

# Air Traffic Control Commercialization Policy: Has It Been Effective?

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Presentation to AirNeth

By

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# Purpose

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- ❑ Polarized opinions on effects of commercialization on air traffic control
- ❑ Some say ATC Commercialization “dangerous, a resounding failure, widely unpopular idea”
- ❑ Others say ATC Commercialization “safe, more cost efficient, responsive to users”
- ❑ What is the evidence?
- ❑ Objective of study to provide unbiased performance information for policy-makers
- ❑ Looks at performance of ten commercial Air Navigation Service Providers (ANSPs) from 1997 to 2004 compared to the FAA

# Definition of Commercialization

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- ❑ Range of organizational options that introduce business practices
- ❑ Financial autonomy a prerequisite
- ❑ Includes government department with user fees and access to capital markets
- ❑ Separate government agency
- ❑ Six variants of government-owned corporation
- ❑ Public-private partnership 49% owned by government, control to Airline Group
- ❑ Non-profit, private corporation not owned by government with stakeholder-appointed board

# All ANSPs fully participated:

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- Airservices Australia
- NAV CANADA
- DSNA France
- DFS Germany
- Irish Aviation Authority
- LVNL Netherlands
- Airways New Zealand
- ATNS South Africa
- Skyguide Switzerland
  
- NATS UK
- FAA/ATO USA
  
- Government Corp
- Non-Profit Private Corp
- Dept w Fin. Autonomy
- Government Corp
- Government Corp
- Government Agency
- Government Corp
- Govt-owned Public Co.
- Govt-owned Non-Profit Joint stock Corp(99.9%)
- Public Private Partnership
- Government Department

# Project funding and structure:

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- Funds from providers, customers, suppliers, governments and charitable foundations:
  - Included IATA, CANSO, NAV CANADA, LVNL, other ANSPs, ARINC, Transport Canada, European Commission, CAA UK, and two foundations
- Senior level project Advisory Committee provided advice and guidance throughout project, reviewed documents for accuracy and impartiality
  - Members included an ex-FAA Administrator, the Chairman of FAA's Management Advisory Council, the World Bank, IATA, CANSO, the CAA UK, US Government Accountability Office and others

# Project Team included three universities:

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- ❑ Directed by mbs ottawa inc. in Canada
- ❑ Project Director former government official who managed ATC commercialization in Canada
- ❑ Senior Air Traffic Controller as expert advisor
- ❑ School of Public Policy at George Mason University, Virginia
- ❑ Maxwell School of Syracuse University, New York
- ❑ McGill Institute of Air & Space Law, Montreal

# Three new bodies of work:

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- ❑ Legal Descriptions by McGill University of governance structure of each commercial ANSP, organized by topic
- ❑ Over 200 interviews with ANSP management, unions, customers, regulators, military, tech suppliers, international agencies in cooperation with George Mason University
- ❑ Normalized trend analyses of Key Performance Indicators by Syracuse University– safety, modernization, cost, service quality, public interest and financial stability

# Comparability

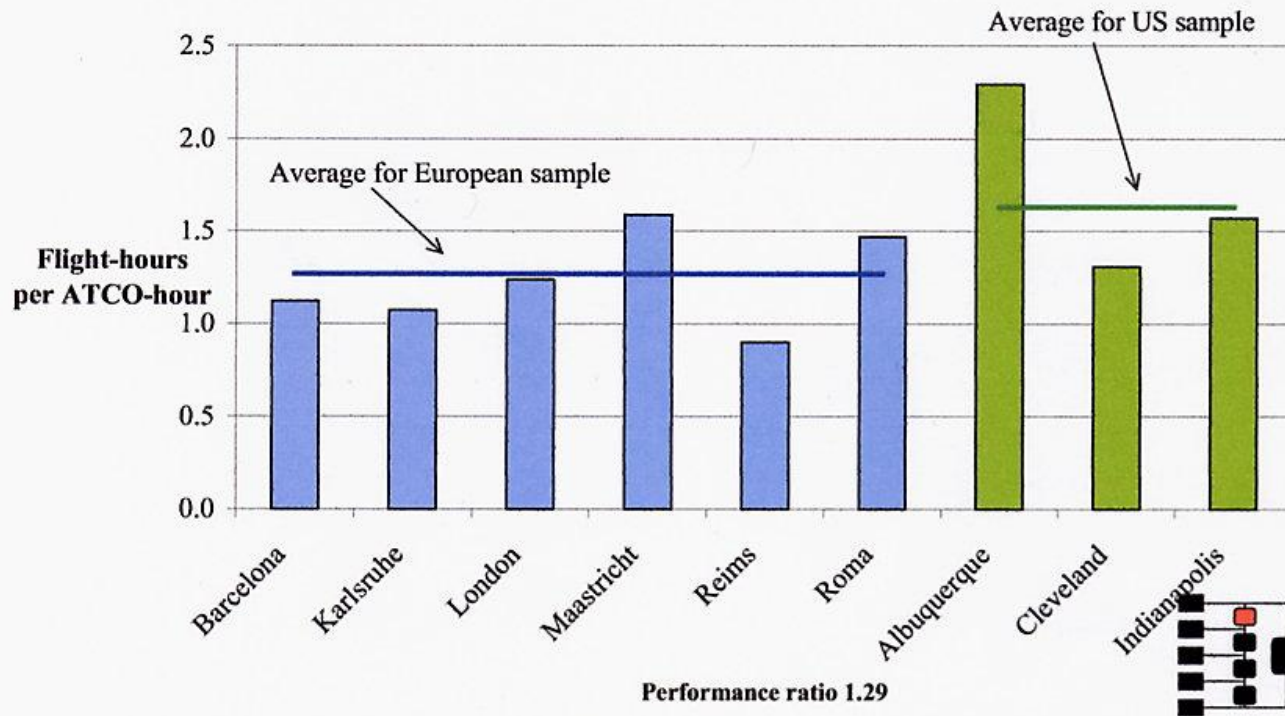
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- ❑ Study of governance structures, regulatory frameworks, dynamics that drive performance
- ❑ Like study of ethics, independent of size
- ❑ Air Traffic Control is scalable – more of the same, not new tasks
- ❑ Technical capability to coordinate large amounts of flight, radar and weather data over large area
- ❑ Maximum productivities similar



