

**The Resurgence of Growth in the Late 1990s:  
Is Information Technology the Story?**

**Stephen D. Oliner  
Federal Reserve Board**

**Daniel E. Sichel  
Federal Reserve Board**

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## **Introduction**

- Earlier work found only a modest influence of information technology on economic growth through the early 1990s.
- This paper examines the more recent period with the same neoclassical growth-accounting framework in earlier work.

## **Major Empirical Findings**

- The *use* of IT throughout the economy has made a large contribution to the acceleration of productivity since 1995.
- The *production* of computers and embedded semiconductors has also contributed importantly to this recent acceleration.
- Taken together, these two factors account for about two-thirds of the acceleration in labor productivity since 1995.

## **Measuring the Growth Contributions from the *use* and *production* of information technology**

- To measure *use* of information technology, we decompose productivity growth into contributions from use of information technology capital (hardware, software, and communication equipment), use of other capital, changes in labor composition, and multifactor productivity.
- For the *production* side, we further decompose multifactor productivity growth to extract the component related to efficiency gains in the production of computers and embedded semiconductors.
- As much as possible, we use standard data from the Bureau of Labor Statistics and the the Bureau of Economic Analysis. Where necessary, we augment these data from other sources.

<b>Decomposition of Productivity Growth</b>			
	1991-95	1996-99	Accel.
1. Growth rate of labor productivity <sup>a</sup>	1.53	2.57	1.04
2. Contributions from <sup>b</sup> :			
3. Capital deepening	.62	1.10	.48
4. Information technology	.51	.96	.45
5. Other capital	.11	.14	.03
6. Labor quality	.44	.31	-.13
7. Multifactor productivity	.48	1.16	.67
8. Product. of computers and related semic	.23	.49	.26
9. Other	.25	.67	.41
<p>Note: Detail may not sum to totals due to rounding.            Source: Oliner and Sichel (2000).</p> <p><sup>a</sup>Percent per year.  <sup>b</sup>Percentage points per year.</p>			

## CONCLUSION

- Both the *use* of information technology and the *production* of computers and embedded semiconductors have contributed importantly to the pickup in productivity growth in the second half of the 1990s.
- Of the roughly 1 percentage point acceleration in labor productivity growth, about two-thirds reflects use of IT capital or production of computers (and embedded semiconductors).
- There are upside and downside risks to these figures; but even a lower-bound estimate would imply a large role for information technology.
- Although the phrase “new economy” has many different definitions, one key ingredient is a sizable role for information technology.

For more information, see our paper at:

<http://www.federalreserve.gov/pubs/feds/2000/index.html>