

---

# Subject Index

- Adult Basic Education Program, U.S., 203
- AFQT. *See* Armed Forces Qualification Test (AFQT)
- Apprenticeships: decline in Britain, 254–56, 261, 264; differences in quality, 32–33; distribution among occupations in Germany, 26–27; effect on U.K. wage growth, 249–50; firm retention in Germany, 43–44, 47; Norway, 286–87; school performance related to, 54–55; United Kingdom, 233–34
- Apprenticeships, employer-sponsored: costs, 40–43, 45–46; decline in United Kingdom, 235; German, 4, 9, 15, 26–29, 45–46, 82; United States, 79–80, 92–93, 102. *See also* Training, employer-sponsored
- Apprenticeship training: German, 27–31; German investment in, 35–37, 41, 52–55, 57–58; initial skills and theoretical German, 102; union role in U.S., 80–82; wages gains in Britain with, 20; youth in U.K., 63
- Apprenticeship 2000*, United States, 233
- Armed Forces Qualification Test (AFQT), United States, 211, 217–18, 222, 226, 230
- Armed Services Vocational Aptitude Battery (ASVAB), United States, 206, 230
- Associations. *See* Employer associations, Germany
- Auto industry: apprenticeship training in U.S., 79–82; comparisons of training by firms in, 12–13; employment in U.S. and German, 87–89; Japanese transplants in United States, 136–46; union role in U.S., 80
- Benefits: at Japanese auto transplant firms, 138, 144–46; of third party in employer-sponsored training, 161
- Certification. *See* GED certification; Qualification, apprenticeship; Skill certification
- Chambers: of *handwerk*, Germany, 28, 34; of industry and commerce, Germany, 15, 34, 42–43, 82, 233
- Competition: for apprenticeships, Germany, 54–55, 57–58; to meet skill needs, Germany, 33–40; skill requirements to meet product, 37–38
- Contracts, training, 114–18
- Costs: of German firm-based apprenticeship training, 40–47, 56–57; of German *handwerk* sector training, 50–53; of labor in Japanese firms, 127–29; sharing, Germany, 30. *See also* Spending, employer; Spending, government
- Councils. *See* Private Industry Councils (PICs), U.S.; Training and Enterprise Councils (TECs), United Kingdom; Works councils, Germany
- Cross-training. *See* Training
- Data sources: British and Norwegian vocational training, 287–90; formal training on and off job, 185–86; labor market con-