# EUROCONTROL – FAA Study

Figure 4.2: Comparison of flight-hours per ATCO-hour

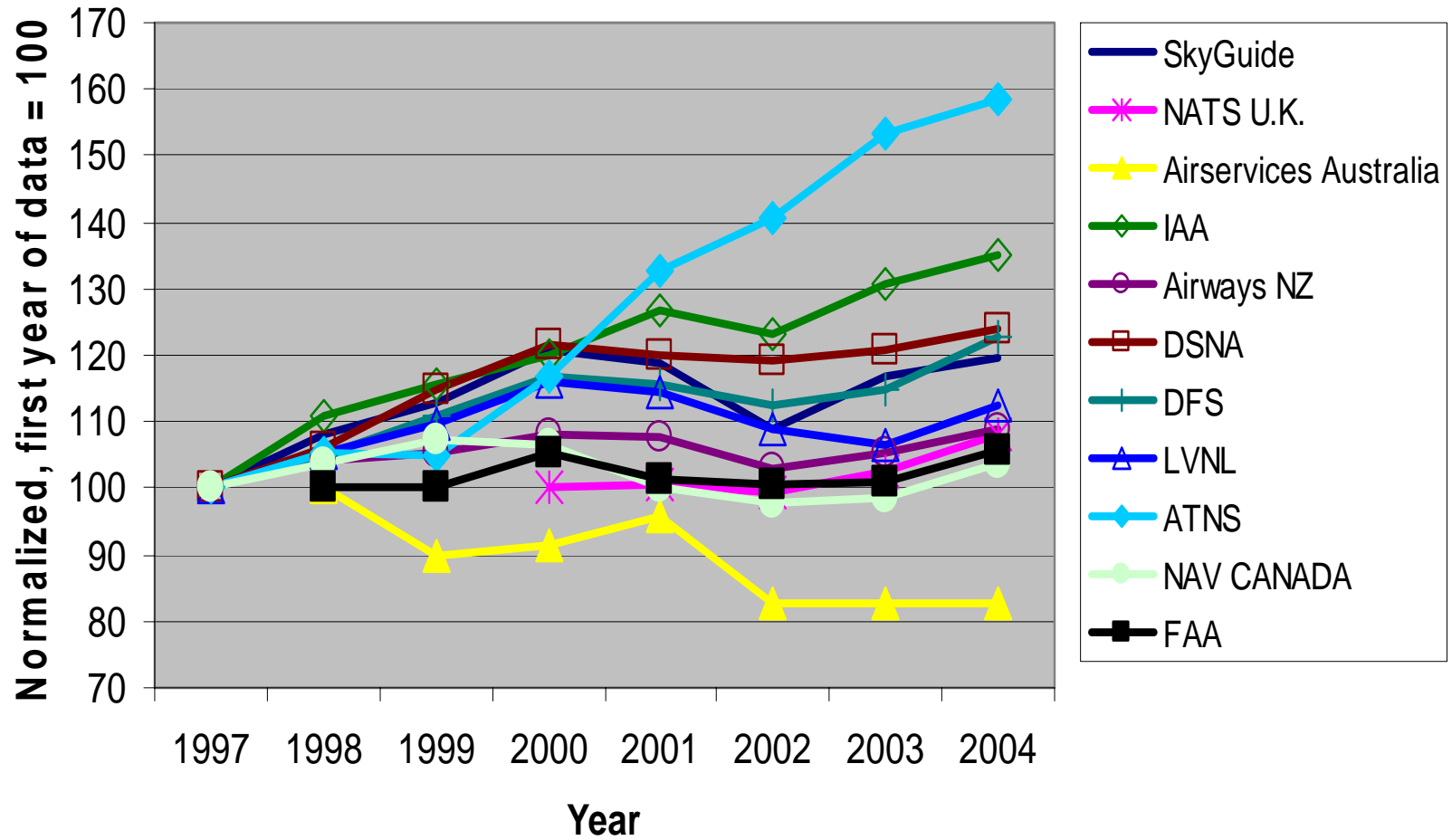


# Comparisons using Trend Analysis

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- Did not use benchmarking - very difficult to agree on fair comparisons between ANSPs:
  - Differences in definitions, method of calculation, voluntary reporting rates, severity classifications, economies of scale, wage rates, accounting standards, exchange rates, inflation etc.
- Trends show improvements or deterioration over time for one ANSP using same definitions throughout period
- Normalization of starting point to 100 allows comparison of trends between ANSPs
- Normalized trends somewhat tolerant of definitional differences between countries, indicates comparative behaviors

