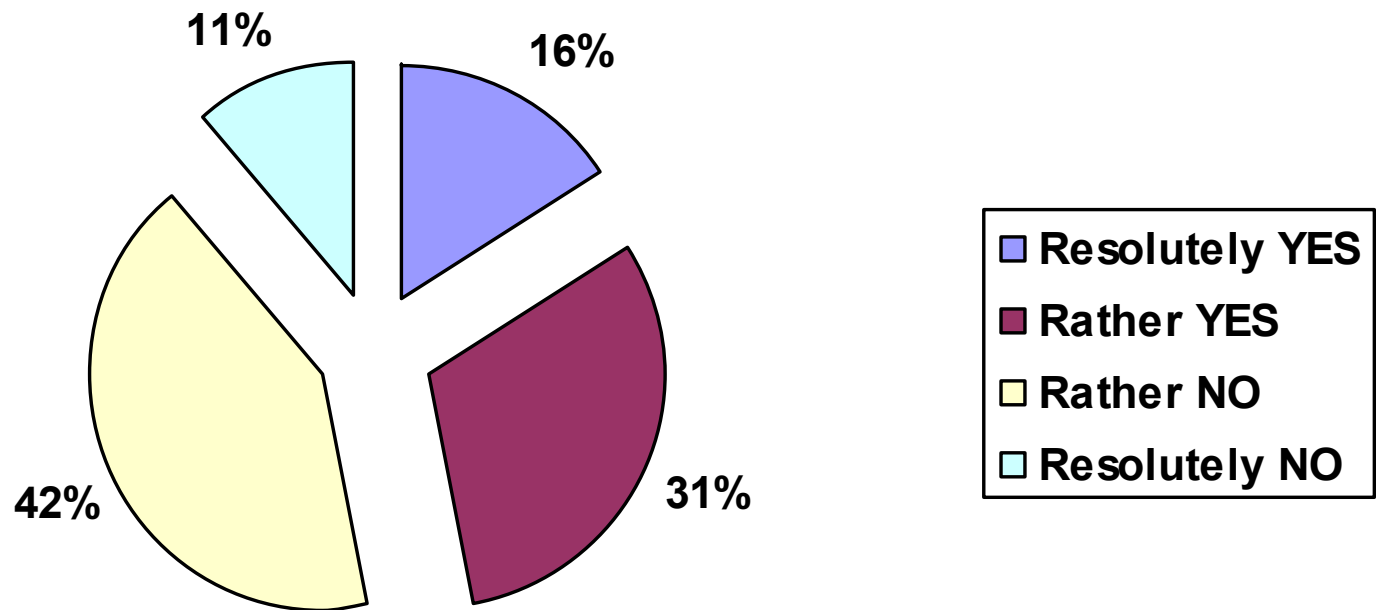


- payment for services or products
- personal navigation
- games
- music, radio
- GSM banking
- sending MMS or video to other phone
- uploading MMS or video to websites
- acquiring pre-paid information
- web surfing
- e-mail

What services do you use, 2009, 996 participants



Tendency to buy via mobile phone, 2009



Internet access

August 2009	Pages viewed		Unique accesses	
Vodafone	12,667,104	34%	3,583,589	39%
T-Mobile	9,169,329	25%	1,558,107	17%
O2	14,905,582	41%	4,154,464	45%
Total	36,742,015		9,296,160	

3G content (offered since 12/2005 in ČR)

- Big brother type of entertainment
- TV news
- Traffic cameras
- Music downloads
- Online games

The background of the slide features a pattern of stylized autumn leaves in various shades of orange and brown, set against a darker orange gradient background. The leaves are scattered across the frame, with some showing detailed vein structures.

Thank you for your attention