NEW ZEALAND INSTITUTE FOR THE STUDY OF COMPETITION AND REGULATION INC.

THE TALE OF TWO TELCO MARKETS: comparing Finland and New Zealand

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CONTEXT: SMALL, AGRICULTUAL ECONOMIES DISTANT FROM TRADING PARTNERS

	FINLAND	NZ
Population (million)	5.2	4.1
Land Area (sq km)	338,145	270,050
Population Density per sq km	16	15
Urbanisation		
Share in 10% of regions with largest popns	34	37
Variation in regional density (no. by sq km)	195.18	237.15
max	197.08	238.47
min	1.89	1.31
OECD urbanisation indicator	43	41

Social Statistics	FINLAND	NZ
Life expectancy at birth 2004	78.8	79.2
males	75.3	77
females	82.3	81.3
Population Growth 1950-1990 (times)	1.27	1.92
Foreign-born population % (2004)	3.3	18.8
Average unemployment % 1995-2005	10.7	5.6
Road fatalities per million vehicles 2005	133.5	133.7
Road fatalities per million population 2005	72	99
Prison population per 100,000 population	66	168
Municipal waste kg per capita 2003	450	400

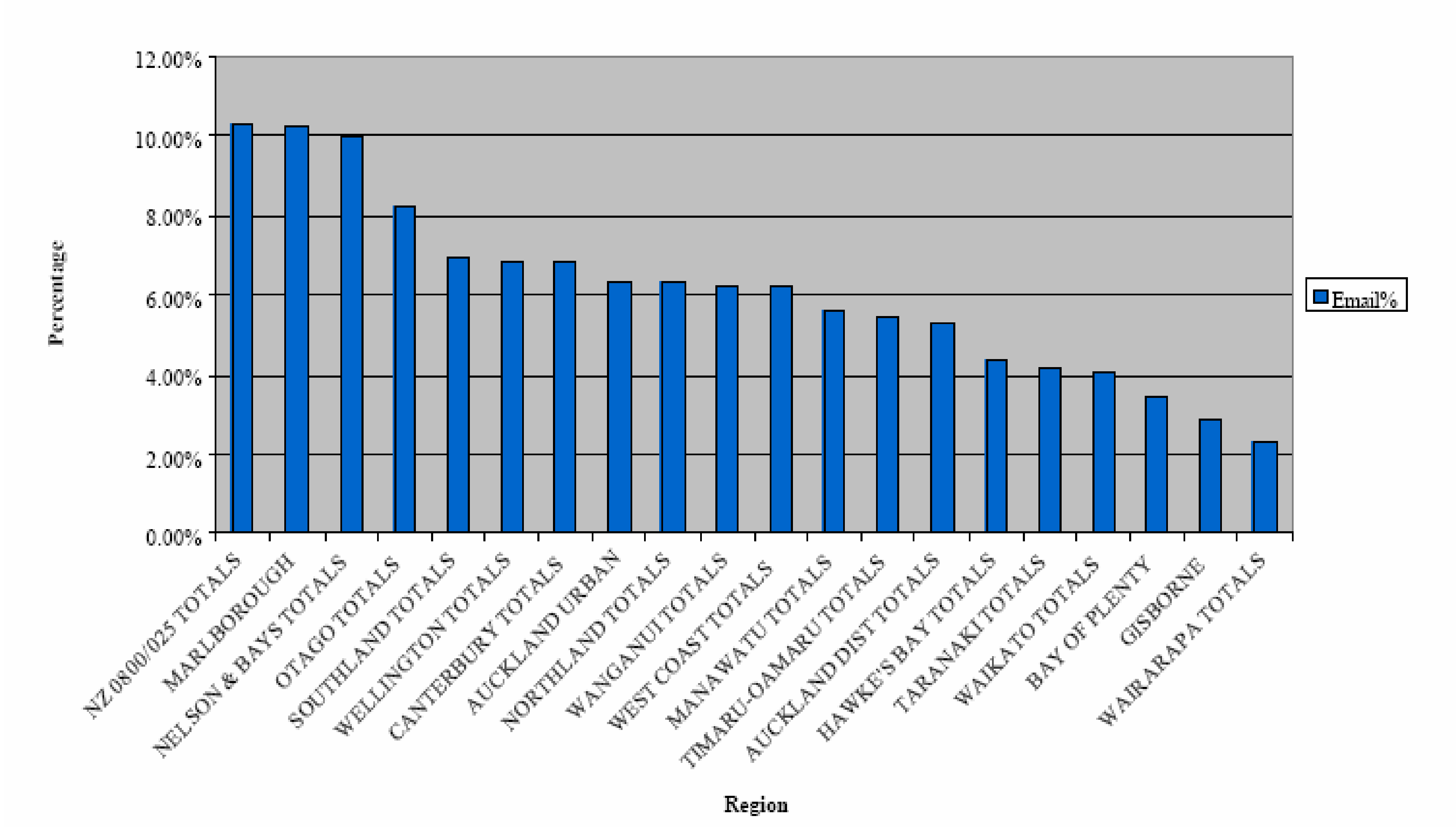
CONTEXT II: BENEFICIARIES FROM THE 'DEATH OF DISTANCE'?

New Zealanders (and Finns) early and avid adopters of 'e'-technologies (Boles de Boer, Evans and Howell, 2000)

OECD Ranks	FINLAND	NZ
Internet hosts per 1000 (2000)	2	7
Internet users per 100 (2005) (ITU)	*19*	*1*
Secure servers per 1,000,000 (2000)	10	4
Secure Servers per 1000 (2006)	13	4
References to secure servers per 100 (2005)	4	5

Rural and provincial NZ businesses earlier adopters and users of email than urban businesses (Howell, 2000)

PAID EMAIL ADDRESS LISTING, AS A PERCENTAGE OF BUSINESSES ADVERTISING, YELLOW PAGES 2000

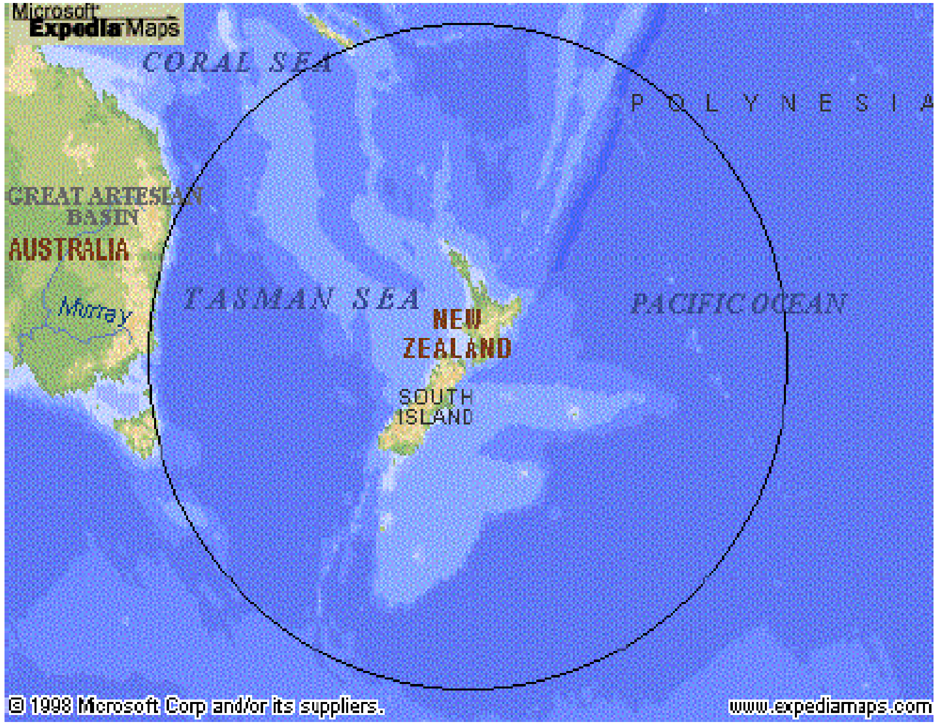


CONTEXT III: HOW SIMILAR ARE THE ECONOMIES?