## # IFR Movements Controlled

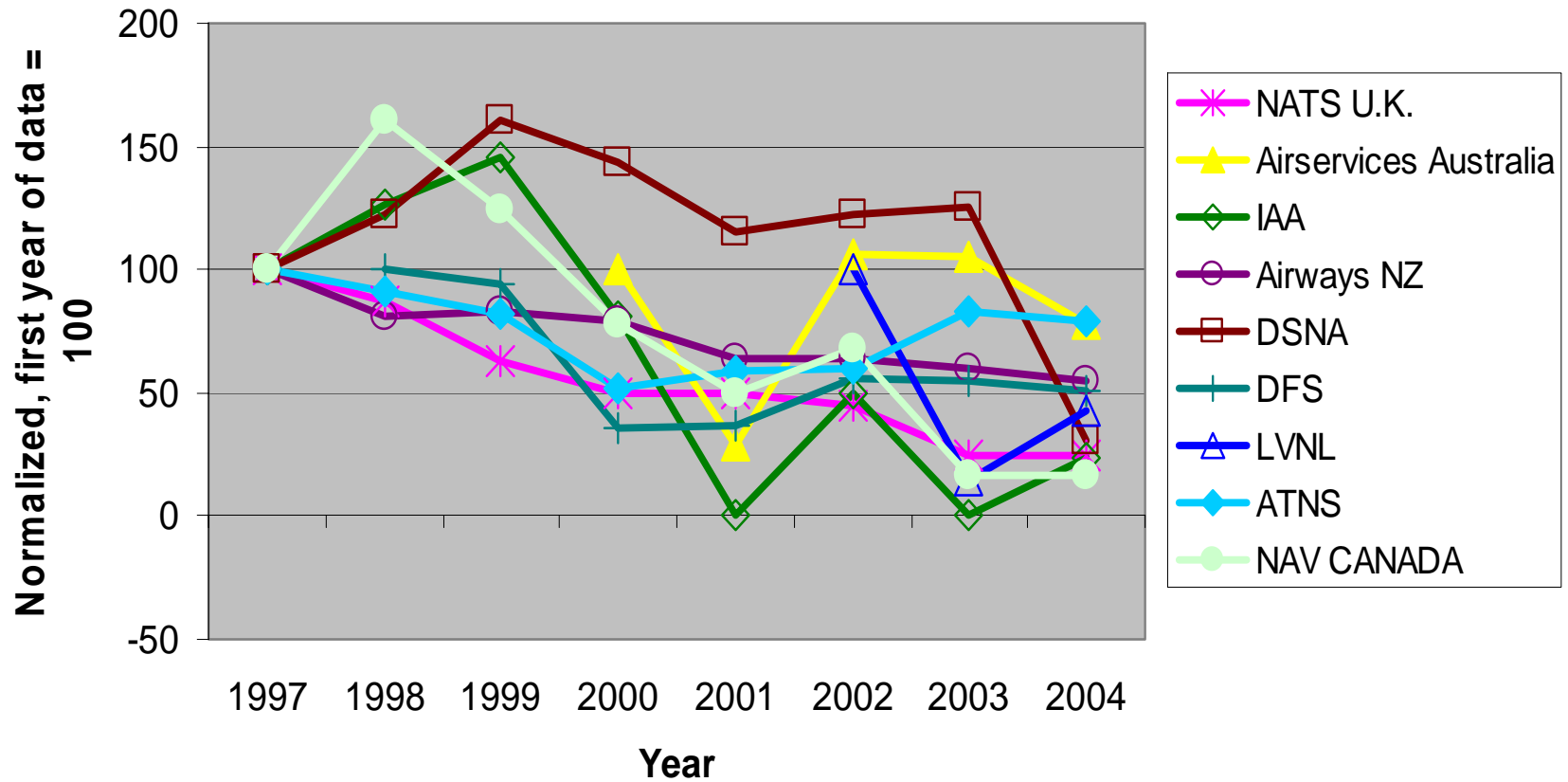


# Findings: Safety

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- ❑ Safety regulators confirm safety not compromised by commercialization
- ❑ Several safety regulators report improvement in safety culture, reliability of reporting & better visibility of safety issues
- ❑ Overwhelming support for separation of regulator from provider
- ❑ Trends show decrease in serious safety incidents for 9 of 10 ANSPs
- ❑ Swiss ANSP had a safety issue – lack of safety oversight and, some believe, airlines too dominant
- ❑ No safety trend data for FAA (“culture of under-reporting” J. Carr NATCA)

