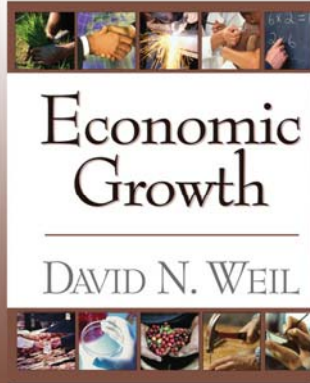


# Chapter 7

## Measuring Productivity



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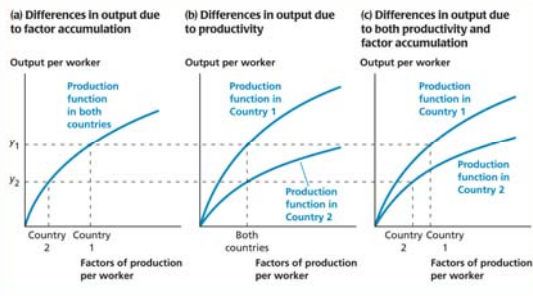
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**FIGURE 7.1**  
Possible Sources of Differences in Output per Worker



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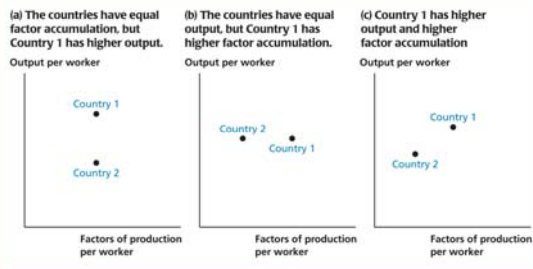
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**FIGURE 7.2**  
Inferring Productivity from Data on Output and Factor Accumulation



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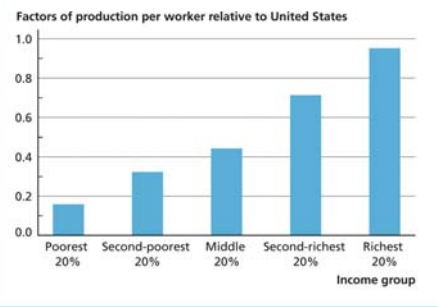
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**FIGURE 7.3**  
Role of Factors of Production in Determining Output per Worker, 1998



For sources, see Table 7.2.

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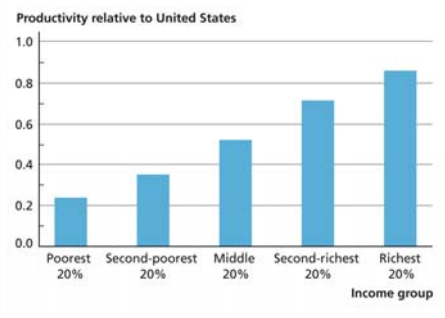
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**FIGURE 7.4**  
Role of Productivity in Determining Output per Worker, 1998



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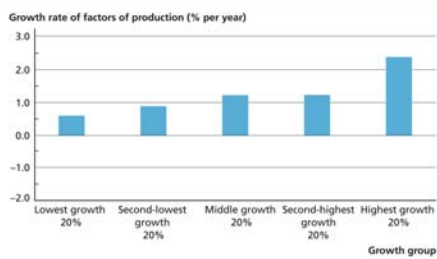
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**FIGURE 7.5**  
Role of Factors of Production in Determining Growth, 1960–1998



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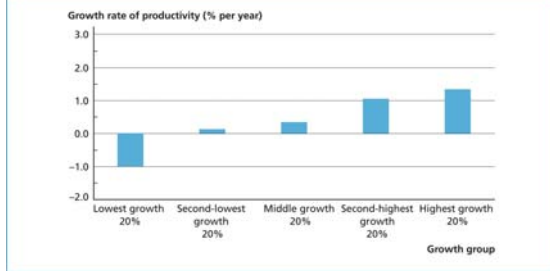
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**FIGURE 7.6**  
Role of Productivity in Determining Growth, 1960–1998



For sources, see Table 7.2.

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**TABLE 7.1**  
Data Used to Analyze Productivity in Country 1 and Country 2

	Output per Worker, $y$	Physical Capital per Worker, $k$	Human Capital per Worker, $h$
Country 1	24	27	8
Country 2	1	1	1

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**TABLE 7.2**  
Output, Factor Accumulation, and Productivity Relative to the United States, 1998

Country	Output per Worker, $y$	Physical Capital per Worker, $k$	Human Capital per Worker, $h$	Factors of Production, $k^{0.3}h^{0.7}$	Productivity, $A$
United States	1.00	1.00	1.00	1.00	1.00
Canada	0.76	1.02	0.98	0.99	0.77
Japan	0.74	1.37	0.87	1.00	0.73
Finland	0.71	1.14	0.89	0.96	0.74
United Kingdom	0.70	0.80	0.82	0.81	0.87
South Korea	0.44	0.75	0.92	0.86	0.51
Mexico	0.32	0.36	0.74	0.58	0.55
Peru	0.20	0.24	0.77	0.52	0.39
India	0.086	0.047	0.55	0.24	0.35
Kenya	0.041	0.021	0.53	0.18	0.23
Tanzania	0.015	0.019	0.45	0.16	0.094

Sources: Output per worker: Heston, Summers, and Aten (2002); physical capital: Bernanke and Gürkaymak (2001); education: Barro and Lee (2000). The data set used here and in Section 7.3 is composed of 71 countries for which consistent data are available for 1960 and 1998.

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**TABLE 7.3**  
Data for Calculating Productivity Growth in Erewhon

	Output per Worker, $y$	Physical Capital per Worker, $k$	Human Capital per Worker, $h$
Erewhon in 1965	1	20	5
Erewhon in 2000	4	40	10
Annual Growth Rate	4%	2%	2%

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