Industrial Characteristics	FINLAND	NZ
Percentage of total value added (2002)		
Agriculture, hunting, forestry, fishing	3.3	7.0
Industry (including energy)	27.3	19.3
Construction	5.2	4.6
Transport, hotels, restaurants	22.6	23.1
Banks, insurance, real estate	20.4	28.1
Business, government & personal services	21.2	17.9

CONTEXT IV: NEW ZEALAND *IS* DIFFERENT

	FINLAND	NZ
Share of trade in GDP (% 2005)	39	29.1
Share of ICT Manufacturing in value-added % (2003)	22.2	1.5
ICT share of fixed capital formation % (2002)	26.6	19.6
Exports of ICT equipment ($US millions 2004)	11,128	462
Share telecoms in business value-added % (2003)	4.7	
Share other ICT in business value-added % (2003)	6.5	
Share of trade in GDP % (2005)	39	29.1



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NEW ZEALAND IS THE (DEVELOPED) WORLD'S MOST ISOLATED ECONOMY

"The radii of the circles are the same. Within the circle centred on Helsinki there are 39 countries and approximately 300 million non-Finnish people. Within the circle centred on Wellington are Norfolk Island and a little of New Caledonia" Frame (2000:16)

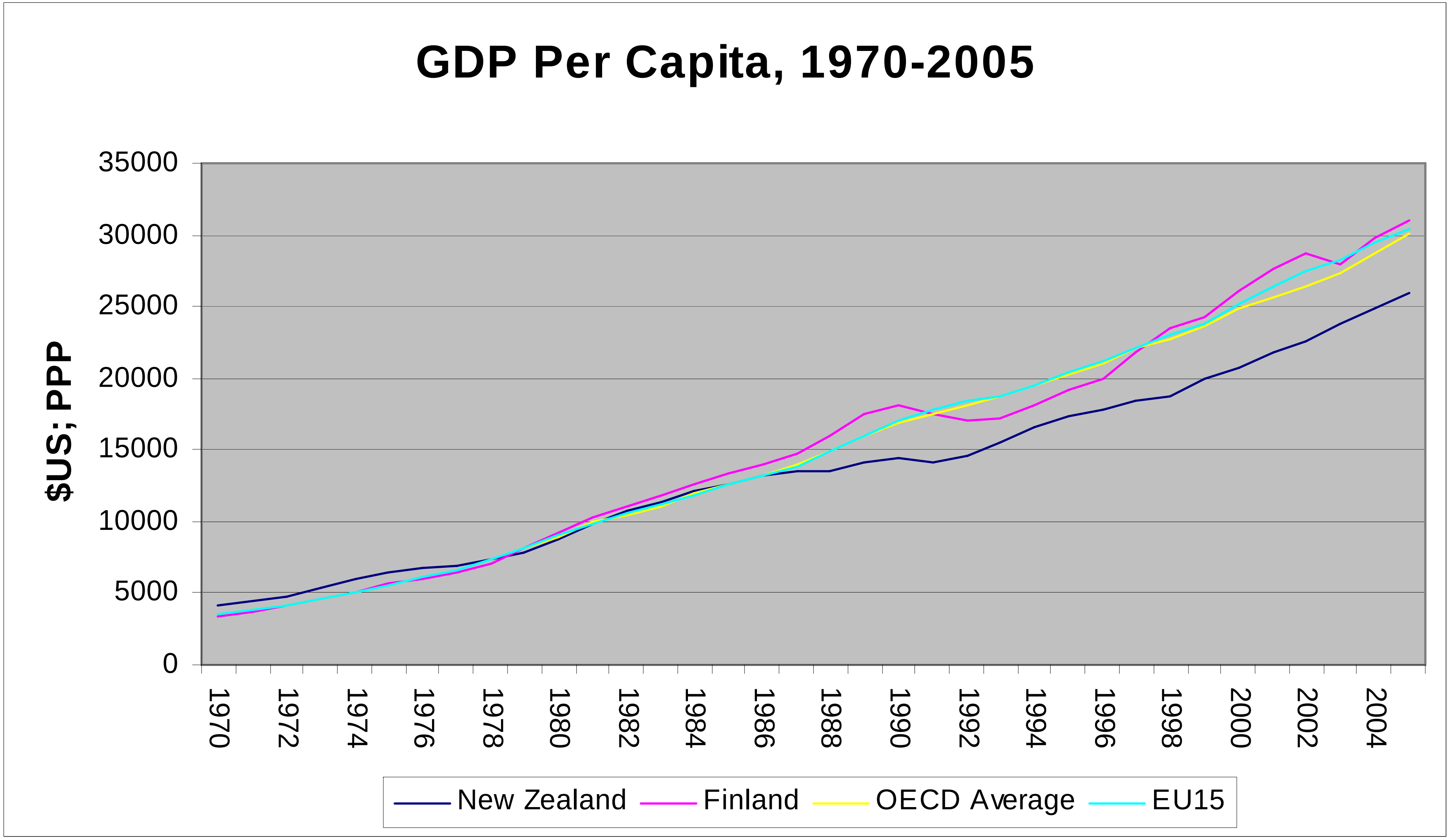
Gravity model (2002) scale that reflects nearness of relevant (GDP)

- New Zealand at 2.45 is the lowest in the OECD
- Australia 2.5; Finland 9.6; Sweden 11.92; Norway 12.05; Ireland 14.22; Netherlands 26.57, United Kingdom 26.87

Increasingly isolated

- share of exports in GDP largely unchanged since 1970s (Finland's is growing)

WITH DECLINING RELATIVE WEALTH



AND A WORLD-CLASS TELECOMMUNICATIONS INFRASTRUCTURE

Early digitalisation (100% complete in 1995)

- Finland, Norway were fully digitised at around the same time
- in 1995, UK 88%, Denmark 61%, Australia 62% digital

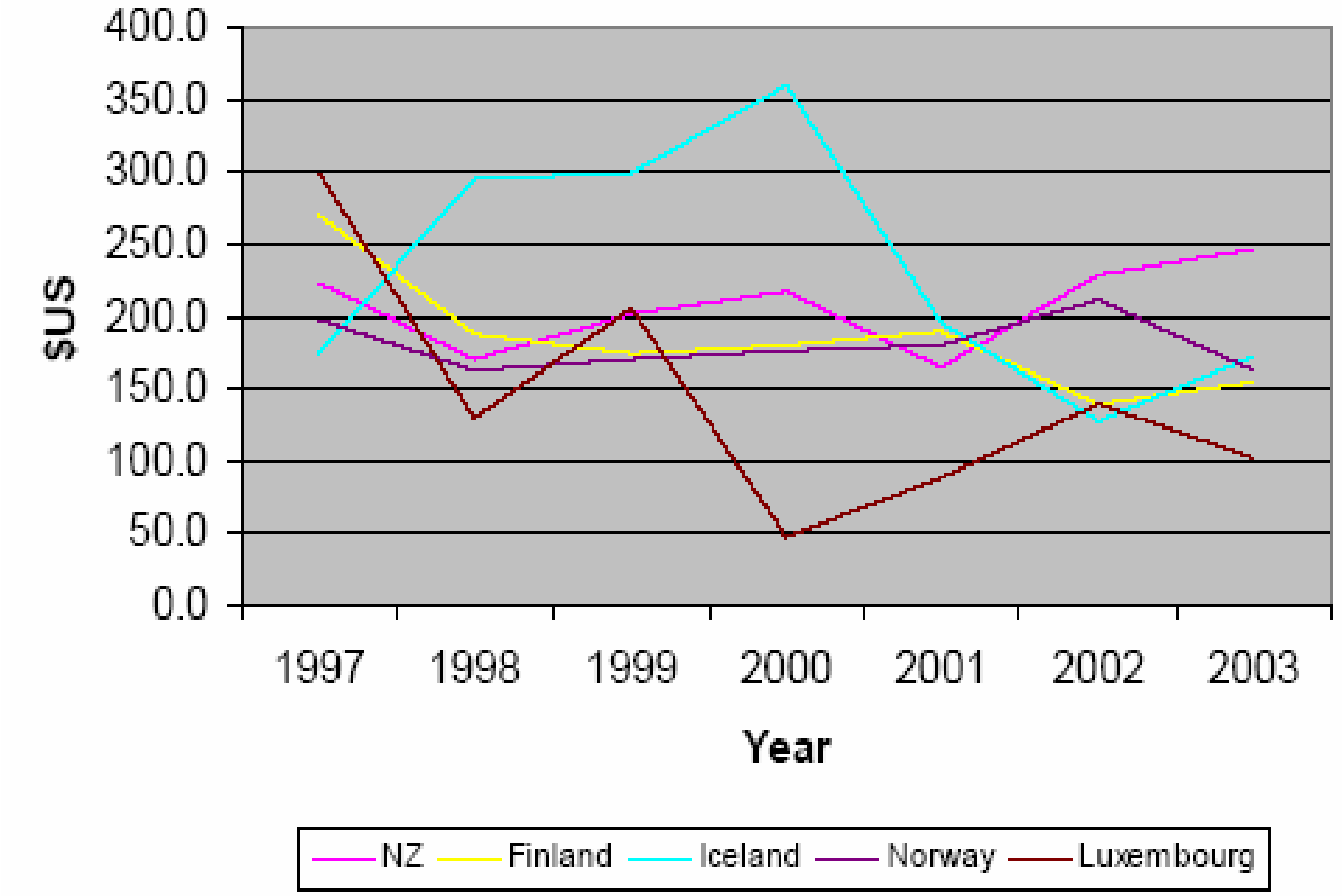
Early, widespread, rapid deployment of DSL

- 3rd in the OECD (1999)
- high quality entry-level product (2Mbps)
- 85% of lines DSL-capable in 2002 (currently 95%)
- low prices (3rd lowest in the OECD in 2000, taking speed into account)

Two mobile networks competing from early 1990s

- Telecom (CDMA)
- Vodafone (formerly BellSouth) (GSM)