## Serious Safety Incidents per IFR Movement ATM-related

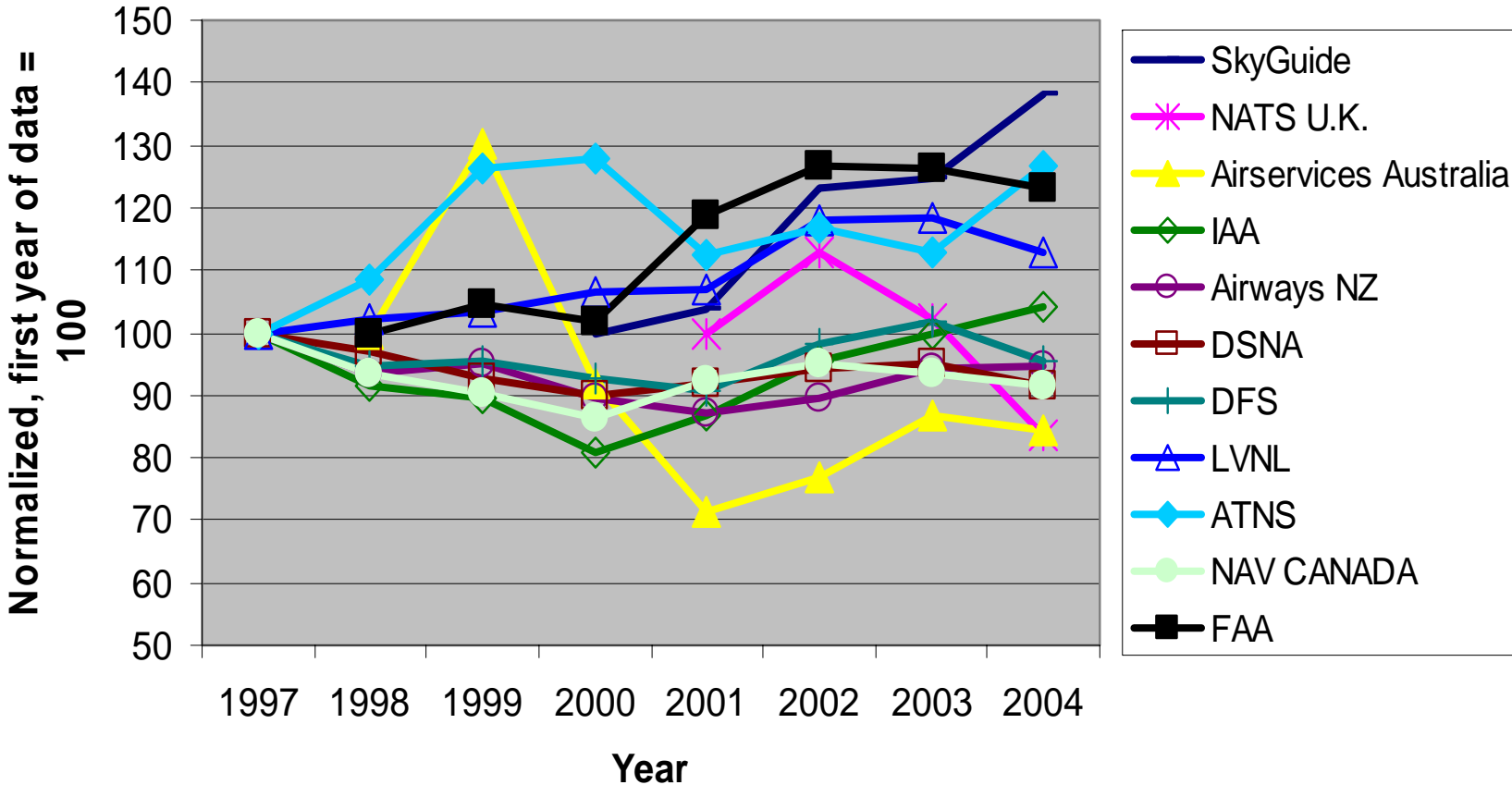


# Findings: Cost

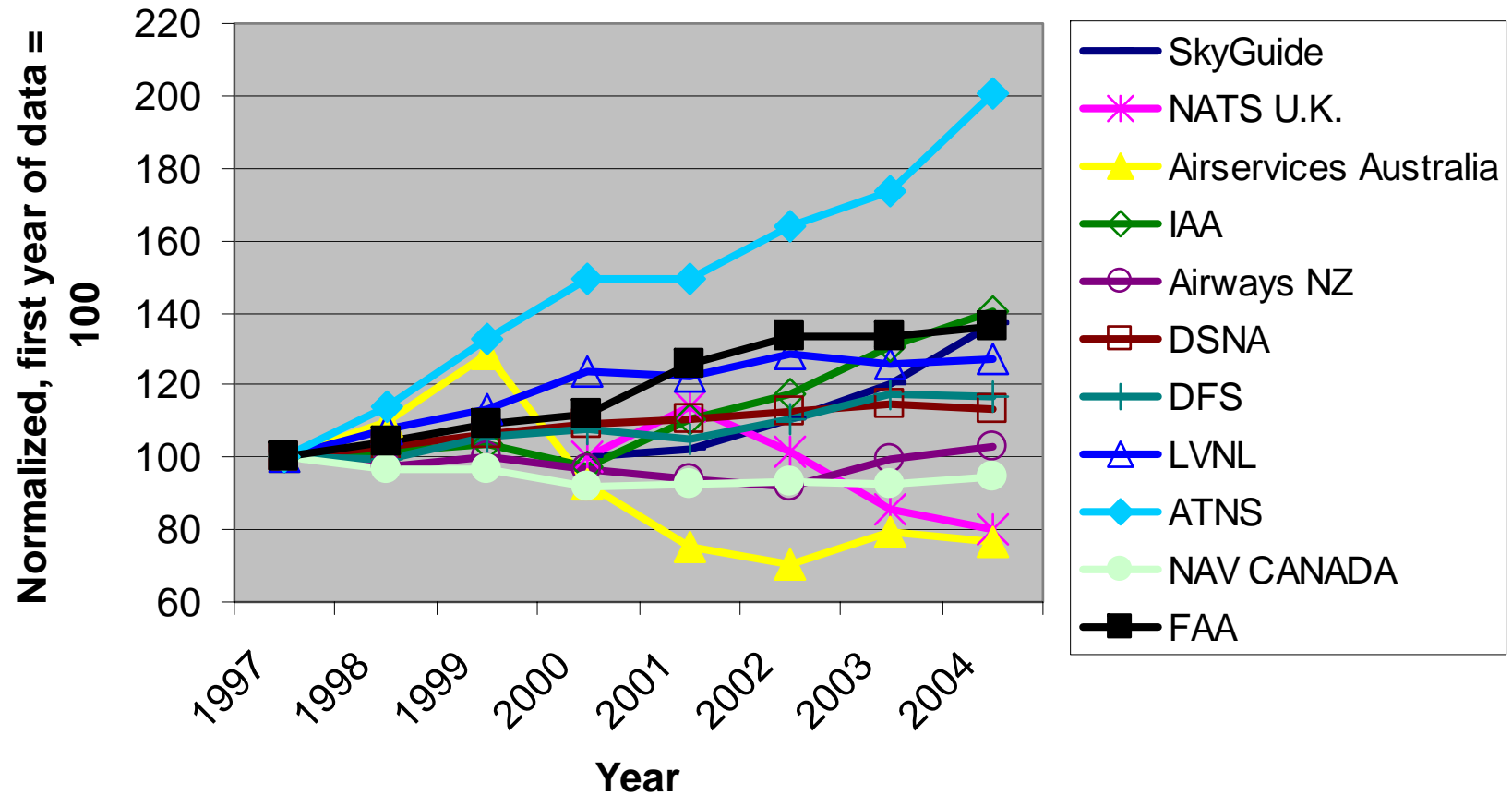
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- ❑ 30% gap in trends in cost per IFR movement between several commercial ANSPs and FAA
- ❑ Major benefit of commercialization
- ❑ Model makes difference – customers most satisfied with cost control in Australia, Canada and New Zealand
- ❑ Strongest results when model provides clear separation from government socio-economic priorities
- ❑ Government priorities on job protection, development of small communities, stimulating industry, local benefits etc in conflict with cost efficiency

