

Results of the 2014 Comprehensive Revision of the Industry Economic Accounts, 1997-2012

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2014 CR of the Industry Economic Accounts

- Newly available 2007 benchmark I-O account
- Revised GDP by industry and annual I-O statistics for 1997-2012.

Major Improvements

- Full integration
- Updated definitions and classifications
- Statistical improvements
 - Improved methodologies
 - Newly available and revised source data

Integration of the National and Industry Economic Accounts

- 2014 CR marks the first time that the Industry Economic Accounts (IEAs) and National Income and Product Accounts (NIPAs) are fully consistent with one another
- Benchmark I-O accounts establish both levels and commodity composition of GDP final use categories
- Provide critical information for estimating GDP (by extrapolation) for periods after benchmark years

Benchmark Input Output Account

- Key component of the comprehensive revision
- Establishes new level and commodity composition of GDP for BEA's national income and product accounts (NIPA)
- Present the flow of detailed goods and services produced and used by each industry, including final demand
- Paint a detailed picture of the economy at a point in time

Classification Changes

- 2007 NAICS
- Publishing 388 industries in the 2007 benchmark I-O account, compared with 426 industries in the 2002
 - Manufacturing reduced from 279 to 238
 - Expansions include retail trade, construction, and health care

Data Sources

- Based largely on Census Bureau data
 - Quinquennial Economic Census
 - Annual Surveys
 - Business Expenditure Survey
- Trade Associations
- Other government agencies

Three ways to calculate GDP

- **Expenditure Approach**

$$\text{GDP} = C + I + G + (X-M)$$

- **Income Approach**

$$\text{GDP} = \text{Compensation} + \text{TOPI less Subsidies} + \\ \text{Net Operating Surplus} + \text{Consumption of Fixed} \\ \text{Capital} + \text{Statistical Discrepancy}$$

- **Production or “Value Added” Approach**

$$\text{GDP} = \text{Gross Output} - \text{Intermediate Inputs}$$

Input-Output Accounts: Make table

		COMMODITIES						Total Industry Output
		Mining and Construction	Manufacturing	Trade and Transportation	Utilities	Finance, Insurance, and Real Estate	Other	
INDUSTRIES	Mining and Construction							
	Manufacturing							
	Trade and Transportation							
	Utilities							
	Finance, Insurance, and Real Estate							
	Other							
Total Commodity Output								

GDP within the I-O Framework

		INDUSTRIES						FINAL USES					Total Commodity Output and Value Added	
		Mining and Construction	Manufacturing	Trade and Transportation	Utilities	Finance, Insurance, and Real Estate	Other	Personal Consumption Expenditure	Private Fixed Investment	Change in Private Inventories	Net Exports	Government Consumption and Investment		
COMMODITIES	Mining and Construction	Intermediate Inputs (Production)	GDP (Expenditures)											
	Manufacturing													
	Trade and Transportation													
	Utilities													
	Finance, Insurance, and Real Estate													
	Other													
VALUE ADDED	Compensation	GDP (Income)	/					/						
	Taxes on Production and Imports		/					/						
	Gross Operating Surplus		/					/						
Total Industry Output and Final Uses		Industry Output												

Domestic Supply

- **Industry output** – the output of all domestic establishments classified in a NAICS industry; includes primary and secondary production
- **Commodity output** – combines like commodities, regardless of which industries they are made
 - Car repair services include all receipts for car repair, regardless of whether the service was performed in the auto repair industry, by gasoline service stations, or by automotive dealers
- **Exports and Imports** of commodities based on Census Bureau international trade statistics, and BEA's international transactions

Final Uses

- Final uses estimated using two methods
 - Directly from economic census data
 - Indirectly through “commodity flow” – based on class of customer data
- Finalize expenditure estimates through “reconciliation” with National Accounts
 - Comparison of NIPA time series with “best-level” from benchmark

Intermediate Inputs and Value Added

- Intermediate inputs based on broad expense controls
 - Census data on groups of commodities purchased by each industry (e.g., materials consumed, legal services, advertising, repair services, rental)
 - Variety of additional data from other Federal statistical agencies, trade associations, and other sources
- Value added statistics
 - Compensation and taxes on production and imports, less subsidies derived from the Bureau of Labor Statistics and State tax collection agencies.
 - Gross operating surplus estimate is reconciled with data on industry distributions of business income

Changes in Definition

- Recognition of R+D expenditures as capital
- Capitalization of entertainment, literary, and other artistic originals
- Expansion of the capitalization of the ownership transfer costs of residential fixed assets
- Improved measure for defined benefit pension plans