- Data sources (*continued*)  
 ditions, 230; postschool training, 235; productivity without formal training, 151–52; returns to within-company schooling, 302; secondary school completion, 205–7; training and productivity growth analysis, 167–71; training practices analysis, 78–79; Youth Cohort Study (YCS3), U.K., 268–71
- Earnings: effect in Britain and Norway of vocational training and education, 290–96; effect of training, 271–78. *See also* Wage gains; Wages
- Educational systems: allocation of students in German secondary, 26; determinants of high school graduation, 207, 211–18; differences in postsecondary, 10; incentives in German, 9, 30, 33, 57–58; integration of two-tier British system, 284–85; link to Japanese firms, 122–23, 134; Norwegian, 285–86; postsecondary U.S., 10; re-entering U.S., 19; teachings of Japanese, 113–14
- Employees: participation in Japanese auto transplant firms, 137–42; as trainers in Germany, 28, 51; as trainers in Japanese firms, 124–26; as trainers in U.S. auto industry, 80; turnover in Japanese firms, 4, 8–9. *See also* Retention rate, Germany; Workers
- Employer associations, Germany, 28, 34, 35, 37–39, 42–43
- Employment-at-will doctrine, 136, 142
- Employment relations: Japanese training in, 117–20, 124, 132; training in Japan for, 124–29, 134
- Employment systems: comparison of German and U.S. auto firms, 87–92; flexible, United States and Germany, 79–82, 102–3; training practices linked to, 102–4. *See also* Hiring practices; Organization of work
- Employment Training (ET), U.K., 263–64
- EOPP-NCRVE (Employment Opportunity Pilot Projects—National Center for Research in Vocational Education) Employer Survey, 167–69, 171, 194–95
- Financial institutions, Germany, 40, 233
- GED certification: benefits of, 19, 201–2; determinants of, 207, 211–18; high school equivalence, 201–5; as predictor of worker choices, 218–28
- Government role: in apprenticeship program, Germany, 28–30, 82–83; in school system, Norway, 285–87; in setting U.S. apprenticeship standards, 79–80; in U.K. vocational curriculum, 73; youth training and apprenticeships, United Kingdom, 234–35, 263–71. *See also* Investment; Spending, government; Subsidies
- Handwerk* sector, Germany: apprenticeships in, 32–33; apprenticeship training in, 35–37, 49–52; distinction from industrial/commercial sector, 28, 32–33; training volume in, 35–36
- Heterogeneity, U.S. firms, 122, 129
- Hiring practices: German firms, 39–40, 44–47; Germany, 38–41, 43–49; in Japanese auto transplant firms, 129–33, 134; Japanese firms, 122–23; at Toyota Motor Manufacturing, U.S.A., 142–43; variables influencing, 163–65
- Homogeneity: in Japanese auto transplant firms, 129–33; Japanese idea of basic knowledge, 8–9, 121–23, 129, 134
- IG Metall (metalworkers union), Germany, 83
- Industrial/commercial sector, Germany, 28, 32–33
- Industrial relations systems, Germany and U.S., 40, 92
- Industrial Training Boards (ITBs), U.K., 233–34
- Information: exchange within firm, 114–16; training to share, Japan, 125, 133; used in labor market decisions, 163–65
- Institutions: contribution in Germany to quality of work force, 39–40; in facilitating organizational change, German and U.S., 91–92, 103–5; industrial relations, Germany, 36, 103–4; role in German apprenticeship system, 28–29, 33–34, 233; support and influence for training by, 14; support in Japan for training, 15; variation among countries, 283–84. *See also* Employer associations, Germany; Government role; *Handwerk* sector, Germany; Industrial/commercial sector, Germany; Unions, Germany; Unions, U.S.
- Investment: by apprentices in education and training, 35–37, 41, 52–55, 57–58; com-

- ponents in training, 7; in employment relations, Japan, 117–20; in German *handwerk* sector training, 49–53, 57; incentives in Germany for training, 15, 33, 57–58; return of Japanese firms to, 4; in technical skills, Japan, 116, 119–20; in training, Japan, 114–15; of workers in within-company schooling, 302–6; workplace training as, 3; in youth education and training, Germany, 35–37, 41, 52–55, 57–58
- ITBs. *See* Industrial Training Boards (ITBs), U.K.
- Job rotation system, Japan, 125–26, 135–36
- Job Training Partnership Act (JTPA) training, 191
- Just-in-time inventory (*kanban*) system, Japan, 135, 137
- Kaizen* (incremental improvement) practice, Japan, 135, 137
- Labor market: data on local conditions in, 228
- Labor market, external: hiring in German, 39–40; relation to internal labor market in Germany, 31–32
- Labor market, internal: apprenticeship as entry to German firm, 53; costs to supply German, 47–49; function of German, 38; relation to external labor market in Germany, 31–32; skilled worker in German firm, 36, 53–54
- Labor markets: rationale for German, 37–38; status of youth, U.K. and U.S., 239–41; structure of German, 82–84; United Kingdom, 254–55; variables influencing hiring practices, 163–65; youth in British, 264–68; for youth in United Kingdom (1975–90), 264. *See also* Hiring practices
- Labour Force Surveys, U.K., 235, 254
- Learning-by-doing, 17, 150, 153–55, 157–58
- Military training, 191
- National Child Development Survey (NCDS), U.K., 235, 237–38, 287–90
- National Council for Vocational Qualifications (NCVQ), United Kingdom, 64, 72–73, 263
- National Federation of Independent Business (NFIB) survey, 164–65, 169–70, 171–72, 197–98
- National Longitudinal Survey of Youth (NLSY), U.S., 205, 228–29, 235, 237–38
- Occupational training. *See* Apprenticeship training; Training, employer-sponsored; Vocational training
- Occupations: creation in U.S. firms of new, 93; redefinition in German industries, 82–83
- Off-the-job training: effect on worker productivity, 186; Germany, 27–28, 67; Japan, 126–29, 132, 134
- On-the-job training: effect of U.S., 17; effect on worker productivity, 186; in Japanese auto transplant firms, 131–33, 135; of U.S. nonskilled workers, 81. *See also* Learning-by-doing
- Organization of work: auto industry, 77; changing, 86–87, 89; effect of different patterns, Germany and U.S., 85–87; enhancing flexibility in auto industry, 89–91; impact of changes on employment systems, 89–92; link of training practices to, 78, 104–5; molded by German product markets, 37–39; new occupations and standards, Germany, 83–84; relation to job requirements, 80–81; teamwork training, 97–99, 100; work-force composition, 155–56. *See also* Employment systems; Occupations; Technical training
- Private Industry Councils (PICs), U.S., 234
- Private sector training. *See* Benefits; Hiring practices; Productivity, worker; Training, employer-sponsored; Wage gains; Wages
- Private sector training, Japan, 120–29
- Product and process awareness training, German and U.S., 94, 99, 103
- Productivity, firm, 17
- Productivity, worker: comparison of U.S. and Japanese, 110–11; data sources for, 167–71; differences in, 161; employment-based training to develop, 111–12; expectations of new-hire, 163–64, 193, 196–97; learning-by-doing effect on, 17, 150, 153–55, 157–58; relation to quit rate, 155–56; relation to tenure, 157–58; relation to variables in analysis, 173–93
- Productivity indexes, 170–71
- Product markets, German, 31–34, 37–38
- Public sector. *See* Government role