## Total Annual ANSP Costs by IFR movements (2004 Constant National Currency)

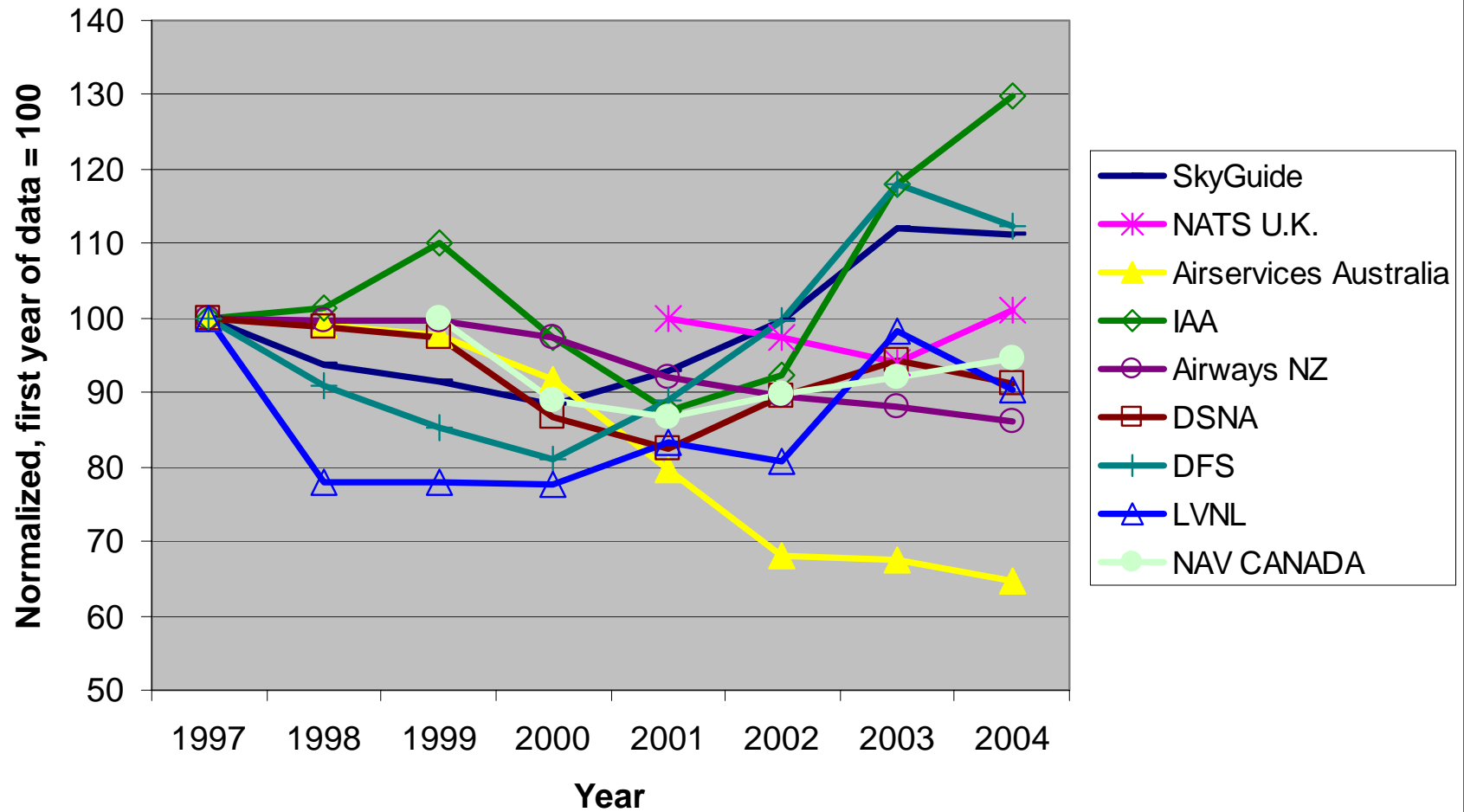


## Total Annual ANSP Costs (2004 Constant National Currency)





## Unit Rate - Enroute (2004 Constant National Currency)

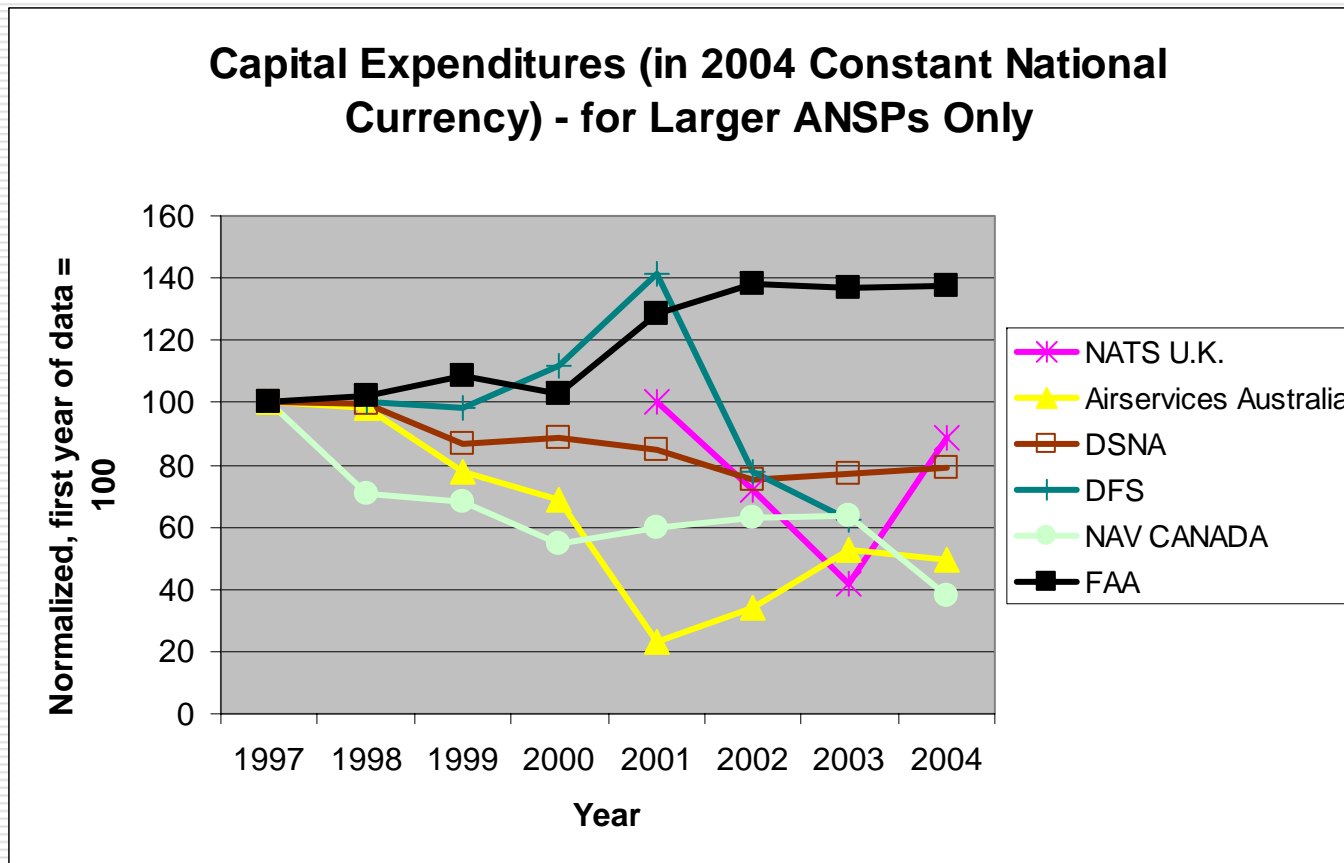


# Findings: Modernization

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- ❑ All commercial ANSPs in sample are modernized with few exceptions
- ❑ FAA had mixed results, cost overruns and delays
- ❑ Consistent view of stakeholders that technology implementation far ahead of where it would be in government
- ❑ Much tighter business discipline – less time in development, less customization, rapid deployment
- ❑ Stronger customer influence on priorities
- ❑ Major advantage of commercialization

# CAPITAL EXPENDITURES



# Findings: Service Quality

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- ❑ Some improvement in delays through correcting short-staffing, innovative technology