Effects of Changes in Definition on Value Added and Gross Output

(Billions of dollars)

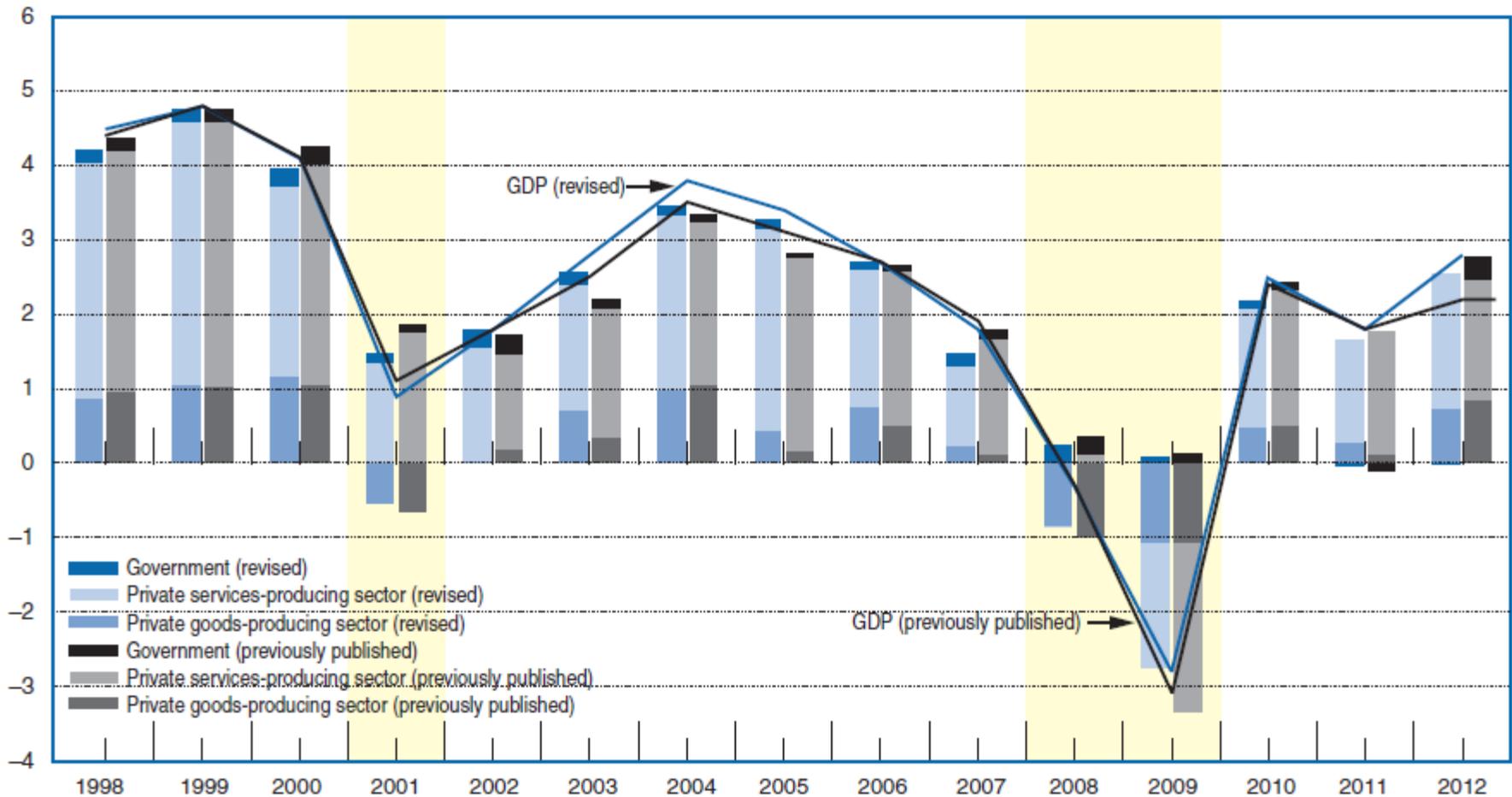
	1997	2002	2007	2012
Value Added				
Total Revision	276.1	337.9	451.6	559.8
Definitional	288.9	385.7	488.0	526.0
Capitalization of research and development	207.0	244.4	330.9	396.7
Capitalization of entertainment, literary, and artistic originals	46.1	57.6	70.4	74.3
Expanded capitalization of ownership transfer costs of residential housing	26.4	46.1	57.0	42.3
Accrual treatment of defined benefit pension plans	9.3	37.7	29.7	12.6
Statistical	-12.8	-47.8	-36.4	33.8
Gross Output				
Total Revision	206.0	303.0	337.6	...
Definitional	207.5	265.0	318.4	...
Capitalization of research and development	152.1	169.7	218.3	...
Capitalization of entertainment, literary, and artistic originals	46.1	57.6	70.4	...
Expanded capitalization of ownership transfer costs of residential housing	0.0	0.0	0.0	...
Accrual treatment of defined benefit pension plans	9.3	37.7	29.7	...
Statistical	-1.5	38.0	19.2	...

