Index

Index

Advanced Micro Devices (AMD), 190, 191, 192, 269, 408, 433, 527, 528	internationalbusinessstrategies,179 market distort ions, 168
AFL-CIO, 332	ma rket sham, 173
Alabama, 128	i n semiconductors, 13, 24, 25, 27, 28, 132, 1:13, 137,
Amdahl, 205, 211, 269, 271, 433	187-200"
American Electronics Association, 309	current trends, 194
American Microsystems, Inc., 526	internation aldimensions, 192
American Society for Training and Development, 312	Japan, 196-20()
Ampex, 70	linear to digital circuits, 196
Apple, 108, 148, 205, 212 Atari, 268	strategy and struct u re, 198
AT&T, 14, 27, 108, 139, 179, 189, 313, 465	mergers, 195 products and prices, 190
Audio, 520	United States, 188-196
Australia, 135	technology, role of, 16[1
7.1	computers
BASF, 211	Amdahl 470-V, 8 1
Bell Laboratories, 27, 108, 139, 179, 189, 313, 465	applications of, 90, 91
Braniff International, 258	centralprocessing unit (CPU), 82, 83, 85, 99
Brazil, 57, 135, 151, 166, 206, 388	characteristics of different categories, 83
Burroughs, 82, 134, 147, 201, 212	characteristics of generations, 90
Business Week, 535	in China, 387
	competitiveness, 28, 149, 200-212
Canada, 136, 149, 175	Cray-1, 93
Carver, Robert, 520-524	distributed processing, 85
Cash, Berry, 529	Eniac, 88
China, Peoples Republic of, 185, 387	in Europe,152
China Technical Services Corp., 387	Fairchild F-8, 88
Electric Power Ministry, 387	growth of computing power, 87
industrial policies, 387	IHM System/32,531-535
Information Processing and Training Center, 387	IBM 370/1-68,99
National Electric Technology Import Corp., 128	IBM 650, 87, 88
National Plan for Development of Science and	in Japan (see Japan)
Technology, 387	mainframe, 83,84
State Administration of Computer Industry, 387	memory, 99-101
Cincinnati Milacron, 240, 242 competitiveness	m icrocomputer, 83, 84
in computers, 15-19, 28, 149, 200-212	min icomputer, 83, 84
[apan]	price trends, 89 networking,85
government assistance, 208	1°1)1°-8, 88, 146
marketing strategies and multinational	process control, 102
operations, 210	sma11 business computers (SBCs),53I-535
United States	software, 85, 531
impacts of microelectronics and reliability,	(: osts.86
201-204	development, 206
international aspects, 205	product strategies, 204
product strategies, 204	reliability, 220
strategic patterns, 201	systems aspects, 29
in consumer electronics, 5, 11-13, 112, 115, 180-186	types Of, 82
American response, 182	Univac I, 81, 87, 101
Japan, 180	(J. S. industry, 145-150
dumping, 168, 199	competitiveness, 200-212
economics of, 164-168	evolution, 147
comparative advantage, 164	exports, 150
evaluation of, 177-179	imports, 14{1, 150
in financing (see financing)	international trade and investment, 149
foreign markets, 184	ma nufacturers, 147
importance of, 60	plug-compatible manufacturers (PCMs), 148, 149,
indicators, 175	205