- ❑ Large improvement in delay trends in European commercial ANSPs vs FAA – uncertain how much commercialization was contributing factor
- ❑ Major difference in customer responsiveness resulting in improvements to flight efficiency:
  - e.g. oceanic satellite technology years ago in commercial ANSPs but just happening at FAA
  - ADS-B in Australia, rapid RNP procedures
- ❑ Customers strongly supportive of benefits of commercialization on service quality
- ❑ “Frustration” over slow progress at FAA

# Findings: Public Interest

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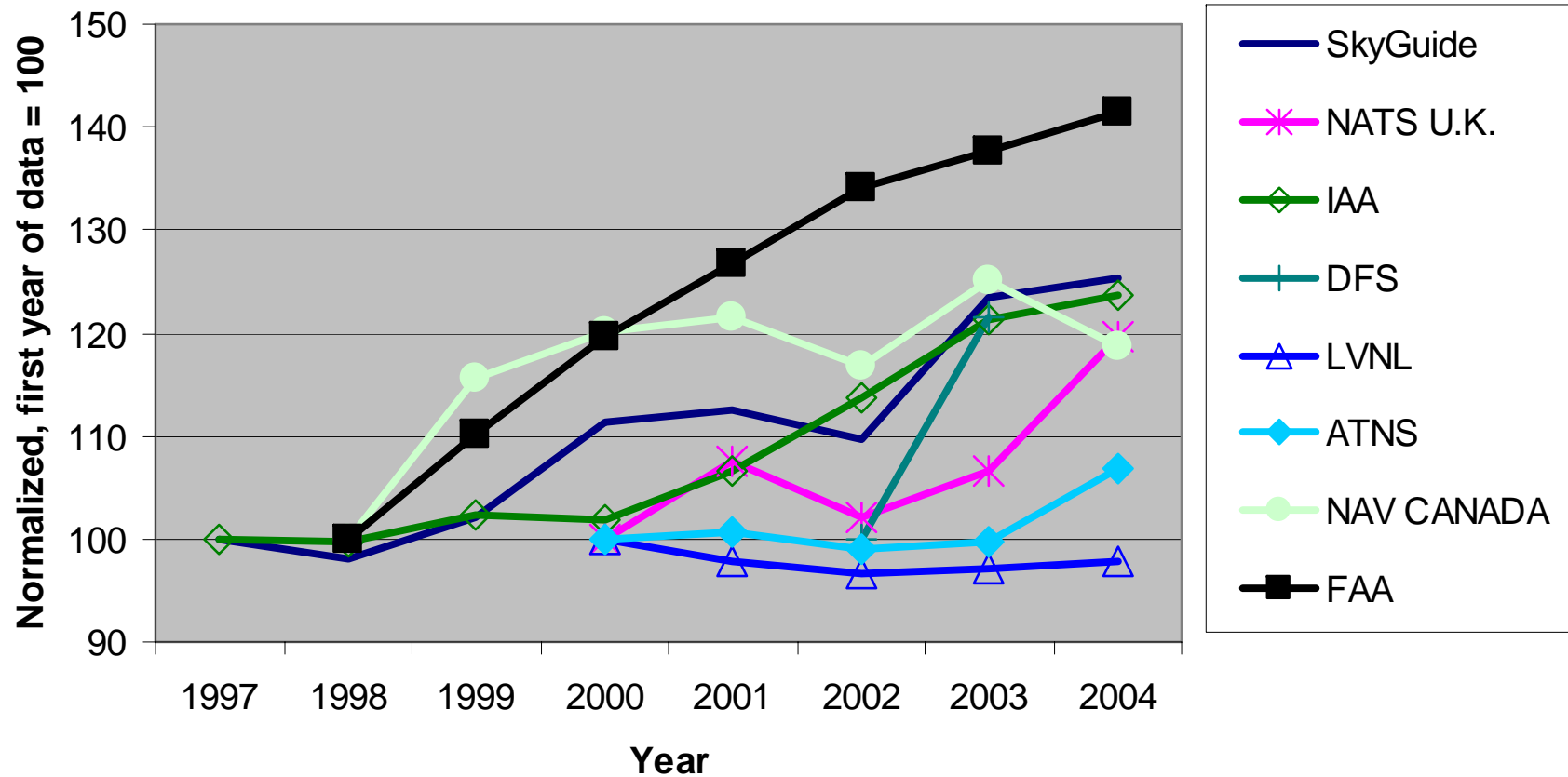
- Improvements in civil-military cooperation
  - Military generally strong supporters of commercialization
- Charges to general aviation modest
  - E.g. \$72 annual flat fee in Canada
- No changes to service to small communities but pressure to reduce cross-subsidization
- Financial stability strong – all weathered ‘perfect storm’ after 9/11, SARS etc
  - Most difficult problems were with UK PPP caused by government structuring of debt, low level of equity injection and regulated price-cap