INVESTMENT: PER ACCESS CHANNEL



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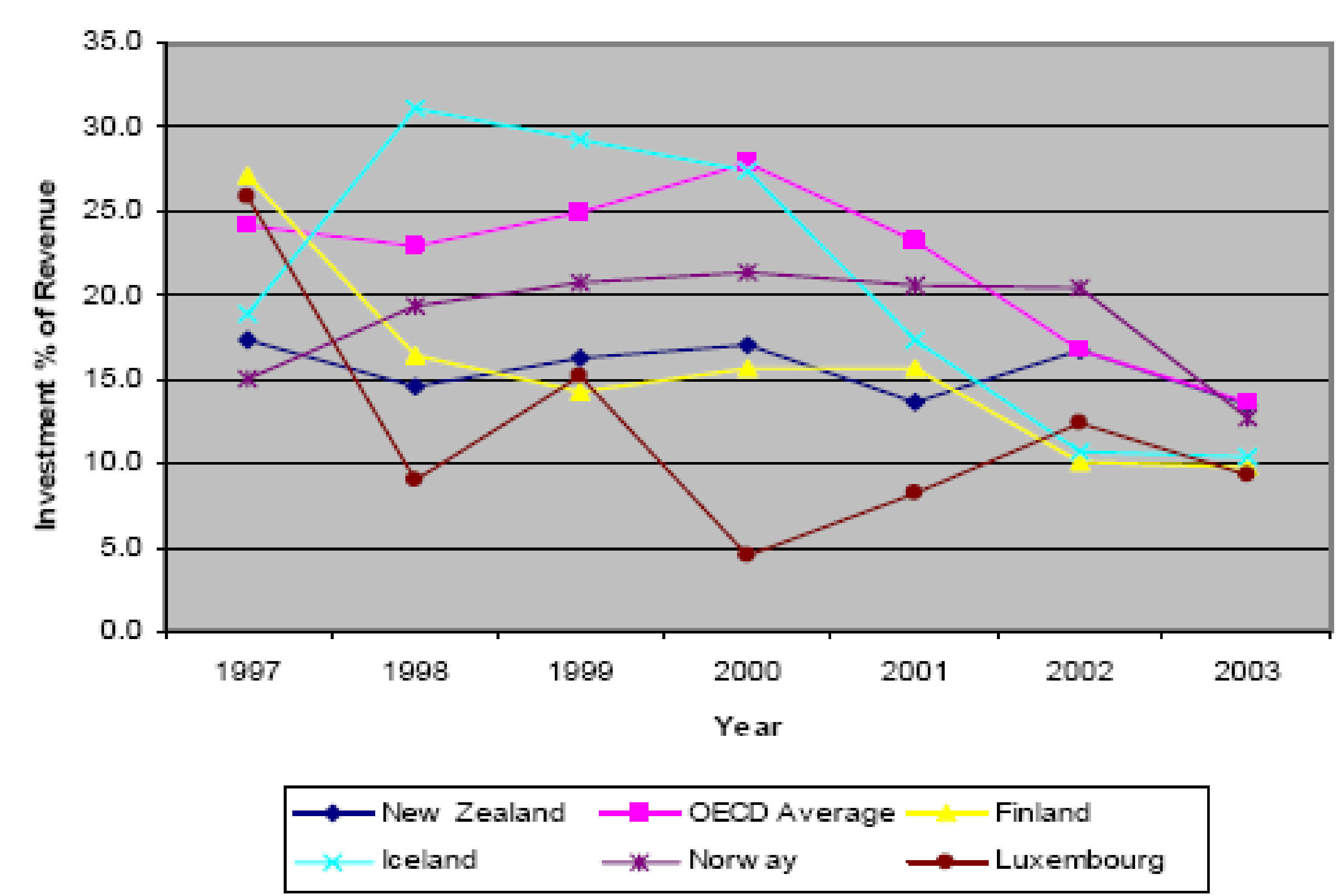
INVESTMENT: AS A % OF REVENUE



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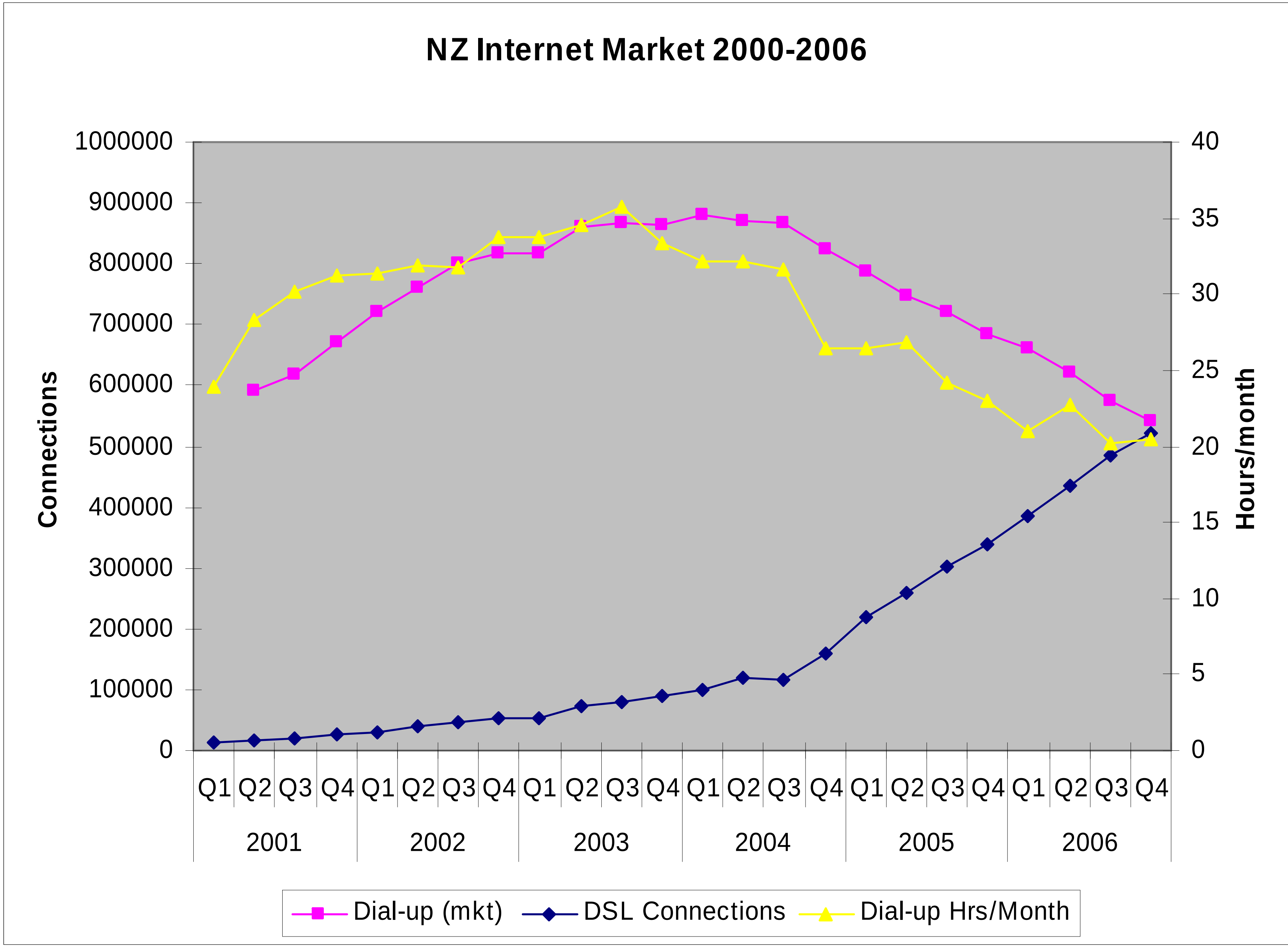
UPTAKE

Fixed lines per 100: 42 in 2005 (Finland 46)

Mobile lines per 100: 86 in 2005 (Finland 96)

Broadband per 100: 14 at Dec 2006 (Finland 27.2)

- not a business uptake ‘problem’
  - 77% of all businesses use a broadband connection (90% of NZ businesses have 5 or fewer employees) (2006)
  - Over 90% of businesses with more than 50 employees use a broadband connection (Finland 95%) (Finnish businesses are comparatively larger than NZ businesses – Frame, 2000)
- not a pricing/quality problem – NZ residential prices 33% lower than average Finnish prices for 2Mbps connections (and falling)
  - all NZ connections are ‘best available speed on the line’ – only 27% of Finnish connections are 2Mbps or faster (512kbps most common)
  - Finnish 512kbps prices are on average rising!
- Internet households using broadband passed 50% only in December 2006



NZ Internet Market 2000-2006
Connections
Hours/month
1000000
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
40
35
30
25
20
15
10
5
0
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2001
2002
2003
2004
2005
2006
Dial-up (mkt)
DSL Connections
Dial-up Hrs/Month

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VOICE MARKET – CHARGEABLE SERVICES