Statistical Improvements

- Statistics for the construction industry reflect improved industry distribution of intermediate inputs and own-account construction
- Statistics for the insurance industry reflect improved source data and the incorporation of more detailed lines of insurance
- Gross operating surplus reflects improvements introduced into gross domestic income as part of the 2013 NIPA comprehensive revision

Contributions to Percent Change in Real GDP

Percentage points

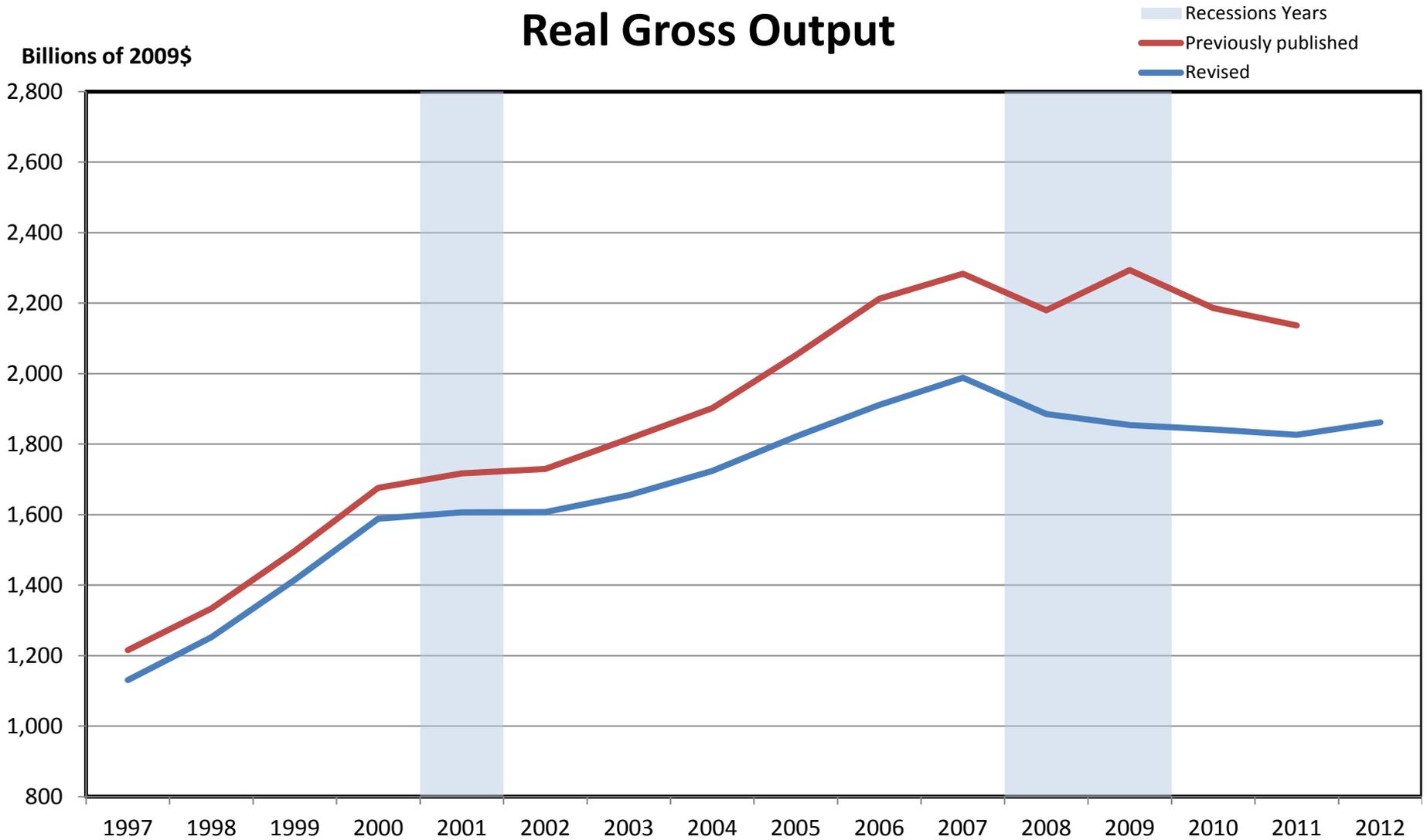


NOTE: The yellow-shaded areas mark the beginning and end of recessions as determined by the Business Cycle Dating Committee of the National Bureau of Economic Research.