# Findings: Impact on Labour

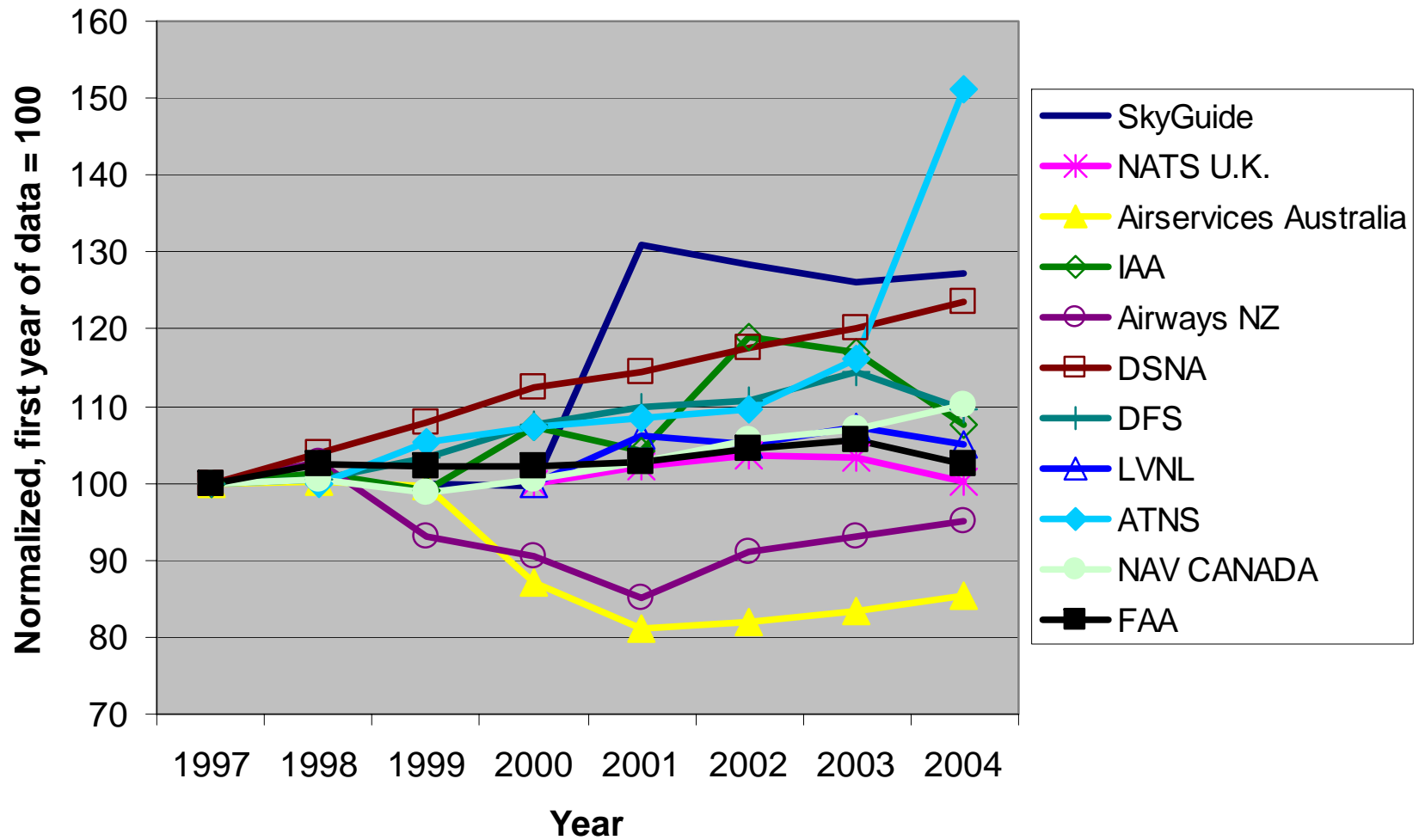
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- ❑ Neutral re labour-management relations:
  - Improvements or difficulties situational and not attributable to commercialization
- ❑ Better equipment: poor technology resolved
- ❑ Better working environment, new facilities
- ❑ Little impact on terms or conditions of employment
- ❑ No negatives and no diminution of safety
- ❑ Wage settlements higher than inflation
- ❑ Several pension plans under-funded by governments during transition
- ❑ No desire by most union officials to return to government department