Jan 2005-Dec 2006

Fixed lines

- Finland fell 15.5%; NZ 0.9%

Chargeable call minutes on fixed lines

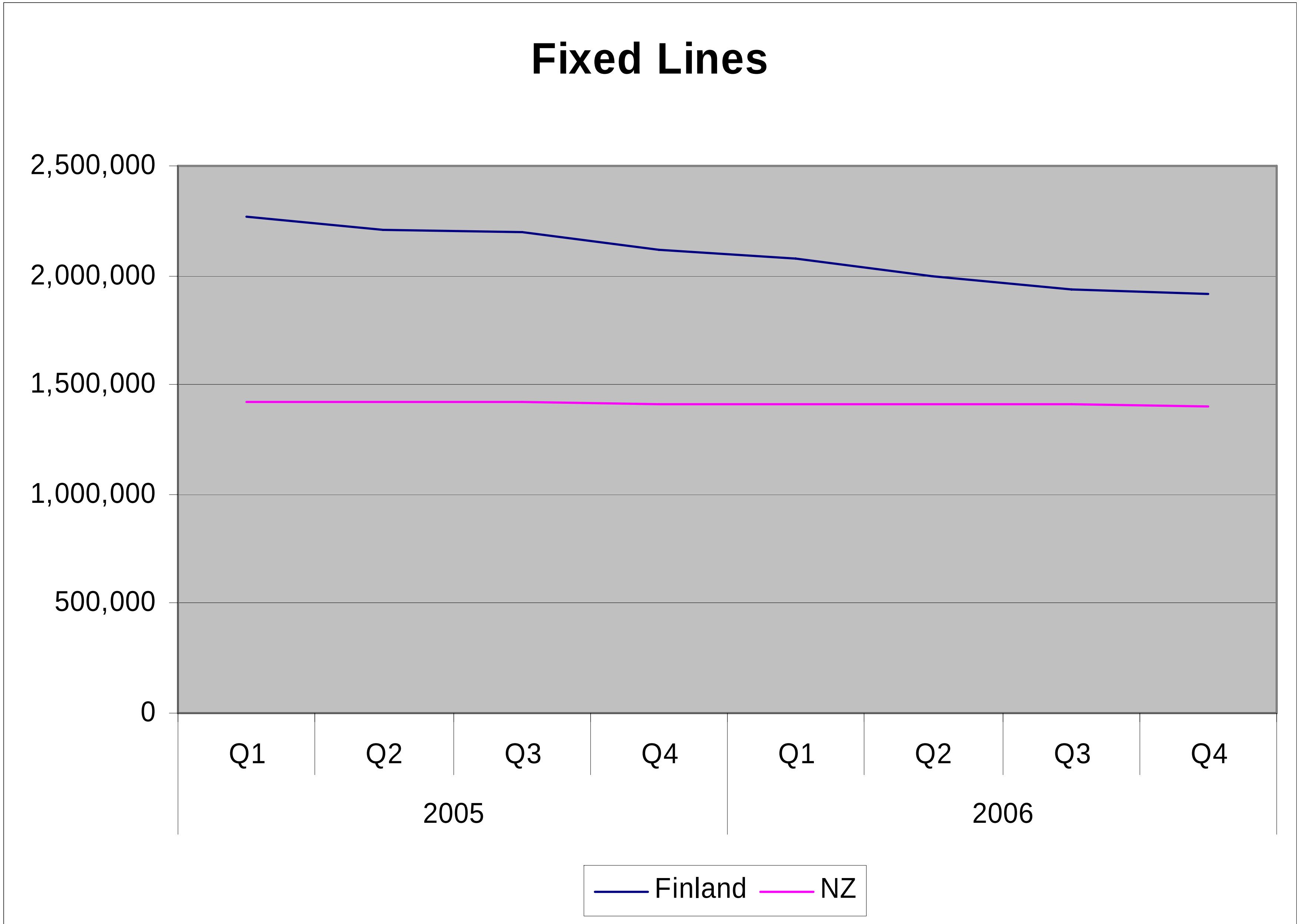
- Finland fell 47.8%, NZ 9.8%

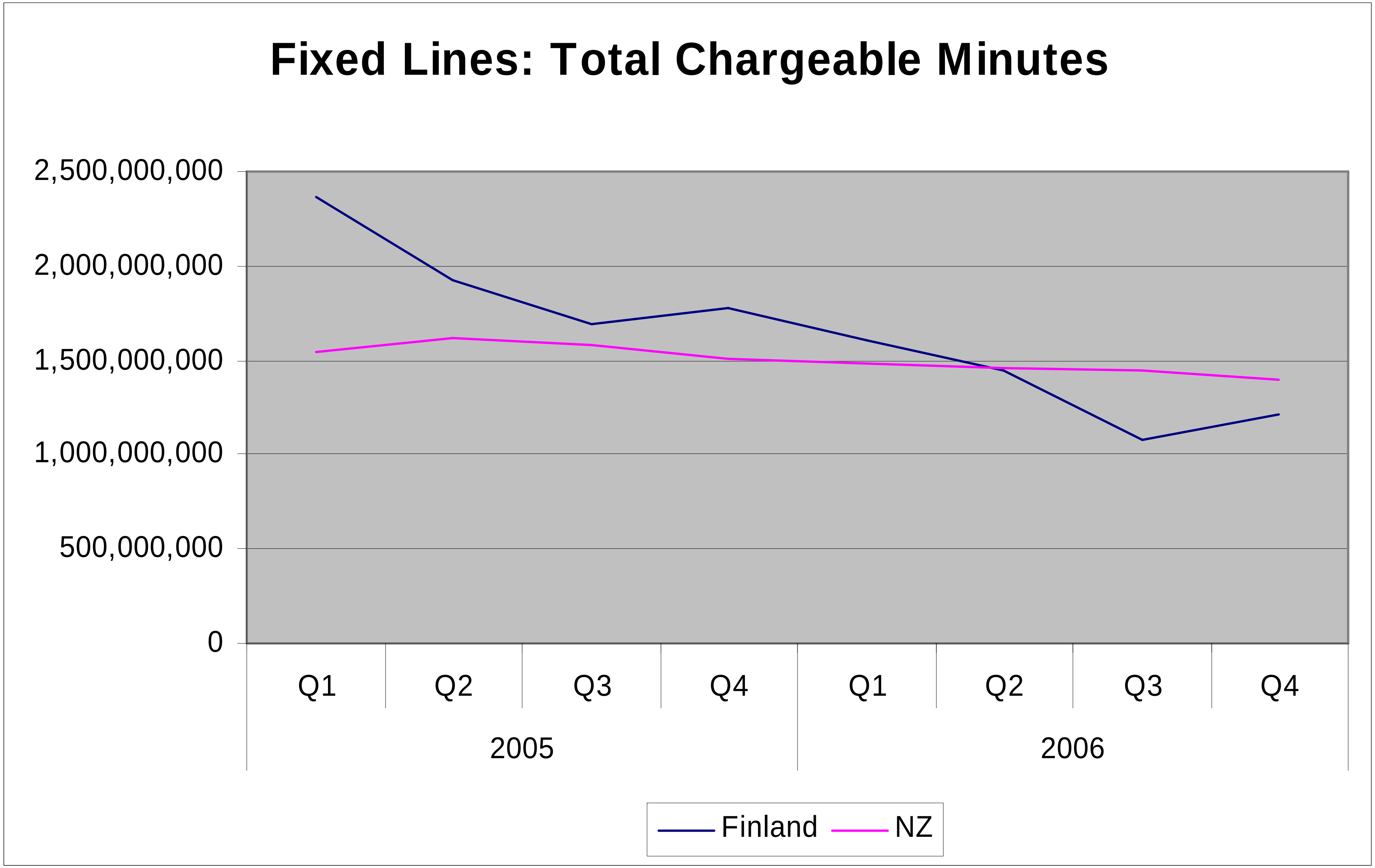
Chargeable call minutes per fixed line

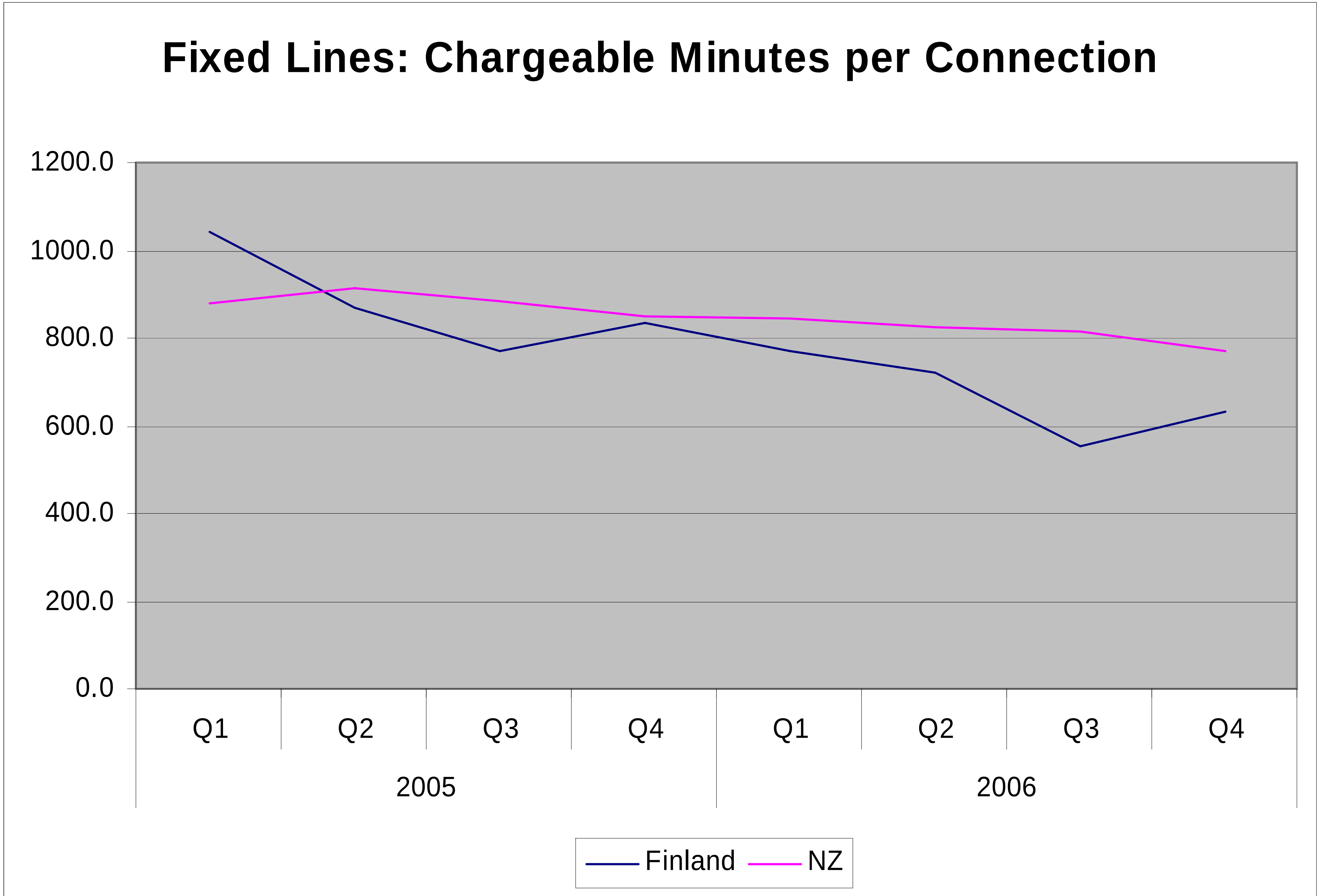
- Finland fell 39.3%; NZ 12.7%

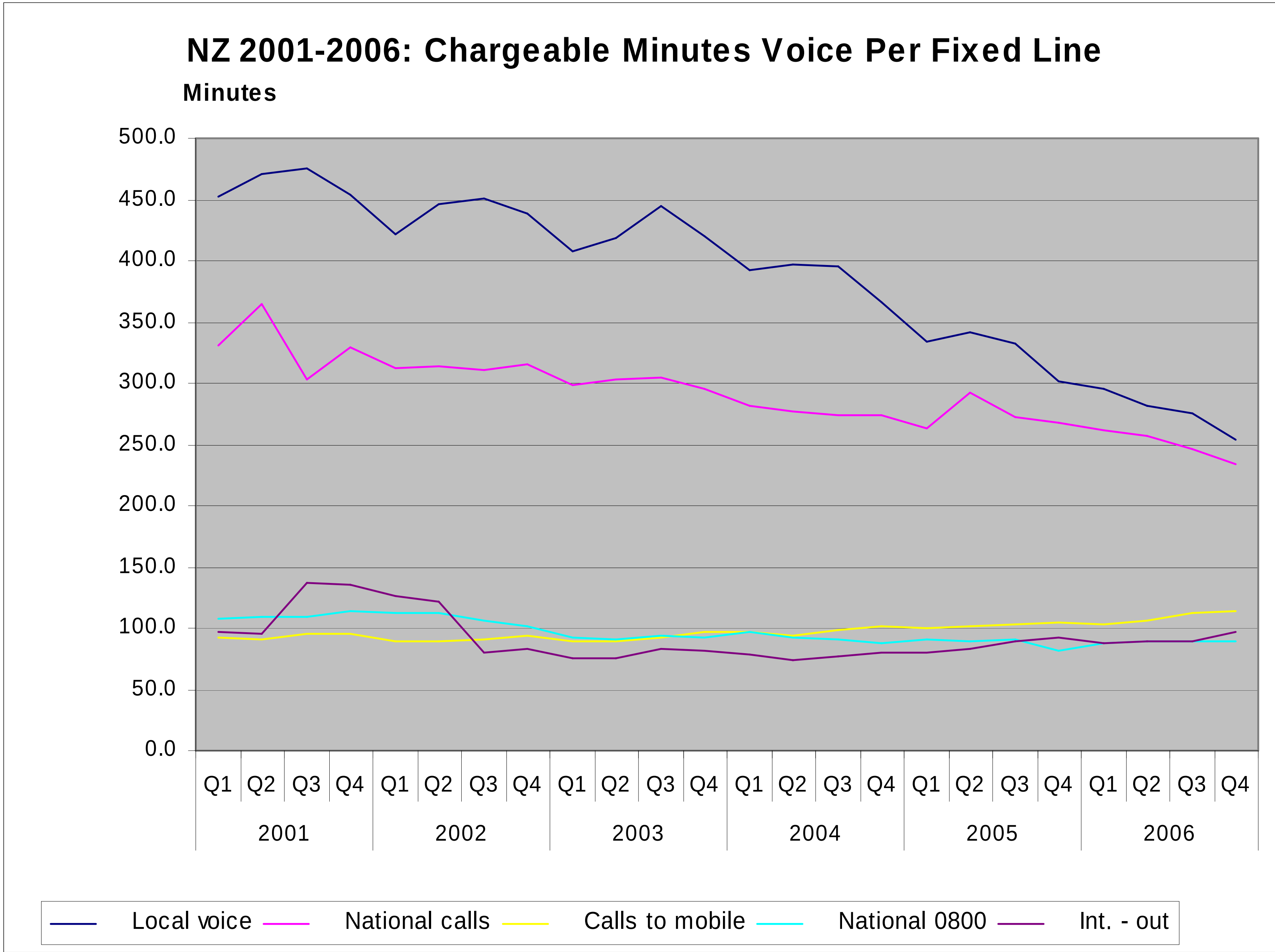
In 2003, only 21% of NZ fixed line call volume was chargeable

- 'free' residential local calling (including Internet access)
- 2006 % unknown
  - could be lower due to reduced dial-up access as users substitute, but will depend on how this compares with reduced chargeable minutes


Fixed Lines
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
2005
2006
Finland
NZ


Fixed Lines: Total Chargeable Minutes
2,500,000,000
2,000,000,000
1,500,000,000
1,000,000,000
500,000,000
0
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
2005
2006
Finland
NZ


Fixed Lines: Chargeable Minutes per Connection
1200.0
1000.0
800.0
600.0
400.0
200.0
0.0
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
2005
2006
Finland
NZ


NZ 2001-2006: Chargeable Minutes Voice Per Fixed Line
Minutes
500.0
450.0
400.0
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2001
2002
2003
2004
2005
2006
Local voice
National calls
Calls to mobile
National 0800
Int. - out

