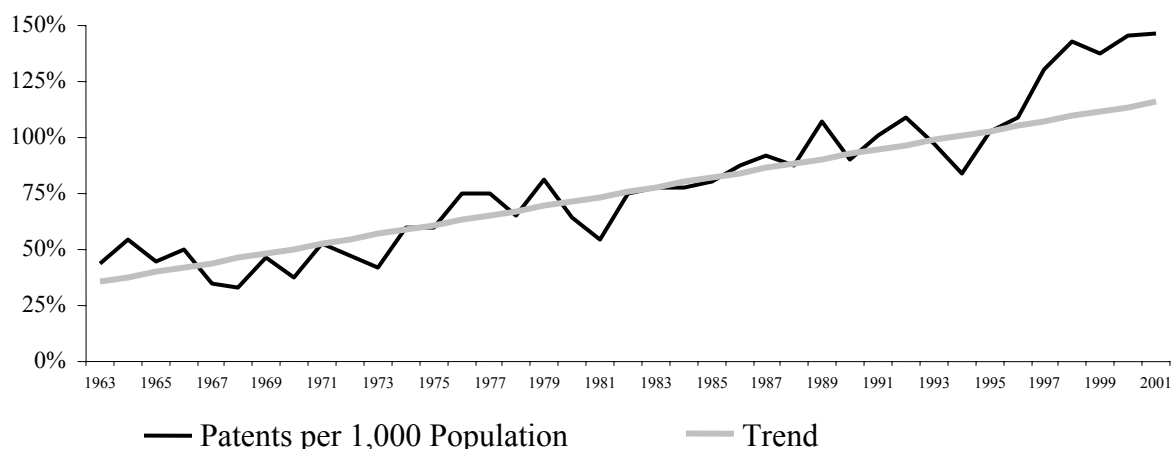


APPENDIX A

PATENTS

The increase in Washington's share of patents does not take into account Washington's more rapid population growth. Chart A.A represents the state's patents per capita as a share of U.S. patents per capita. In the 1960s, Washington's share of per capita patents was about half the national average. In the late 1990s, Washington's share rose to about 150 percent of the national average, well above a 30-year time trend.

Chart A.A
High Technology Industries
WA as a Percent of U.S. Patents per 1,000 Population



High Tech Patents: Washington's Ranking Relative to Other States

Table A.1 ranks Washington against 49 states (excluding New Hampshire) and the District of Columbia in terms of high tech patents issued per state resident. The ranks are for the seven years prior to enactment of Washington's high tech incentives (1988-1994) and seven years after (1995-2001). The 55 high tech patent classes are those that are similar to the statutory definition of technologies that qualify for Washington's high tech incentives.

Washington is ranked 1 in a high tech patent class if it has the most patents per resident of the other states and D.C. Washington's total score relative to other states improved considerably after the high tech programs were implemented.

Table A.1
Washington Ranked by the Number of Patents Per Resident
Compared to 49 States and the District of Columbia
Rank: 1=highest rank, 50=lowest rank

Patent Class	Washington Rank	
	1988-1994	1995-2001
244 Aeronautics	1	1
345 Computer Graphics Processing, Operator Interface Processing, and Selective Visual Display	12	1
707 DP: Database and File Management, Data Structures, Or Document Processing	11	1
717 DP: Software Development, Installation, and Management (Data Processing)	15	1
376 Induced Nuclear Reactions: Processes, Systems, and Elements	7	2
607 Surgery: Light, Thermal, and Electrical Application	3	2
530 Chemistry: Natural Resins or Derivatives; Peptides or Proteins; Lignins or Reaction Products	2	3
704 DP: Speech Signal Processing, Linguistics, Language Translation, and Audio Compression	15	3
709 Multiple Computer or Process Coordinating (Electrical Computers and Digital Processing)	11	3
128 Surgery (includes Class 600)	10	4
382 Image Analysis	16	4
117 Single-Crystal, Oriented-Crystal, and Epitaxy Growth Processes; Non-Coating Apparatus	28	5
347 Incremental Printing of Symbolic Information	9	5
435 Chemistry: Molecular Biology and Microbiology	8	5
353 Optics: Image Projectors	13	7
455 Telecommunications	13	8
701 DP: Vehicles, Navigation, and Relative Location (Data Processing)	2	8
703 DP: Structural Design, Modeling, Simulation, and Emulation (Data Processing)	12	9
705 DP: Financial, Business Practice, Management, or Cost/Price Determination (Data Processing)	25	9
73 Measuring and Testing	6	10
331 Oscillators	6	10
341 Coded Data Generation or Conversion	10	11
588 Hazardous or Toxic Waste Destruction or Containment	12	11
342 Communications: Directive Radio Wave Systems and Devices (e.g., Radar, Radio Navigation)	12	13
436 Chemistry: Analytical and Immunological Testing	12	13
505 Superconductor Technology: Apparatus, Material, Process	28	13
711 Memory (Electrical Computers and Digital Processing Systems)	14	13
370 Multiplex Communications	31	14
399 Electrophotography	19	14
438 Semiconductor Device Manufacturing: Process	16	15
706 DP: Artificial Intelligence (Data Processing)	31	15
367 Communications, Electrical: Acoustic Wave Systems and Devices	14	16
424 Drug, Bio-Affecting and Body Treating Compositions (includes Class 514)	19	16
604 Surgery (Medicators and Receptors)	19	16
716 DP: Design and Analysis of Circuit or Semiconductor Mask (Data Processing)	10	16
340 Communications: Electrical	6	17
356 Optics: Measuring and Testing	16	17
379 Telephonic Communications	16	17

Appendix A: Patents

359	Optics: Systems (Including Communication) and Elements	17	18
360	Dynamic Magnetic Information Storage or Retrieval	16	18
423	Chemistry of Inorganic Compounds	35	18
700	DP: Generic Control Systems or Specific Applications (Data Processing)	25	18
501	Compositions: Ceramic	36	19
257	Active Solid-State Devices (e.g., Transistors, Solid-State Diodes)	25	20
326	Electronic Digital Logic Circuitry	14	20
368	Horology: Time Measuring Systems or Devices	17	20
218	High-Voltage Switches with Arc Preventing or Extinguishing Devices	18	21
385	Optical Waveguides	15	21
702	DP: Measuring, Calibrating, or Testing (Data Processing)	4	21
369	Dynamic Information Storage or Retrieval	23	22
532	Organic Compounds (includes Classes 532-570)	36	22
494	Imperforate Bowl: Centrifugal Separators	17	26
204	Chemistry: Electrical and Wave Energy	26	30
429	Chemistry: Electrical Current Producing Apparatus, Product, and Process	31	30
378	X-Ray or Gamma Ray Systems or Devices	<u>27</u>	<u>31</u>
Sum of Ranks		892	723

Source: U.S. Patent Office