## ATCO Pay - Incl. Overtime (2004 Constant National Currency)

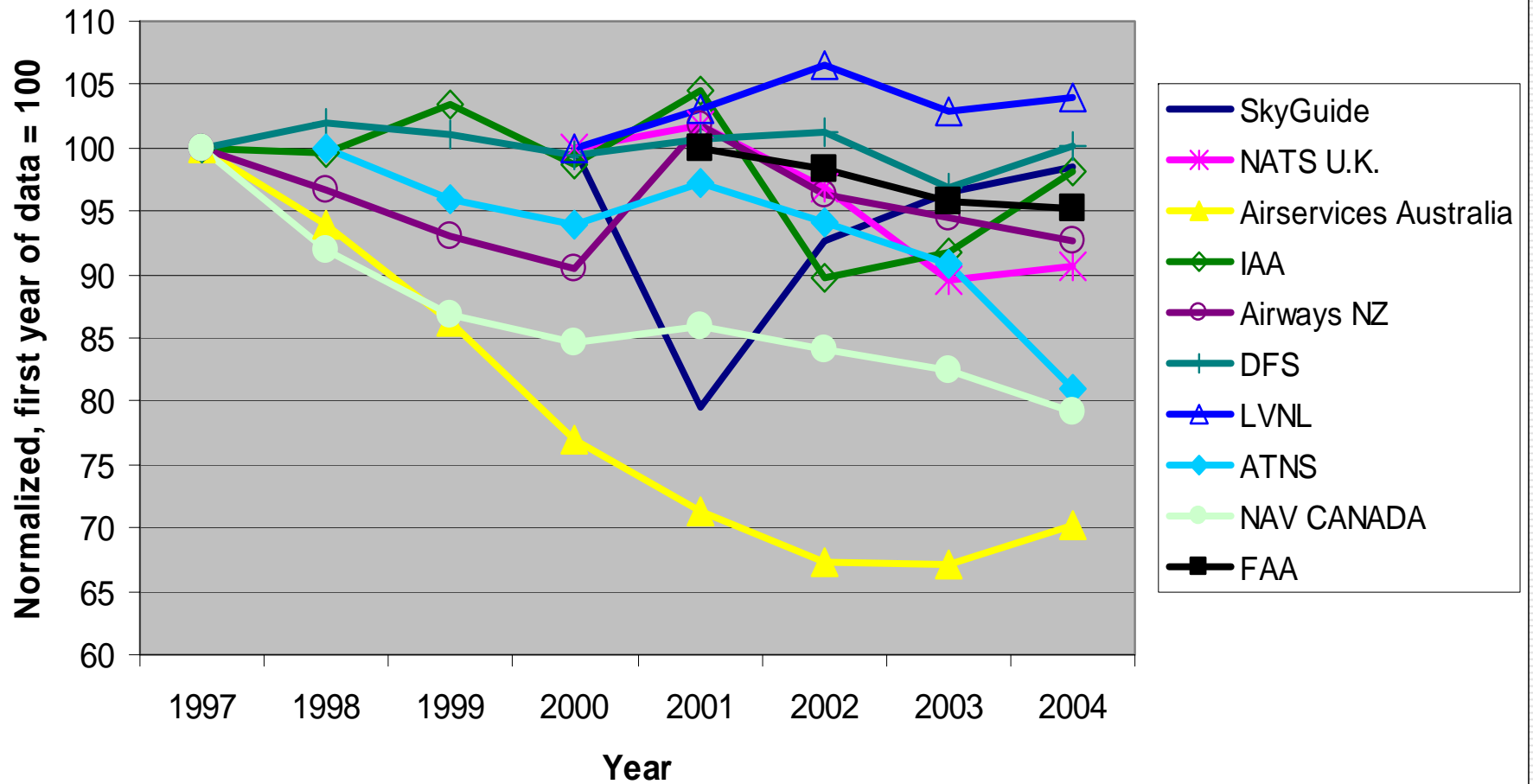


## Head Count- # of ATCOs





## Ratio 'All Staff to ATCOs'



# Findings: Stakeholder opinion

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- All but one of over 200 interviewees did not want to see commercialized ANSP returned to government department (exception German Union rep)
- Strong support for ANSP commercialization from several regulators, customers and military ATC
  - E.g. NAV CANADA won 2006 Air Force award for delivering “real value to the airlines and to business and general aviation while reducing costs”
- “Undoubtedly one of the greatest benefits of ANS commercialization is that there never has been any confusion over just who precisely the customer is.”  
– Air New Zealand

# Lessons Learned

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- Some examples of poor design or implementation of commercial ANSPs
- UK NATS financial difficulties after 9/11 traffic decline from government extracting too much cash, allowing equity partner to pay only 1/16 of bid, setting rigid economic price-cap
  - Resolved by returning some cash, finding new equity investor, more flexible economic regulation
- Swiss ANSP had increase in safety infractions
  - Government did not resource safety regulator
  - Some say airlines too dominant on board and in management
  - Resolved by governance changes, providing resources to regulator

# Linking Structure to Performance: Institutional Independence

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- ❑ Who owns the commercial ANSP not a critical factor
- ❑ Most important that ANSP operates as business and has control of resources and levels of service
- ❑ Some ANSPs have mechanisms that insulate them from government (New Zealand), eliminate or reduce government ownership (Canada, UK), or have strong boards coupled with government restraint (Australia)
- ❑ Current FAA structure typical of other ANSPs before they were commercialized:
  - extensive government direction and political micro-management resulting in compromised performance

# Linking Structure to Performance: Stakeholder Involvement

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- ❑ User fees improve allocative efficiency by information exchange on which services are important and how much services cost
- ❑ Where customers actively involved, and ANSP is transparent, investments scrutinized for value, costs minimized, and services maximized
- ❑ Customers are few in number and financially articulate – results in efficiency gains and reduction of ‘gold plating’
- ❑ Governance structure affects degree of customer influence – from presence on board (should be at arm’s length) to degree of customer focus permitted

# Linking Structure to Performance: Board Structure

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- Airways New Zealand – Screening by independent body (CCMAU), appointments by Minister of Finance
- Nav Canada – Ten directors of 15 appointed by stakeholders, but must not be customer, supplier, client, union rep, government or political official
  - 4 – Commercial Carriers
  - 3 - government
  - 2 – unions
  - 1 – business aviation
- LVNL Netherlands – Stakeholder appointments recommended to Minister, no operational connection
- UK NATS – Airline executives sit on board, have operational control

# Linking Structure to Performance: Safety Regulation

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- ❑ Separation of safety regulator from ANS provider a must
- ❑ Government must fulfill its regulatory responsibilities with effective program
- ❑ Occasionally difficult to obtain appropriate expertise: solved by salary exemptions, secondment rights
- ❑ Example of poor safety oversight leading to consequent major increase in safety infractions
- ❑ Safety Regulators advise government should strengthen ANS safety regulatory capacity well before commercialization

# Linking Structure to Performance: Economic Regulation

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- ❑ Variety of economic regulatory models in sample – tailored to needs of aviation community and degree of stakeholder influence
- ❑ New Zealand – none, but strong customer influence
- ❑ Canada – Stakeholders represented on board, pricing principles in legislation, simple appeal process
- ❑ Australia, South Africa – Regulatory Commissions
- ❑ NL, Germany, France, Switz – Minister/dept approval
- ❑ UK – Thorough economic review and price-capping
- ❑ No evidence one model superior to another, however customers most satisfied with efficiency efforts in Australia, Canada and NZ
- ❑ Long term ANSP-Customer price and service agreements encouraged by some regulators, IATA



# Conclusion

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- ❑ ATC Commercialization is effective at increasing :
  - Some models increase performance more than others
- ❑ Commercial ANSPs exhibit three main strengths:
  - Sensitivity to customer needs
  - Agility in reaching a decision
  - Ability to carry it through
- ❑ Commercialization has many choices – not all or nothing
- ❑ Commercialization works best where several factors come together:
  - Independent governance structure
  - Meaningful customer influence
  - Effective safety oversight

# Thank You

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