VOICE MARKET: MOBILE SERVICES
September 2005-December 2006

Connections

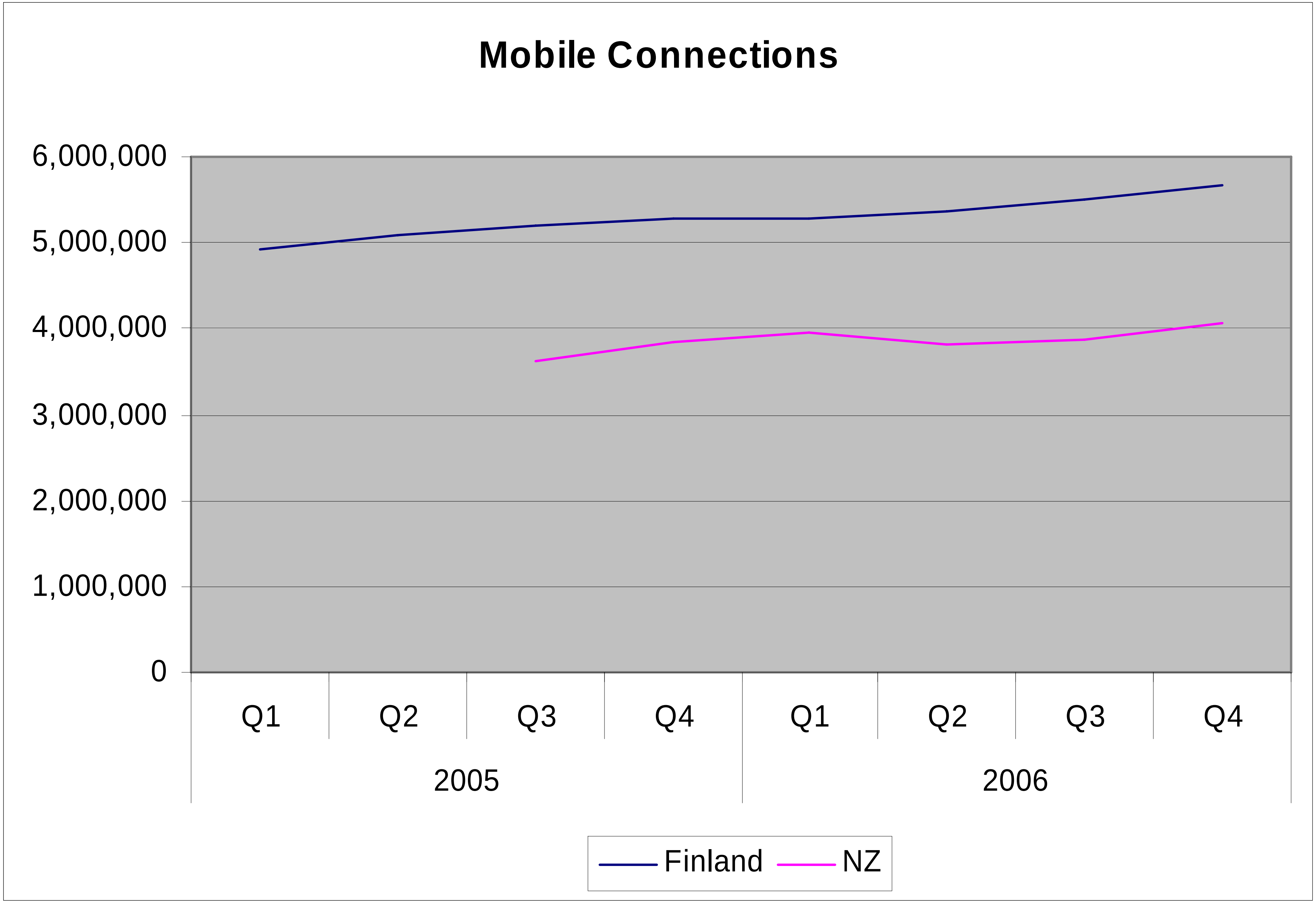
- Finland grew 9%, NZ 12.2%

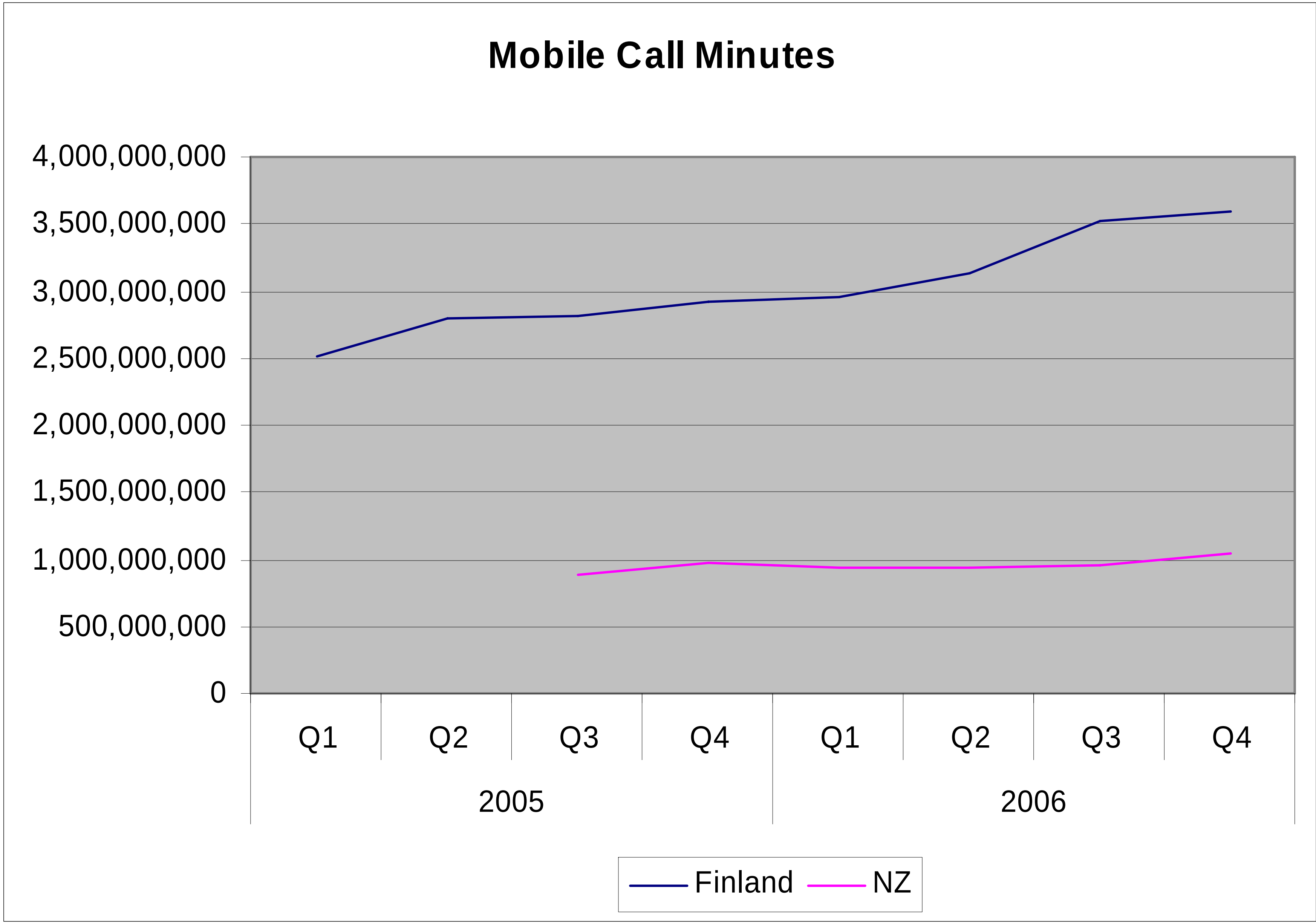
Minutes

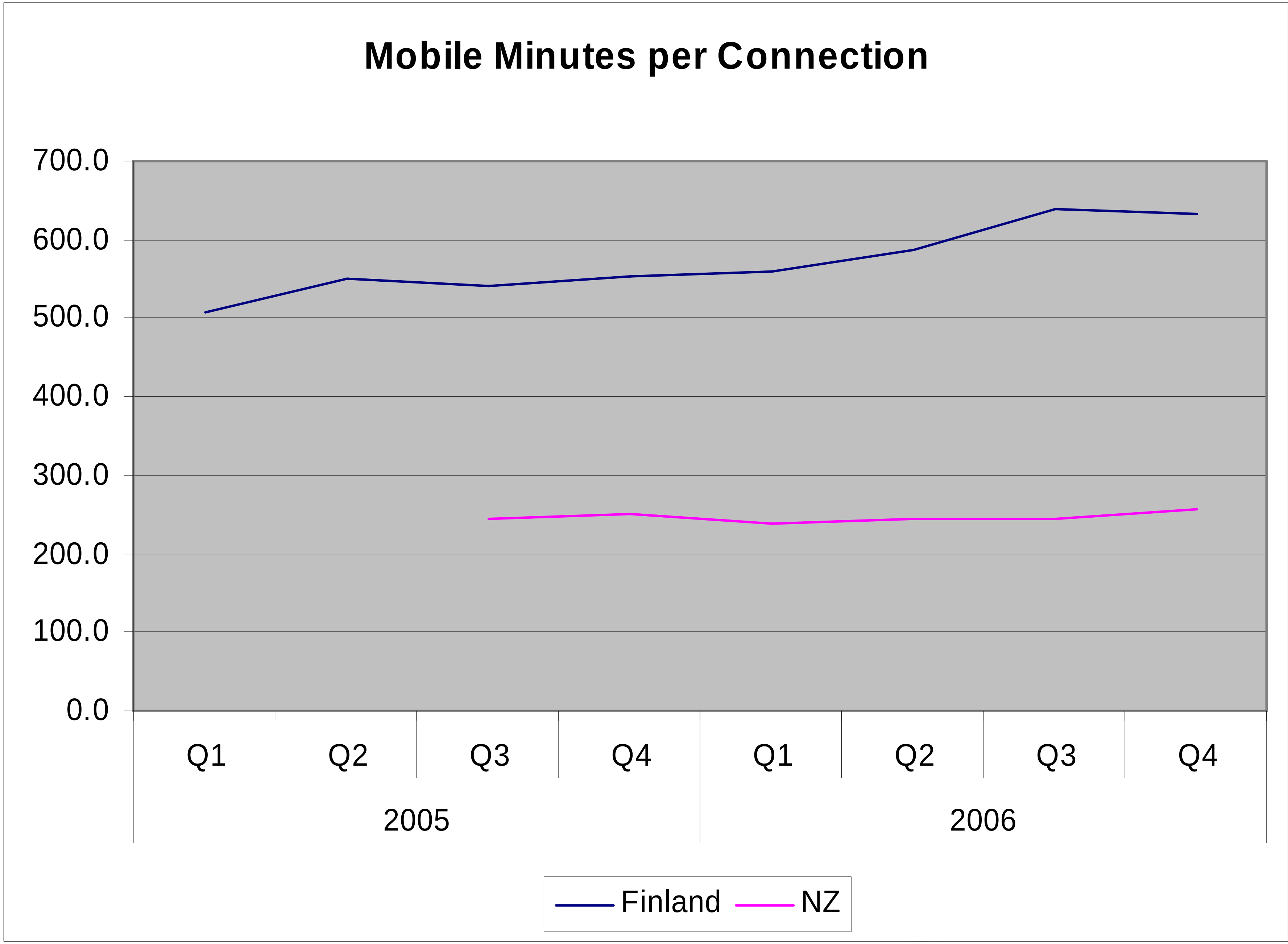
- Finland grew 23%, NZ 8%

Minutes per connection

- Finland grew 17.3%, NZ 4.2%


Mobile Connections
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
2005
2006
Finland
NZ