- Qualification, apprenticeship: after training, United Kingdom, 242, 244–45; changes in Britain, 256–57; effect on wage gains, United Kingdom, 249–51. *See also* Skill certification
- Qualifications: British educational, 284–85; proposed U.K. national system of vocational, 72
- Regulation: in France of training places, 65; German education and training system, 82–83; U.S. apprenticeship training, 79–80
- Retention rate, Germany, 43–44, 47, 50
- Retraining: Germany, 46; United States, 81
- Schooling: data for analysis of choices of, 228–30; definition of within-company, 299; determinants of postsecondary, 218–28; determinants of secondary, 207, 211–18; incidence of postsecondary U.S. and U.K., 245; Norway, 285–87; relation between training and formal, United States, 244–45; United Kingdom, 284–85
- Selection process: of employees for training, 249; postapprentice, 46–47; for training in U.S. auto industry, 81
- Skill certification: Germany, 30, 49, 53–54, 58; United Kingdom, 64, 74. *See also* Qualification, apprenticeship
- Skills: data tracing differences in development, 237–39; effect of different patterns of work organization, 85–87; German company-specific, 29, 45; high level of Japanese fundamental, 8–9, 121–23, 129, 134; Japanese training in technical, 116–20, 123–24; marketable, in German labor market, 29–32, 36; requirements for German product markets, 37–38; supply of and demand for broad occupational, 79–85, 89
- SPC training. *See* Statistical process control (SPC)
- Spending, employer: comparison of countries', 11–12, 14; rationale for German apprenticeship training, 47–49; on training in Germany, 35–37; on training in United States, 11, 14. *See also* Costs
- Spending, government: for training in Nordic countries, 4–5; in United Kingdom for YOP and YTS, 265
- Statistical process control (SPC), 85, 97, 99
- Subsidies: in Britain for youth training, 264–66; supporting Japanese training system, 15
- Teamwork-plus training, German and U.S., 97–99, 103
- Technical and Vocational Education Initiative (TVEI), U.K., 263
- Technical training: German and U.S. comparison, 100–103; in Japanese auto transplant firms, 129–33, 134
- TECs. *See* Training and Enterprise Councils (TECs), United Kingdom
- Tenure rates, industrialized countries, 31
- Testing: for GED certification, 202–5; in Japanese hiring practices, 130–31
- Trainees: characteristics of, 19; differences in wages from adult wages, United Kingdom, 69–72; in German vocational training, 65–67; investment in own training, 62; retention rate of German, 43–44, 47–49
- Training: in adaption to innovation, 109; in auto industry, United States and Japan, 12–13, 79–82, 129–33, 134; in broad occupational skills, 79–85; changing structure in United Kingdom (1978 to present), 263–68; cross-training in United States, 92–93, 103; differences in U.K. and U.S. youth, 240–45; extent in United States and United Kingdom, 239–45; firm decisions for, 10–11, 207, 211–18; firm incentives for, 62; in nuclear power industry, Germany, France, United States, 13–14; postsecondary school, 10, 218–28; relation to firm productivity, 17; relation to formal schooling in United States, 244–45; subsidies in United Kingdom for, 265–66; U.K.–U.S. comparison of wage gains with, 245–54. *See also* Apprenticeship training; Employment training (ET), U.K.; Off-the-job training; On-the-job training; Retraining; Technical training; Vocational training; Youth Training (YT), U.K.; Youth training model, U.K.; Youth Training Scheme (YTS), U.K.
- Training, employer-sponsored: in British Youth Training Scheme (YTS), 266–71; distribution in U.S. firms, 78; effect on worker productivity, 182, 185–86; third-