production 29	Electronics Education Foundation, 195
sales, 146, 149, 202	employment
structure;, 146	in computer manufacturing, 40
world markets, 151	in consumer electronics, 39, 40
congressional interest, 7, 9, 36, 46, 276	effects of import penetration and offshore
consumer electronics	assembly, 359-363
amplifiers, high-fidelity, 520-524	consumer electronics, 360
in Asia, 126, 127, 128	foreign investment in U. S., 363
automat ion (see manufacturing)	semiconductors, 362
cathode-ray tube (CRT), 68, 71, 102	future patterns, 366-372
color TV sales, 114	impacts of technical change in electronics, 344-349
	•
competitiveness, 5, 11-13, 112, 115, 180-186	automation debate, 344
employment, 114, 353	factors affecting employment levels, 347
exports, 118	in semiconductors, 356
in Japan (see Japan)	trends in U.S. electronics industry, 349-358
offshore U.S. TV manufacturing plants, 118, 510	computers, 353, 357
product differentiation, 23	consumer electronics, 351, 353
research and development, 68, 69, 168	semiconductors, 352, 356
structure, 58, 114	European Community (EC), 43, 143, 153, 185, 411,
TV receiver componentry, diagram of, 69	412, 432, 433, 434
U.S. sales and imports, 112, 114, 116	European Economic Community (EEC), 107, 123, 124
U.S. TV manufacturing facilities, 114	European Free Trade Association (EFTA), 433
video cassette recorders (VCRs), 68, 70, 112, 122,	exports, [J. S.
156, 165, 180, 186	color TV receivers, 119
video disk, 70	computers, 150
wage rates, 127	semiconductors, 135, 136
Consumer Reports, 231, 232	, ,
Control Data Corp., 201, 206, 212, 268	
Costa Rica, 185	Fairchild Camera and Instrument, 72, 140, 143, 191,
Cray, 206, 271	195, 288, 433
City, 200, 271	Federal policies affecting electronics: U.S. options,
Data General, 200, 205	463-502
Datapoint, 204, 205	alternative perspectives on industrial policies,
Deming, W. E., 224	467-500
Digital Equipment Corp. (DEC), 31, 88, 111, 146, 147,	competitiveness of American industries,
	promoting the, 491
179, 201, 204, 205, 240	open trade and industrial policy, 492
Domestic International Sales Corp. (DISC], 445	product cycles and structural adjustment, 491
dumping, 42, 168, 169, 182, 439	
1 1 25 .25 .202 .212	critical industries, support for, 475
education and training, 35, 36, 302-318	capital for investment, 482
international] d inferences, 317-318	national defense, 477
secondary school education	U.S. economy, 480
in Japan, 304	infrastructural and adjustment policies, 485
in United States, 303	adjustment, 488
university and continuing education, Japan, 314	design and implementation, 489
company-run training programs, 316	private sector, 496-500
continuing education and training, 315	protecting domestic markets, 468-475
engineering, 314	bilateralism in trade, 469
enrollments in colleges, 315	market-protection strategy, 474
university and continuing education, United	pros and cons of protected market, 470
States, 305, 312	current environment, 464-467
community colleges and local initiatives, 311	Ferranti, 142
engineering, 306-308	financing
engineering technology, 310	accelerated depreciation, 32, 279, 295, 500
industry initiatives, 309	bankruptcy risks, 263
supply and demand, 308	Chase Financial Policy study, 256, 257, 260, 261,
university-industry relations, 310	262
Electronic Industries Association (EIA), 114, 182,	cost of capital for electronics firms in the United
350, 439, 441	States and Japan, 266-268