Mobile Call Minutes
4,000,000,000
3,500,000,000
3,000,000,000
2,500,000,000
2,000,000,000
1,500,000,000
1,000,000,000
500,000,000
0
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
2005
2006
Finland
NZ


Mobile Minutes per Connection
700.0
600.0
500.0
400.0
300.0
200.0
100.0
0.0
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
2005
2006
Finland
NZ
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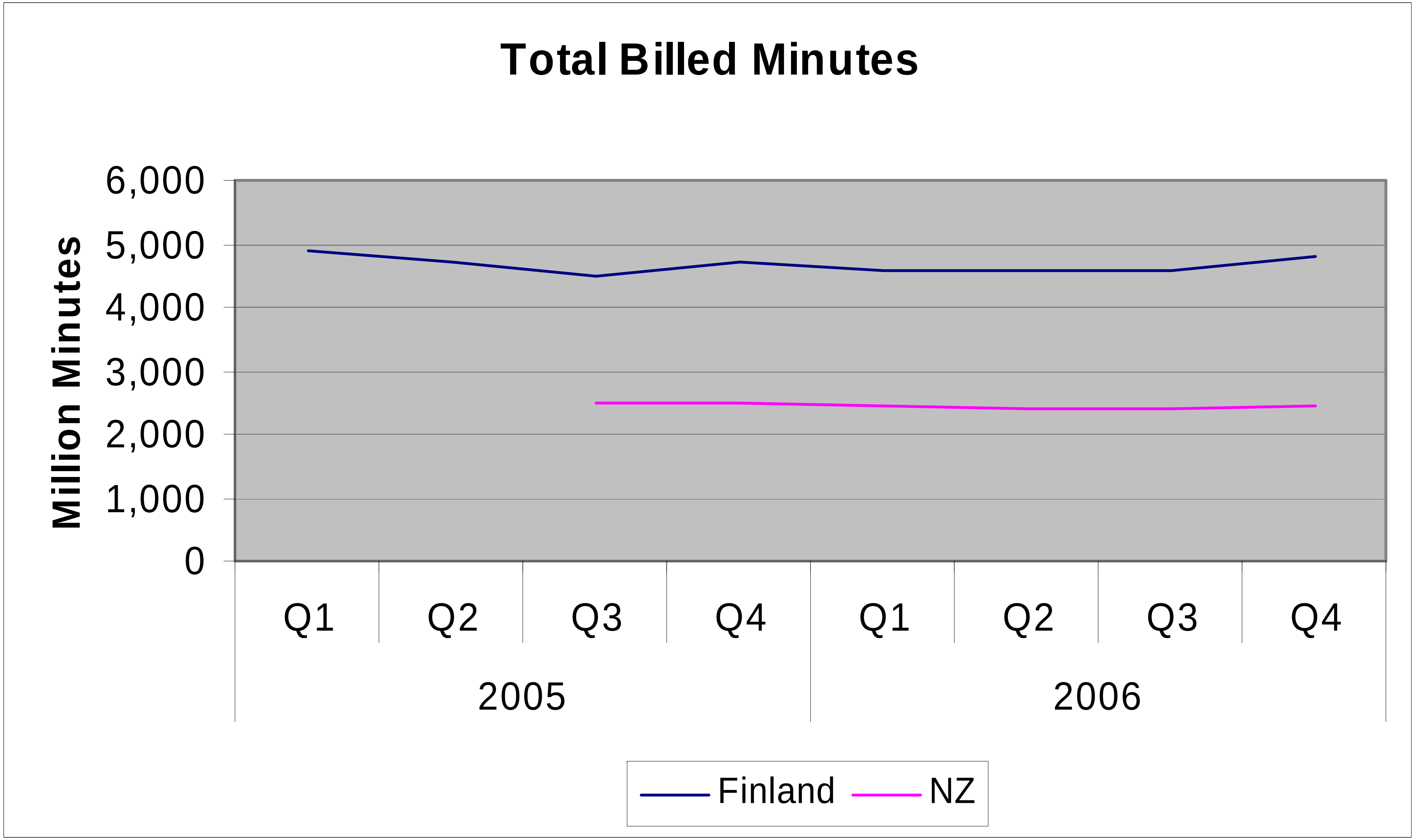
PRELIMINARY CONCLUSIONS

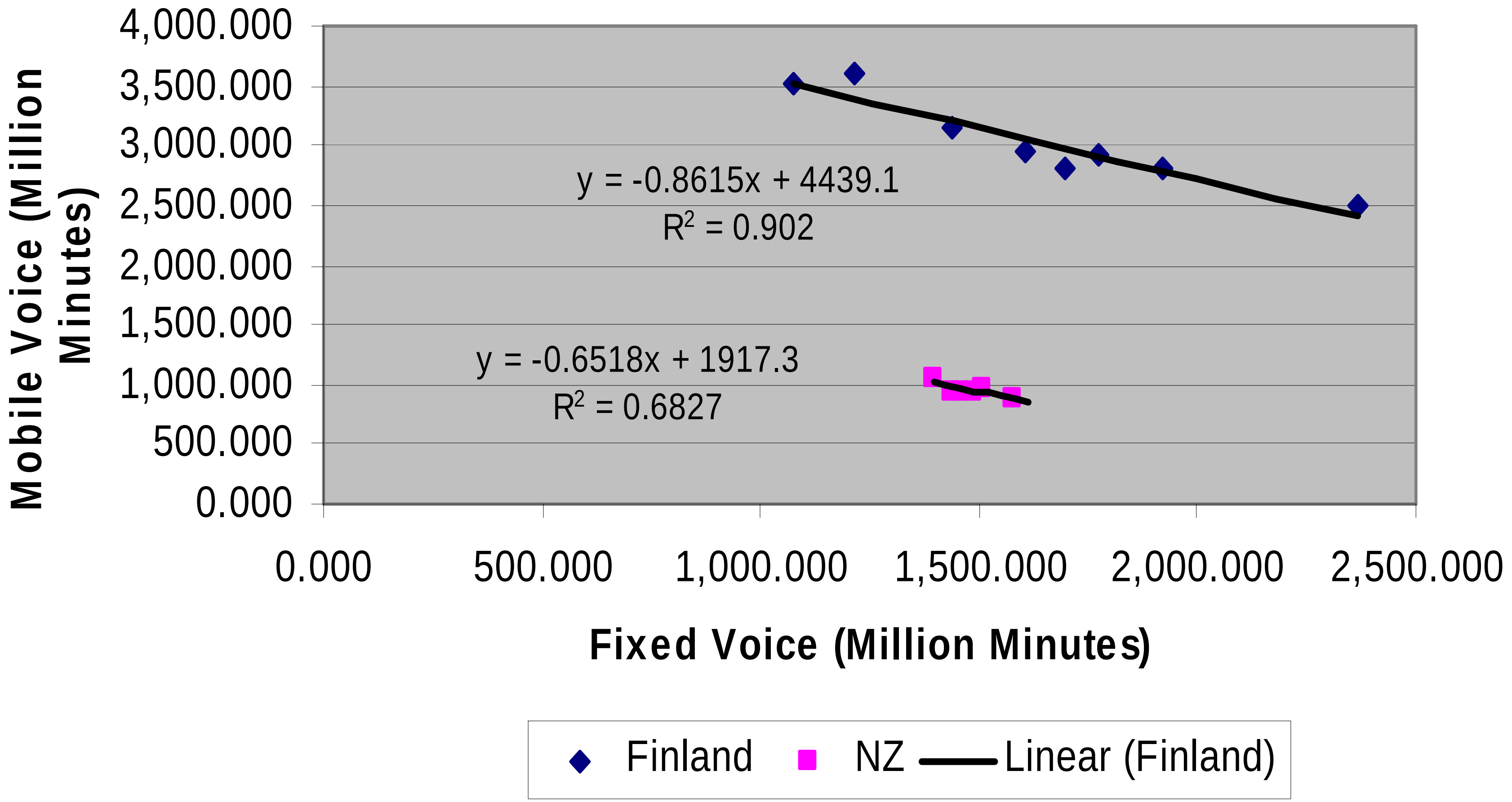
Much stronger evidence of substitution of (chargeable) voice traffic from fixed to mobile in Finland than NZ

A pricing issue?

