

## Index

### A

Abraham, K.G., 10, 50n4, 55,  
57, 83

Amiti, M.

on materials vs. services  
outsourcing, 57, 59

measure of international  
outsourcing, 58

measure of labour  
productivity, 62, 63

on productivity growth, 30,  
39, 53

Anderton, B., 80, 86, 88, 101

Apple, 36

Asian financial crisis, 3

Association of Southeast Asian  
Nations (ASEAN), 120

automobile industry, 116

### B

Brazil, 82

Brenton, P., 80, 86, 88, 101

### C

Calabrese, G., 33

chemical and engineering  
industries, 56

China, 6, 8, 75, 81, 82, 120

Chongvilaivan, A.

on constant elasticities of  
substitution, 35, 59, 84

on general outsourcing, 8, 9,  
10, 75

international outsourcing  
definition used, 58

on labour productivity, 53,  
57, 62, 66, 67, 72

on materials vs. services  
outsourcing, 82, 111–12,  
115n1

on outsourcing typology, 77,  
93, 97, 100

on skill classifications, 86

on skilled labour demand, 76,  
83, 87, 90

use of translog cost function,  
98n4

on wage inequality, 73n1, 88,  
111–12

Cobb-Douglas production

function, 50n5, 60

communication equipment and  
apparatus industry, 18, 19,  
25

- constant elasticities of substitution (CES)  
in firm productivity, 35  
in labour productivity, 54, 57, 58, 60, 71  
in wage differentials, 76, 84, 93, 96
- D**  
Dars, L., 76  
Dell'mour, R., 88
- E**  
Egger, H., 35, 53, 56, 57, 62, 84, 87, 90  
Egger, P., 35, 53, 56, 57, 62, 84, 87, 90  
electrical machinery and apparatus, 18, 19, 25  
electronics industry, 56, 100  
Envelope Theorem, 88  
Erбетта, F., 33  
European Union (EU), 8, 28, 56, 78  
export-oriented industrialization, 118–19
- F**  
factor productivity effect, 60–61  
Fajnzylber, P., 82, 98n3  
fashion industry, 121  
Feenstra, R.C., 57, 58, 76, 79, 80, 86  
Fernandes, A.M., 82, 98n3  
financial institutions, 37  
food and beverages  
manufactures, 14, 18, 19, 21  
furniture manufacture, 14, 21  
Fuss, M., 35
- G**  
Geishecker, I., 9, 80–81, 84, 88, 90, 98n2  
General Motors (GM), 36  
Germany, 9, 55, 81  
Girma, S.  
definition of outsourcing, 104  
on foreign-owned firms, 48, 53, 70, 73  
on general outsourcing, 10, 33, 45  
on labour productivity, 56, 63, 83  
use of Cobb-Douglas production function, 50n5  
globalization, 74, 78  
Görg, H.  
definition of general outsourcing, 10, 50n4, 104  
on firm productivity, 27, 31, 32, 39, 45, 48, 51n6, 100  
index of international outsourcing, 84  
on labour productivity, 9, 53, 55, 56, 63, 70, 73, 83

on materials *vs.* services  
     outsourcing, 101, 103,  
     107, 113  
 on skilled labour demand, 90  
 on wage inequalities, 81,  
 98n2  
 Görzig, B., 53, 55, 62, 83  
 Griliches, Z., 30, 41, 50n2, 51n6  
 Gujarati, D., 76

## H

Hanley, A., 27, 31, 39, 101,  
 103, 107, 113  
 Hanson, G.H., 57, 58, 76, 79,  
 80, 86, 88  
 Harrison, A.E., 88  
 Head, K., 76, 81, 86  
 Heckscher-Ohlin (H-O)  
     Theorem, 74, 79, 90  
 Hijzen, A., 76, 80, 86  
 Hong Kong, 81, 119  
 Hsieh, C-T, 76, 81, 86, 88  
 human capital, 6, 21–23, 26,  
 120  
 human resources departments,  
 37, 65, 121  
 Hur, J.  
     on constant elasticities of  
     substitution, 35, 39, 84  
     on general outsourcing, 8, 9,  
     10  
     on labour productivity, 53,  
     57, 62, 66, 67, 72  
     on skilled labour demand,  
     83, 90

## I

import substitution, 118  
 India, 6, 8  
 Indonesia, 58, 75, 120  
 information and communication  
     technology (ICT)  
     effect on business  
         environment, 6–7  
     outsourcing, 3, 7, 9, 37, 65  
     in Thai manufacturing sector,  
         23–25  
     vertical chains of production  
         and, 119  
     wage inequality and, 74  
 input tariffs, 58  
 international outsourcing  
     firm productivity and, 30–31  
     foreign ownership and,  
         45–48, 93, 95–96  
     index of, 80, 84  
     labour productivity and, 53,  
         72  
     of materials *vs.* services,  
         31–32, 57, 82–83, 100  
     measures of, 58  
     *vs.* domestic outsourcing, 8,  
         28, 33, 42, 84, 90  
     *vs.* general outsourcing, 9,  
         29–30, 33, 58, 66, 83  
     wage inequalities and, 79–84  
 International Standard Industrial  
     Classification (ISIC), 13,  
     39, 63, 88  
 Ireland, 31–32, 100  
 Italian automotive industry, 33

