

**“...and ask ‘Why not’ ”?**

**Observations on Communications Policy  
and Economic Growth**

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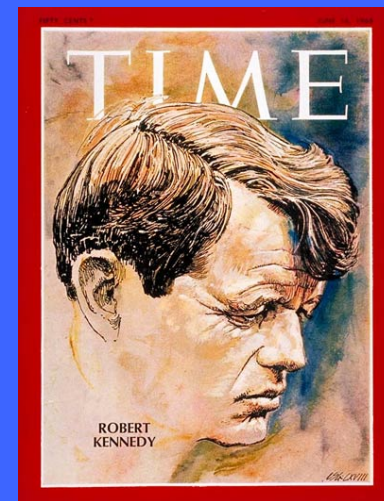
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"Some men see things as they are and ask 'Why?' I dream things that never were and ask, 'Why not?'"

Robert F. Kennedy, 1968



# Why are these companies American?



# Outline

- Macroeconomics of Telecom
- Why Qualcomm is American
- Radio technology is Different
- Lessons from FCC for Ofcom:  
The good, the bad, and the ugly
- Conclusions

# Macroeconomics of Telecom

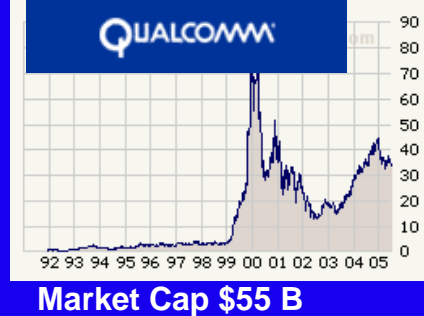
- Telecom is a large industry in its own right
- Telecom is a basic commodity in today's economies
  - its cost and efficiency can enhance or decrease national productivity
- New information/telecom services can enable whole new industries
  - If not forbidden by overprotective regulations

# Macroeconomics of Telecom

- Unfortunately, spectrum management - a key aspect of telecom policy - remains the closest thing to Soviet economic planning -- this side of Belarus
- Companies and individuals that are bastions of capitalism often believe spectrum needs can be predicted and services planned a decade in advance

# Macroeconomics of Telecom

- Some basic laws of spectrum economics:
  - Free spectrum is always cheaper than technology-based efficient spectrum use
  - Existing spectrum users have no incentive to accommodate news users or applications



# Qualcomm Case: Why Qualcomm is American

- In the 1980s spread spectrum/CDMA was generally assumed to have no civil applications
- Cellular technology was seen as a consensus standards process
- FCC exploration of removing barriers to CDMA and deregulation of 2G standards enabled creation and growth of Qualcomm

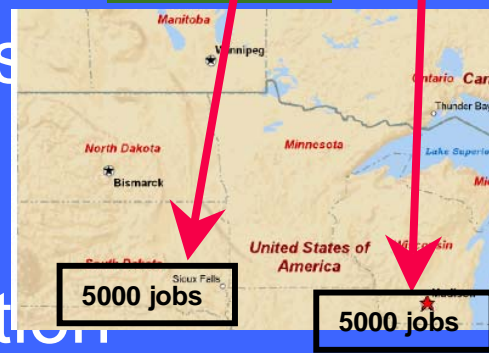
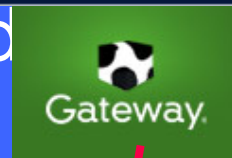


# Lands' End and Gateway:

What does this have to do with telecom?

- Land's End and Gateway both founded in the 1970s in rural areas
- Both were founded on new business models
- Deregulation in telecom *and* transportation enabled this job creation
  - Low cost telecom allowed orders to flow to rural areas - at first 800 numbers, then Internet
  - Low cost transport allowed products to flow to customers quickly

**LANDS' END**



# Broadband and Economic Growth



- Internet and broadband can enable economic growth in new markets unrelated to telecom by enabling new business models
- But this can only happen if underlying economy has enough deregulation to permit such models
- In highly regulated economies economic growth potential is much smaller
  - Why isn't Amazon Japanese?