- party benefits, 161; wage gains in United States, 20; wage gains to, U.S. and U.K., 253–54
- Training, formal: in Japanese auto transplant firms, 132–33, 134; on and off job, 185–86; “off-jt” in Japanese firms, 126–29, 132, 134; in U.S. auto industry, 80–81. *See also* Off-the-job training
- Training, informal. *See* Learning-by-doing; On-the-job training
- Training, Japan, 8–9; adaptation for auto transplant firms, 129–33; auto industry, 12–13, 79–82, 129–33, 134; costs of, 127–29; throughout employee tenure, 123, 133–34
- Training, postschool: in Britain and United States, 20, 236–39; Norway, 286–87
- Training and Enterprise Councils (TECs), United Kingdom, 73, 234, 263–64
- Training taxes, 5–6
- Training-time indexes (EOPP-NCRVE data), 168, 195
- Unemployment, United Kingdom, 264
- Unions, Germany, 15, 28, 37–39, 42–43, 83
- Unions, U.S.: resistance to change, 93, 97; role in apprenticeship standards, 80–82; role in changing work organization, 86–87
- United Auto Workers (UAW), 80–81
- Vocational education: in British educational system, 284–85; delivery systems in Britain and Norway (1970s–1980s), 284; effect on worker productivity, 186–92; Germany, 9, 35; in Norwegian educational system, 286
- Vocational training: comparison of German and U.S., 92–104; content of, 62; France, 65; Germany, 65–67, 74; U.S. firm- and job-specific, 80, 84; U.S. school-based, 79. *See also* Product and process awareness training, German and U.S.; Teamwork-plus training, German and U.S.; Technical training
- Wage gains: associated with firm tenure in Japan, 4; associated with youth training in Britain, 20; comparison of British and U.S., 20, 245–54; theories of, 18–19; with training in Britain, Norway, Netherlands, 21; to within-company schooling, 300–301, 305–6. *See also* Earnings
- Wages: determination in Germany, 38–39, 46; differences in U.K. trainee and adult, 69–72, 73–74; effect of training on, 18; at Japanese auto transplant firms, 137–41, 144–46; for unskilled German workers, 54; within-company schooling (Netherlands), 299–302, 304–6. *See also* Earnings
- Welfare gains (within-company schooling), 301–2, 305–6
- Work-Based Training, United States, 233
- Workers: with academic skills, 112–14; investment in within-company schooling, 302–6; in United States with company training, 3–4. *See also* Employees
- Workers, nonskilled: jobs held by German and U.S. auto workers, 85–86; technical training for U.S. and German, 81, 100–103
- Workers, semiskilled, 53
- Workers, skilled: certification, 30, 53–54; hiring previously trained, 44–47; in internal labor market, 53–54; in large and small companies, 53; narrow use of U.S., 102; technical training for U.S. and German, 100–103
- Work experience, 175–76, 179–82
- Work organization and restructuring. *See* Organization of work
- Works councils, Germany: role in apprenticeship program, 42–43, 46, 83–84; role in changing work organization and job content, 86–87, 89, 91–92; role in enterprise-based training, 37, 84, 99, 102; role in labor relations, 38–39
- YOP. *See* Youth Opportunity Program (YOP), U.K.
- Youth Cohort Study, U.K., 65, 268–69
- Youth Opportunity Program (YOP), U.K., 263
- Youth Training (YT), U.K., 64–65, 73; conditions for participation, 234; differences from YTS, 263; replaces apprenticeships, 234, 235. *See also* Youth training model, U.K.; Youth Training Scheme (YTS), U.K.
- Youth training model, U.K., 67–69
- Youth Training Scheme (YTS), U.K., 263; character and composition, 266–68; destinations of leavers, 268. *See also* Youth Training (YT), U.K.