effects of financial leverage on tax payments, 262 financial structure-international comparison,	General Electric (GE], 12, 14, 107, 111, 122, 123, 133, 147, 181, 183, 195, 245, 277, 332
268-294	General Motors, 331, 332
France, 289-292	Gold Star Co., 128, 384
Japan continuing change, 286-289	gross domestic product (GDP), 171, 172, 175
external funding, reliance on, 281-284	gross national product (GNP), 346, 348, 364, 383 GTE-Sylvania, 115, 123
government involvement, 284-286	GTE-Sylvama, 113, 123
postwar trends in financial system, 280	Hewlett-Packard, 111, 126, 148, 151, 200, 204, 205,
United States	210, 230, 247, 248, 249, 268, 313, 322
Capital supplies and financing Costs for	Hitachi, 151, 153, 154, 158, 209, 211, 240, 262, 277,
electronics industry, 277-280	317
entry, costs of, 270	Honda, 285
financing startups and growth, 274-276	Hong Kong, 126, 127, 193
internal and external sources of funds, 272-274	Hughes Aircraft, 313
venture capital, 31, 268-270	human resources
West Germany, 292-294	labor, 318-325
inflation and banking practices, 260-261, 278 internal and external financing, 257	comparison, U.SJapan, 325
international differences, 32, 33, 34	market trends, 319 mobility, 321
R&D tax credit, 32, 168	in Japan, 323
risk, 258	in United States, 322
aversion behaviors, 259	organization and management, 326-334
compensation for, 259	decisionmaking in Japan, 328
subsidization, 260	management styles, U.SJapan, 333, 336-339
risk absorption in Japan, 262	Matsushita's purchase of Quasar, 338
savings rates, 264	worker participation, 330
size; and diversification, 263	quality control (QC) circles, 331, 332
Ford Motor Co., 110, 332	preparation for work, 37
France. 46, 123, 124, 151, 175, 268, 281 CII-Honeywell Bull, 55, 107, 126, 152, 291, 382,	quantity and quality, 34
394, 396	engineering education, 35, 36
Commissariat du Plan, 401	IBM, 14, 18, 27, 28, 42, 55, .59, 82, 86, 87, 95, 108,
Compagnie Generale d'Electrite, 394	111, 125, 126, 132, 141, 144, 145, 147, 155, 158,
Compagnie; International; pour L'Informatique	179, 189, 194, 201, 205, 211, 227, 240, 271, 277,
(CH), 291, 395	313, 322
Electronics Industry Task Force, 399	imports into United States
French Atomic Energy Commission, 398	color TVs, 24, 116, 183
Government Program for Development of	computers, 150
Electronics, 399	consumer electronics, 182, 435
industrial policies, 394-400	industrial policies
Institut de Developement Industrial (IDI), 395 L.e Plan Calcul, 291, 395, 396, 397	comparisons, 383-422 developing countries
Le Plan Circuits Integres, 481	China, 387
Le Plan des Composants, 190, 396, 397	others, 388
Le Plan Periinformatique, 398	South Korea, 383
Ministry of Economy and Finance, 395	Taiwan, 385
Ministry of Industry, 394	European Community, 412
Ministry of Research and Technology, 394	France, 394-400
President Mitterrand, 394, 395, 398, 400	finance, 395
Prime Minister Barre, 399	future prospects, 400
Saint-Gobain-Pent-a-Mousson, 397	Le Plan Calcul, 291, 395, 396, 400
Fujitsu, 151, 153, 154, 158, 199, 201, 209, 211, 240, 269	Le Plan des Composants, 397, 398, 400
207	planning, 395 recent developments, 398-400
GCA Corp., 110	Japan, 413-422
General Agreement on Tariffs and Trade (GATT), 43,	cooperation in R&D, 417
62, 168, 169, 429, 430, 436, 438, 441, 443, 444,	effectiveness of policy, 421
445, 446, 447, 451	government R&D projects, 417
	- · · · · · · · · · · · · · · · · · · ·