# Radio technology is Different

- Innovation in technology requires
  - An idea
  - Investment capital to develop it
  - Marketing
- Innovation in radio technology is inhibited by the all pervasive nature of radio regulation in most countries
  - Investors must consider  
**Technical risk + Market risk + Regulatory risk**

# Radio technology is Different

- Alternative high tech markets have fewer risks
- Deregulated environments may be more attractive to investment capital
- Thrust of FCC radio policy in past 2 decades was to “avoid picking winners and losers” in both technologies and companies
  - Get out of the way of progress, don’t dictate it

# Unlicensed - The Safety Valve of a Highly Regulated Industry

- Unlicensed systems can provide a way for unrecognized needs to be met without a lengthy planning process
  - FCC Docket 81-413 decision in 1985 spawned Wi-Fi plus a variety of other systems such as 5 GHz point-to-point links for cellular base stations that could be installed quickly

# Unlicensed - The Safety Valve of a Highly Regulated Industry

- Role of unlicensed may increase as a growing proportion of radio systems need only short range
- Classic radio regulation is based on long range communications
  - Is licensing really needed for 60 GHz where physics limits range?

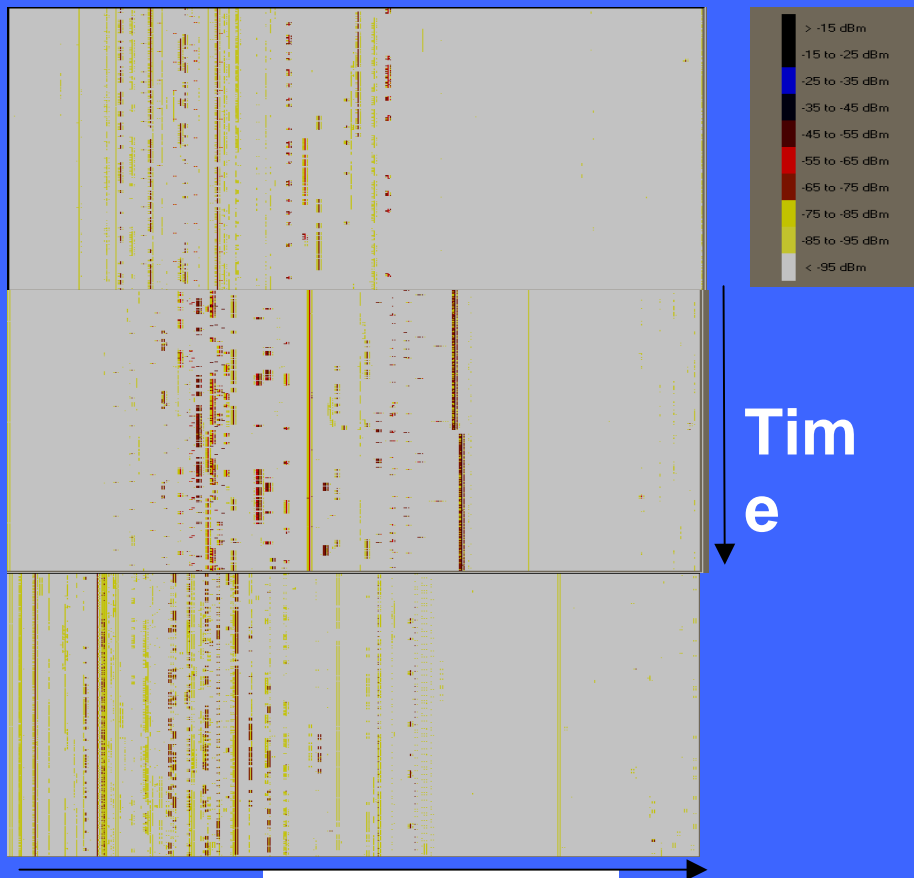
# White Space Problem

Traditional Spectrum Regulation Results in Lots of Holes

Atlanta

New Orleans

San Diego



# Unlicensed

## The Promise of Cognitive Radio

- Cognitive radio may permit positive use of white space
- FCC Docket 04-186 - Unlicensed use of TV band
  - Proposes unlicensed low power use of TV band white space
  - Attracting lots of opposition
  - Positive proposal or “A Bridge Too Far”



# Lessons from FCC for Ofcom:

The good, the bad, and the ugly

- US is virtually unique in segregating military spectrum management away from FCC and isolating it from such pressures
  - Military organizations always have an insatiable demand for free spectrum even though they pay for other commodities

# Lessons from FCC for Ofcom:

The good, the bad, and the ugly

- The real problem with spectrum management in the US
  - NTIA is dominated by the military and defers to IRAC members on most decisions
  - FCC commissioners are selected for their views on broadcasting and telecom rates
    - They select personal staff to deal with these
  - Decision making mechanisms within FCC are designed to deal with highly politicized issues and don't function well with technical policy issues

# Conclusions

- Communications, especially radio, can make a large input to economic growth
- As in other industries, less regulation is really better
- Marketplaces can really work
  - Do not focus on European 3G fiasco, understand why it happened

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