- residential local voice in NZ not a factor
  - only chargeable minutes compared
- NZ mobile minute costs high
  - e.g. Vodafone prepay $0.89/min (but $2 for 2 hours off-peak Vodafone to Vodafone
  - e.g. Vodafone plan $39.95/month for 200 V-V mins + 200 SMS + 10 PXTs
  - e.g. Telecom ‘Business Builder’ plan $34 per month plus $0.34 per minute for between 50 and 80 phones
- Business fixed-fixed calls cost $0.15 per minute


Total Billed Minutes
Million Minutes
6,000
5,000
4,000
3,000
2,000
1,000
0
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
2005
2006
Finland
NZ

Substitution:Mobile for Fixed Voice



A BILLING ISSUE?
(December 2006)

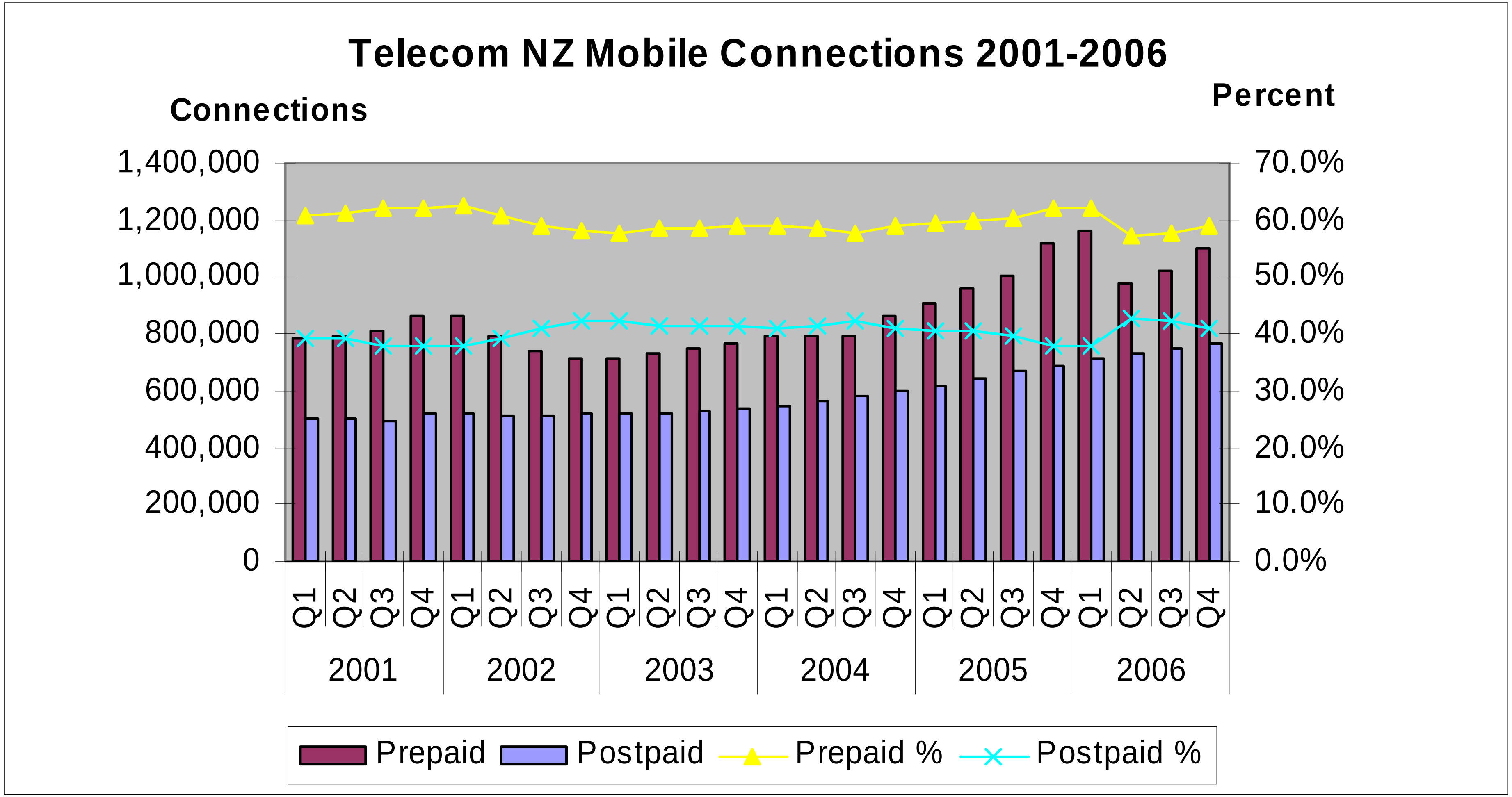
Prepaid accounts make up over half the market

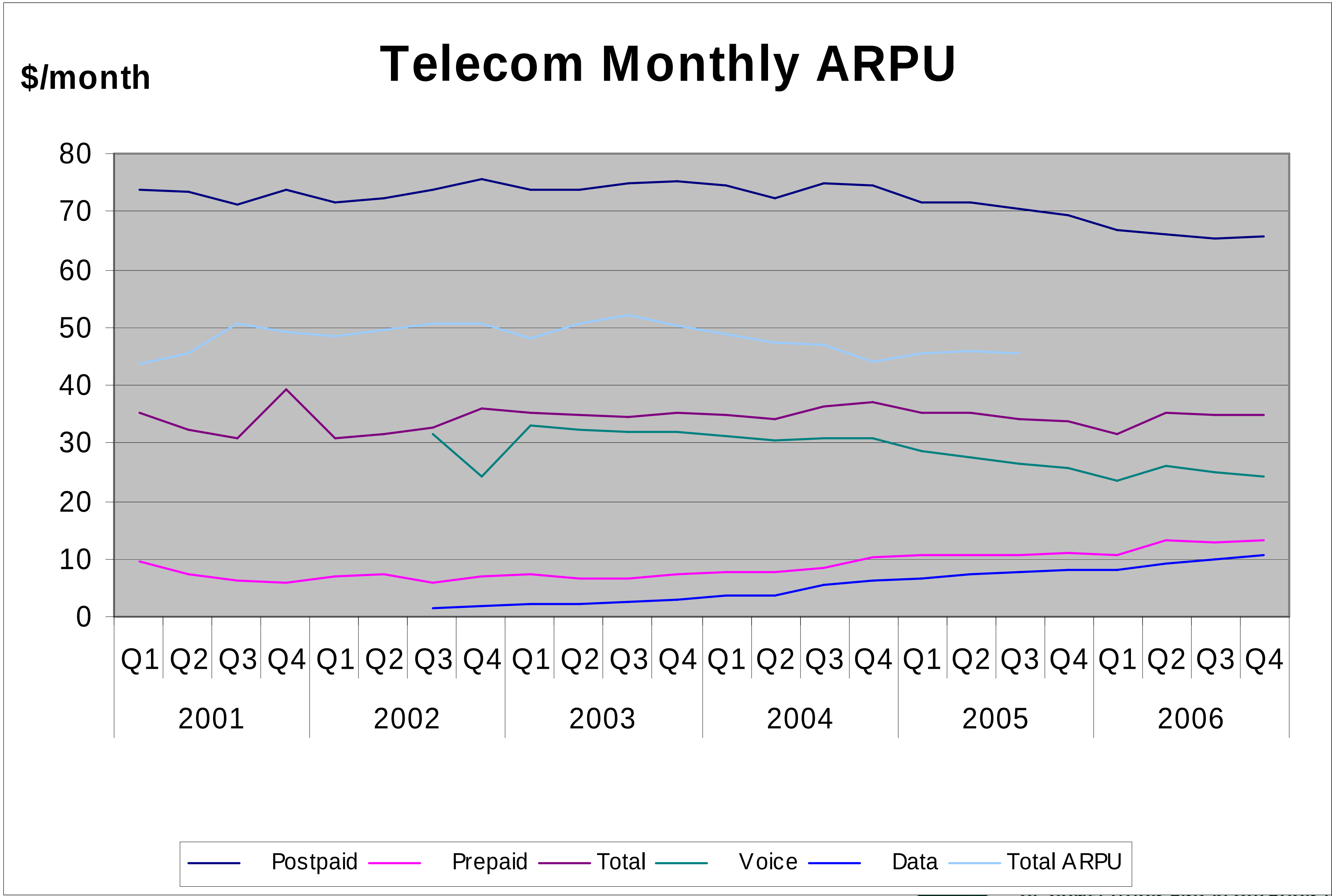
ARPU on prepaid is

- 20% of postpaid (Telecom)
- 18% of postpaid (Vodafone)

Monthly ARPU is

- \$45.40 (Telecom – postpaid \$65.7)
- \$50.70 (Vodafone – postpaid \$128.9)


Telecom NZ Mobile Connections 2001-2006
Connections
Percent
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Q1 Q2 Q3 Q4
2001
2002
2003
2004
2005
2006
Prepaid
Postpaid
Prepaid %
Postpaid %


Telecom Monthly ARPU
$/month
80
70
60
50
40
30
20
10
0
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2001 2002 2003 2004 2005 2006
Postpaid
Prepaid
Total
Voice
Data
Total ARPU

WHERE ARE NZ'S 'MISSING MINUTES'?

33% of core Government departments use VoIP

- Government dominates large business in NZ
- one of most information-intensive (and communication-intensive) sectors in the economy
- likely other large, information exchange-intensive businesses using VoIP as well

THE SITUATION IS UNLIKELY TO CHANGE SOON

May 2, 2006

- The Minister announces that he will not follow the recommendation of the Telecommunications Commissioner from mid 2006 that mobile termination rates between Vodafone and Telecom be regulated. Rather, he prefers to rely on the companies themselves to negotiate agreements whereby the rates will fall to $0.12/minute over the next five years

Preserving the fixed line indefinitely?