policymaking, 416	consumer electronics, 111, 112-129
institutional setting, 415	investment, 175
recent trends, 421	offshore assembly in color TV, 116 (see also
role of universities, 419	offshore manufacturing)
supports and subsidies, 419	sales trends, 109
United Kingdom, 400-405	semiconductors, 111, 112-129
early experiments, 401	wage rates and investments, 127-128
other policies toward electronics, 403	Western Europe, 123-126
recent context, 401	Phased Alternating Line (PAL), 123, 124
research and development, 403	
United States, 389-394	sales, European, 126
	International Labour Office, 344
antitrust, 390	Intersil, 14, 33
policymaking, 393	ITT, 184
procurement and R&D, 391	Iowa State University, 308
taxation, 392	Ireland, 205
trade and foreign economic policies, 390	
West Germany	Japan
effectiveness of policies, 412	Agency for Industrial Science and Technology, 245
Fraunhofer Gesellschaft, 410	Bank of Japan, 266, 280, 285, 286
future policies, 411	Computer Development Laboratory, 418
institutional setting, 405	computers
policies toward electronics, 407	competitiveness, 15, 151, 205, 206-212
policymaking processes, 406	government assistance, 208
R&D support, 408	production and exports of VCRs, 25
congressional interest, 7, 9, 46, 47, 48, 49	production, imports and exports, 18, 153, 154
critical industries, 46, 48	sales, 156, 157
domestic market base, 46, 47	consumer electronics, 23, 119-123, 180-182
economic adjustment, 10	automation, 23
education and training, 9	color TV exports to the United States, 116
Federal policies affecting, 467-500	competitiveness, 115, 117, 180-182
infrastructural development, 49	development, 119
lack of U.S. policy, 61	dumping, 42, 182
OTA definition, 7	foreign markets, 184
tools of industrial policy, 381	government supports, 121
foreign investment controls, 382	industrial structure, 121
government procurement, 381	reliability, 23, 70, 229
investment grants, 381	television, 69, 70, 115, 117, 120, 121, 122, 231
tariffs, 382	VCR development, 24, 70, 122, 165
integrated circuits (ICs), 23, 24, 25, 26, 27, 29, 32, 58,	wage rates and investment, 127
71, 101 (see also manufacturing;	Council for Science and Technology, 416
semiconductors)	——————————————————————————————————————
design, 73-74, 77	Development Bank, 155, 208, 245, 286, 415, 420
development, 72	Economic Planning Agency, 415
learning curves, 76-77	education and training, 304, 314, 315, 316
manufacturing, 78-81, 96-99	Fair Trade Commission (FTC), 415
	finance, 33, 34 (see also financing)
microprocessors, 95	foreign investment, 175
technology, 93-99	Foreign Investment Council, 193
types of, 93	industrial policies, 413
Intel Corp., 31, 74, 190, 323, 324, 525, 526, 527	Institute of Standards, 225
International Brotherhood of Electrical Workers, 361	international electronics industry, 107-159
international electronics industry, 107-159	Japan Information Processing Development Center
competitiveness, 163-214	(JIPDEC), 416, 417, 418
Japanese industry, 119-123	Kansai Electronic Industry Development Center,
development, 119, 120, 184, 185	181
government supports, 121	labor (see human resources)
investment, 175	lower capital cost (see financing)
production and exports of color TV receivers, 120	manufacturing approach, 224
U.S. industry, 108-118	Ministry of Education, 416
color TV imports into U. S., 116	Ministry of Finance, 280, 285, 288, 415
computers, 111, 112-129	Ministry of International Trade and Industry

(MITI), 119, 121, 140, 145, 154, 180 , 193, 194, 196, 197, 198, 206, 208, 209, 245, 415, 416, 417, 418, 419, 420, 448, 449, 454	Smoot-Hawley Trade Bill, 429 Tariff Act of 1930, 443, 445 Trade Act of 1974, 444, 446, 447, 448, 449, 450
Ministry of Posts and Telecommunications, 416, 418	Trade Agreements Act of 1979, 45, 430, 431, 438, 439, 441, 443
Pattern Information Processing System (PIPS)	Trade Expansion Act of 1962, 184
project, 207, 417	Library of Congress, 101
Plant Export Polic y Committee, 121	Linear Technology, 189
Reliability Center for Electronic (Components, 224	Lucky Group, 128
Research Association for R&D on New Function Elements, 48	
robotics (see manufacturing)	Magnalox, 12, 70, 123, 181
Science and Technology Agency (STA), 415	Magnuson, 271
se mico nd uct ors	Malaysia, 135, 193
cap it al i nvestments,138	manufacturing
competitiveness, 13, 132, 133, 187, 190, 193,	automation, 233-245
1 96-200"	in electronics
development, 139	consumer electronics, 236
gover n m e nt ro 1 f;, 140,193,197	reasons for, 235
inte mat ionaltrade, 141	semiconductors, 236
mal ^o r produce rs, 140, 158	fixed and flexible, 234
manufac t uringequip ment, 144	robotics, 239-246
production, 139	international trends, 244
protection ism,193	in manufacturing, 240
rates of spending by firm s. 33	market growth, 242
sales, 44, 138, 1-98	robots and jobs, 241
structure, 137	technology, 239
trade, 43, 431	USE of, 24:3
computers,458	color TV's, quality and reliability of, 231-233
consumer electronic s, 451	integrated circuits, 78-81, 96-99, 226
dumpingintheUnitedStates, 439	acceptable quality level (AQL), 228, 229
Orderly Marketing Agreements, 446, 447	customer requirements, 227
semiconducto"rs,452	failures in, 227
tariffs, 432, 433,434	quality and reliability comparisons, 229
VLSIproject, 80, 145, 197, 198, 207, 208, 238, 416,	testing, 226, 228
417, 418, 454 Japan Electronic Computer Corp.(JECC), 155, 208,	testing and screening in Japan 228
209, 245, 414, 420	Japanese approach, 224
Japan Robot Leasing Company, Ltd. (JAROL), 245	organizing for quality, 225
J. C. Penney, 116, 181, 440	quality consciousness, 224 standards, 225
John Fluke Manufacturing Co., 110	offshore (see offshore manufacturing)
Juran, J. hi., 224	quality, 219
Julian, 5. III., 221	organizing and managing for, 221
	reliability, 219, 220
	importance of design, 222
Karatsu, Hajime, 224	in United States and Japan, 237
KMart, 181	Matra-Harris, 291, 397
Korea Development Bank, 384	Matsushita, 24, 115, 120, 122, 126, 144, 184, 186, 21 (),
•	224, 225, 231, 238, 256, 262, 285, 316, 338, 451
legislation	Mexico, 13, 57, 117, 135, 149, 151, 166, 193, 206, 388,
Burke-Hartke bill, 513	447, 510, 513
Clayton Act, 390, 465	Microelectronics & Computer Technology Corp., 195,
Economic Recovery Tax Act of 1981(ERTA), 32,	205
51, 173, 276, 278, 279, 381, 392, 393, 497, 500	microprocessors and memory, 74-75, 95
Employee Retirement Income Security Act of 1974	Microsystems International Ltd., 526
(ERISA), 269	MIT, 308
Export Trading Company Act, 382	Mitsubishi Electric, 316
Foreign CorruptPractices Act, 382	Monolithic Memories, 190
Revenue Act of 1916, 438	Mostek, 33, 189, 192, 195, 454, 525, 526, 529
Small Business Investment Act of 1958, 269	Motorola, 59. 115, 131, 138, 199, 231, 277, 525