**J**

Japan, 8, 75, 81

**K**

Konings, J., 58, 62

**L**

labour

- demand for skilled, 87–88, 97, 101, 104, 110
- demand for unskilled, 91, 101
- Heckscher-Ohlin Theorem and, 74–75
- learning effects, 53, 58, 65, 73
- mobility, 55
- non-production vs. production, 21, 76, 86–87, 98n2
- in production theory, 35, 36
- productivity, 9, 52–73, 102, 107–13, 114
- skilled vs. unskilled, 59, 74, 77, 83, 84–87, 102, 110, 122
- skill upgrading, 7, 74–99, 122

**M**

Machin, S., 87  
 machinery and equipment industry, 18, 25, 116  
 Malaysia, 75, 116, 120  
 manufacturing, 13, 31  
 marketing and packaging, 121

medical precision and optical instruments industry, 23  
 metal products manufacture, 14  
 motor vehicles, trailers and semi-trailers, 18  
 multinational enterprises (MNEs), 7, 18, 77–78, 81, 95, 98, 116–17, 119–20

**N**

NAICS (North American Industry Classification System), 57, 66, 83, 100  
 National Statistical Office (NSO), 3, 13, 86  
 newly industrialized economies (NIEs), 28

**O**

office, accounting and computing machinery, 14, 18, 19, 25  
 Olsen, K.B., 7  
 Olson, D.L., 36  
 outsourcing. *See also*  
   international outsourcing;  
   production fragmentation definitions, 7–8, 55–56, 57, 66, 75–76, 104  
 as double-edged sword, 118  
 firm productivity effects, 27–51  
 index of, 10, 39, 42, 45, 76, 96, 103  
 intermediate imports, 57

- labour productivity effects, 52–73
  - lowering of trade barriers and, 6, 52
  - materials vs. services, 10, 30, 31, 32, 97, 100, 103, 107–8
  - measurements of, 55
  - structural changes and, 53
  - three categories of, 83–84
  - typology, 77, 99–115, 118, 121
- P**
- Paisittanand, S., 36
  - Philippines, 75, 120
  - plastics industry, 6, 120
  - production fragmentation. *See also* international outsourcing; outsourcing demand for skilled labour and, 88–96 effects on labour market development, 120–21 increase in, 52, 78 index of, 35 information technology and, 74 intermediate imports and, 19, 52 outsourcing typology and, 99–115 policy options and, 118–20 productivity and, 34–37 skilled labour benefits, 83 in Southeast Asia, 8, 116–22 terms for, 7 vertical division, 116, 117 wage inequality and, 84–85, 93, 102
  - production theory, 34, 52
  - productivity
    - foreign ownership and, 28, 31, 45–48
    - high-tech capital formation and, 41
    - international outsourcing and, 30–31, 44–45
    - of labour, 52–73
    - measurement of, 37–38
    - outsourcing typology and, 102, 104–7, 114
    - specialization and, 27, 36, 45–46, 49, 52–53, 65, 83, 116
    - technology transfers and, 117
  - publishing, printing and reproduction industry, 18
- R**
- recycling, 14
  - refined petroleum products, 14, 19
  - research and development (R&D)
    - information technology and, 25
    - in-house, 36
    - outsourcing of, 6, 7, 104, 120–21

- in production theory, 34
  - in Thailand, 22t, 23
- Ries, J., 76, 81, 86
- S**
- Siegel, D., 30, 41, 50n2, 51n6
- Singapore, 116, 119
- small and medium enterprises (SMEs), 3
- Southeast Asia, 8, 75, 116–22
- Stephan, A., 53, 55, 62, 83
- T**
- Taylor, S.K., 10, 50n4, 55, 57, 83
- technology effect, 60–61
- ten Raa, T., 30, 39, 51n6
- textile industry, 6, 14, 19, 118, 121
- Thai Airways, 121
- Thailand, 3, 4–6, 25, 95, 116, 120
- Thai manufacturing sector
- by activity, 15t
  - benefits to labour from
    - outsourcing, 64–65, 72
  - characteristics, 13–26
  - competitiveness, 6
  - demand for skilled labour, 88–96
  - employment structure and levels, 3, 19–21, 25
  - exports, 14, 16t, 18–19, 25
  - foreign direct investment (FDI), 25
  - foreign ownership, 14, 16t, 18, 69, 77, 95–96
  - human capital investment, 21–23, 26
  - intermediate imports, 14, 16t, 19, 25, 75, 76
  - labour-intensive vs. capital-intensive, 18–19, 121–22
  - materials vs. services
    - outsourcing, 82–83, 101–2
  - production technology, 71
  - vs. U.S. manufacturing sector, 113
  - wage inequalities, 110, 114
- Thangavelu, S.M., 58, 73n1, 82
- tobacco industry, 14, 18, 21
- total factor productivity (TFP)
- growth, 30, 32, 33, 37–38, 51n6, 100
- 2003 Manufacturing Industry Survey*, 3, 13, 38, 62, 86
- U**
- United Kingdom, 33, 48, 55, 70, 80, 101
- United States
- firm productivity, 28
  - labour productivity growth, 9
  - manufacturing industry data, 79
  - materials vs. services
    - outsourcing, 57, 93, 100
  - in outsourcing networks, 8
  - wage gap, 78, 79

**V**

value-added effect, 60–61  
vertical business linkages, 6, 9,  
14, 46  
Vietnam, 116

**W**

wage inequalities, 9–10, 74–99,  
102, 109–13, 122

Wattanapruittipaisan, T., 7

Wei, S-J, 30, 39, 53, 57, 59, 62,  
63, 100

Wolff, E., 30, 39, 51n6

Woo, K.T., 76, 81, 86, 88

wood and cork industry, 18