National Advanced Systems, 149, 211 National Aeronautics and Space Administration, 314 National Committee to Improve the Quality of Work Life, 331	Saturday Review, 521 Schlumberger, 195 Scholastic Aptitude Test (SAT), 303, 304 Sears and Roebuck Co., 115, 116, 181, 440
National Science Center for Communications and	SECOINSA, 211
Electronics, 314	semiconductors
National Science Foundation, 303, 313, 314, 320, 393	acceptable quality level (AQL), 228, 229
National Semiconductor, 107, 108, 158, 189, 191, 211,	American dominance, 129
322, 526	analog circuits, 67, 73, 94, 230
National Venture Capita] Association, 269	in Asia, 143, 193
NCR (formerly National Cash Register), 82, 111, 132,	automation (see manufacturing)
134, 135, 147, 155, 201, 270	bipolar, 93, 94
New York Times, 368	captive producers, 132, 133
New York University, 312	competitiveness, 13, 24, 28, 132, 133, 137, 187-200
Nippon Electric Co. (NEC), 137, 138, 151, 154, 155,	digital circuits, 67, 73, 94, 196
190, 209, 211, 262, 277, 387, 433, 526	employment, 137, 356, 357
Nippon Telegraph and Telephone (NTT), 107, 138,	European industry, 141
197, 261, 381, 418, 437, 481	sales, 142
North American Philips, 115, 156, 451	exports, U. S., 135, 136
North Carolina School of Science and Mathematics,	future developments, 81
312	gallium arsenide, 81
	imports, U. S., 135, 136
offshore manufacturing, 137, 193, 226, 510-519	integrated circuits (ICs), 71, 72, 73, 74, 81
alternatives to, 514, 518	design, 77, 78, 92, 130
balance of payments, effects on, 511	lithography, 79, 80
case example, 516-518	manufacturing of, 78, 96-99
economic impacts, 510	production levels for captive manufacturers, 134
employment impacts, 511	quality and reliability of, 226, 229, 247
motivations for investments, 513	technology, 93-99
technology transfer, 512	terminology and classification, 94
Oki Electric, 108, 197, 481	types of, 93
Olivetti, 205, 311, 397	international positions, 26
Orderly Marketing Agreements (OMAs), 13, 42, 62,	Josephson junctions, 81
63, 112, 113, 117, 120, 121, 128, 169, 184, 356,	large-scale integration (LSI), 73, 74, 93
360, 437, 446, 447, 448	learning curves and yields, 76
organization for Economic Cooperation and	major producers, U.S. and Japan, 140
Development (OECD), 344, 348, 430	major U.S. companies, 130, 131
DI I: 100 500 504	manufacturing equipment, 144
Phase Linear, 180, 520-524	market trends, 131
Philo, 183, 236	merchant manufacturers, 132, 133
Philippines, 135, 193	metal oxide semiconductors (MOS), 27, 73, 78, 93,
Philips, 70, 122, 142, 153, 186	94, 99, 188, 189, 397
point-of-sale manufacturing, 135	microprocessors, 73, 74, 75, 77, 95, 132, 190, 199 military sales, 132
Queen 12 115 221 222	offshore facilities, U. S., 137, 193, 226, 514
Quasar, 12, 115, 231, 332	production in the United States and Japan, 139
Radio Shack, 74, 148, 186	profits, 137
RCA, 12, 13, 55, 68, 70, 107, 108, 111, 113, 114, 128,	programmable read-only memory (PROM), 96
132, 147, 172, 181, 183, 186, 199, 277, 282, 451	quality dumping, 230
RCA Institute, 312	random-access memory (RAM), 96, 99, 130, 196,
Reagan administration, 465, 466	247, 248, 249
Remington Rand, 147, 201	4K dynamic MOS RAM, 524-531
research and development	read-only memory (ROM), 96, 176, 190, 323
in computers, 207, 208, 209	read-write memory (RWM), 96
in consumer electronics, 68, 69, 168	research and development, 27, 28, 29, 71, 130, 195,
privately funded, 179	199
in semiconductors, 27, 28, 29, 71, 130, 195, 197	silicon, 71, 72
Rockwell, 135, 199	solid-state devices, 72
100811011, 100, 177	system design, 73
Samsung, 385	transistors, 72
Sanyo Manufacturing Corp., 114, 115	U.S. growth, 130
Sanjo manufacturing Corp., 117, 113	O.D. 510WIII, 130

U.S. firms, international operations, 134, 135	computers, 457
U.S. sales, 26, 130, 131, 198	consumer electronics, 451
in RAMs, 25, 57, 176, 187, 529-530	semiconductors, 452
very large-scale integration (VLSI), 73, 76, 79, 81, 82, 92, 194, 196	quantitative restrictions and the escape clause, 446-450
Semiconductor Industry Association, 309, 313	escape clause proceedings in color TV, 447
Semiconductor Research Cooperative, 28, 195	OMAs for color TV imports, 446
Siemens, 142, 143, 205, 211, 269	quotas and other nontariff restrictions, 449
Silicon Valley, Calif., 31, 55, 311, 313, 322, 323	the escape clause, 449-450
Singapore, 126, 127, 135, 193, 205	subsidies and countervailing duties, 442-446
Small Business Investment Corp. (SBIC), 269, 520	indirect taxes, 444
Sony, 12, 115, 122, 186, 231, 285	unfair practices, 445
South Korea	tariffs, 43, 45, 430-438
color TV exports to the United States, 24, 112-118	agreements from Tokyo Round, 436-437
competitiveness, 58, 61, 166	changes in Tokyo Round MTN. 432-433
consumer electronics, 12, 23, 126, 128, 129	effects, 431, 433, 434
Development Bank, 384	offshore manufacturing, 434-435
dumping, 42	Trilogy Systems, 205, 271
Economic Planning Board, 384	TRW, 211
electronics production, 129, 384	Underwood 147
Hyundai Group, 129 industrial policies, 383	Underwood, 147 Unidata, 205
Institute of Electronics Technology, 384	Unimation, 240, 242
Ministry of Commerce and Industry, 384	Union of Japanese Scientists and Engineers (JUSE),
Ministry of Communications, 385	224
semconductor manufacture, 143	United Auto Workers, 331
Soviet Union, 108	United Kingdom
Spain, 122, 211	Advisory Council for Applied Research and
Sri Lanka, 127	Development, 402
Standard Industrial Classification (SIC) (categories,	Central Computer Agency, 402
350, 365	computer development, 81
Stanford University, 308, 310, 313	consumer electronics, 124
Sylvania, 181, 183	Department of Trade and Industry, 401
	government subsidies, 268
Taiwan, 12, 23, 24, 42, 57, 58, 61, 63, 117, 126, 135,	industrial policies, 400-405
151, 166, 513	Industrial Reorganization Corp., 401
Electronics Research and Service Organization	International Computers Ltd. (ICI,), 55, 200, 205,
(ERSO), 386	211, 400, 403 Miorealectronia Industry Support Programme 403
industrial policies, 385-386 Industry Technology Research Institute (ITRI), 386	Microelectronic Industry Support Programme. 403 Microprocessor Applications Project (MAP), 403
Tandy Corp., 148, 179, 186, 205, 212	Ministry of Technology, 401
tariffs (see trade)	National Economic Development Council (NEDC),
Tata Elxsi, 388	401
Taylor, Frederick W., 221, 326	National Enterprise Board (NE B), 381, 402, 404,
Texas Instruments (TI), 72, 111, 131, 136, 138, 140,	409
144, 179, 186, 189, 191, 193, 194, 197, 199. 205,	Science Research Council, 402
240, 277, 322, 525, 526, 527	Thatcher administration, 403
Thomson-Brandt, 126	United Nations Council on Trade and Development,
Three Mile Island, 103	388
Tokyo Round Multilateral Trade Negotiations, 45,	United Technologies, 133
169, 430, 432, 436, 437, 438, 443, 451	Univac, 82
Toshiba, 158, 185, 210	University of California, Berkeley, 313
Toyota, 317, 436	Unix, 29
trade	U.S. Bureau of Census, 81
policies and their effects, 429-460	U.S., Bureau of Labor Statistics (BLS), 320, 321, 350,
dumping, 438-443	364, 365
color TV case, 439	U.S. Department of Commerce, 393, 438, 439, 441,
other actions, 441-442	443 Foreign Commercial Service 421
U.S. law, 438 electronics industry, 450-459	Foreign Commercial Service, 431 U.S. Department of Defense, 27, 79, 168, 314, 391
ciccionics industry, 450-457	0.5. Department of Defense, 21, 13, 100, 514, 591

Ada-computer language, 107

Ultrasmall Electronics Research, 391

Very High-Speed Integrated Circuit (VHSIC) program, 15, 79, 80, 209, 381, 391, 393, 465

- U.S. Department of Education, 303, 313
- U.S. Department of Energy, 314
- U.S. Department of Justice, 55, 390, 465
- U.S. Department of Labor, 320, 356
- U.S. Department of State, 431
- U.S. Department of the Treasury, 438, 439, 443, 444, 445

Customs Service, 440, 441

- U.S. Federal Communications Commission, 464, 520
- U.S. Federal Trade Commission, 187, 390, 465
- U.S. General Services Administration, 436
- U.S. International Trade Commission (ITC), 133, 361, 439, 440, 443, 445, 448, 449, 451
- U.S. Small Business Administration, 381
- U.S. Steel, 110
- U.S. Supreme Court, 441, 444, 448
- U.S. Tariff Schedules, 117, 118, 136, 434
- U.S. Trade Representative, 431

value-added tax (VAT), 444, 445 Visicorp, 110

Wang, 204, 205, 387

Wang Institute, 309

Warwick Electronics, 115, 183, 223

Western Electric, 14, 33, 59, 130, 132, 144, 196, 227, 277, 366

West Germany

Act for the Promotion of Stability and Economic Growth, 405

AEG-Telefunken, 123, 407, 408, 411

Association of German Engineers, 412

Commerzbank, 293

Council of Economic Advisers, 406

Deutsche Bank, 293

Deutsche Bundesbank, 406

Dresdner Bank, 293

Fraunhofer Gesellschaft (Association of Institutes of Applied Research, FhG), 28, 381, 410

gross national product, 408

Grundig AG, 411

industrial policies, 405

Institute for Solid State Technology, 410

Japanese TV manufacturing in, 122

Labor Market Office, 349

Ministry of Economics, 406, 410

Ministry of Finance, 406

Ministry of Labour and Social Affairs, 331, 407

Ministry of Research and Technology, 331, 406

Nixdorf, 148, 152, 201, 408, 411

secondary schooling, 304

Technical University of Munich, 410

Xerox Corp., 125, 196

Zenith, 12, 13, 55, 68, 107, 111, 113, 114, 117, 128, 172, 181, 183, 186, 444, 448, 451