U.S. Bureau of Economic Analysis

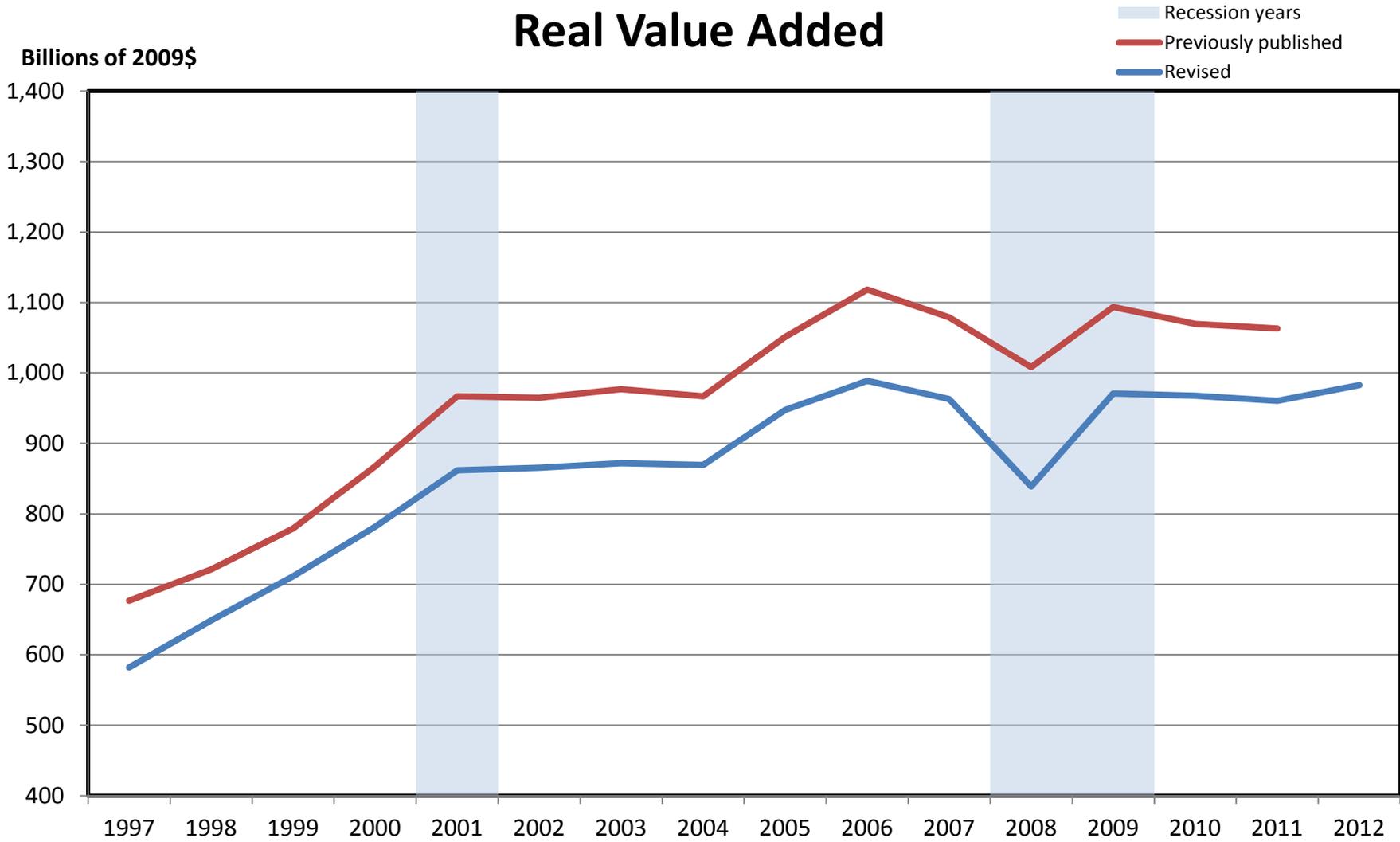
Finance and Insurance Services

Real Gross Output

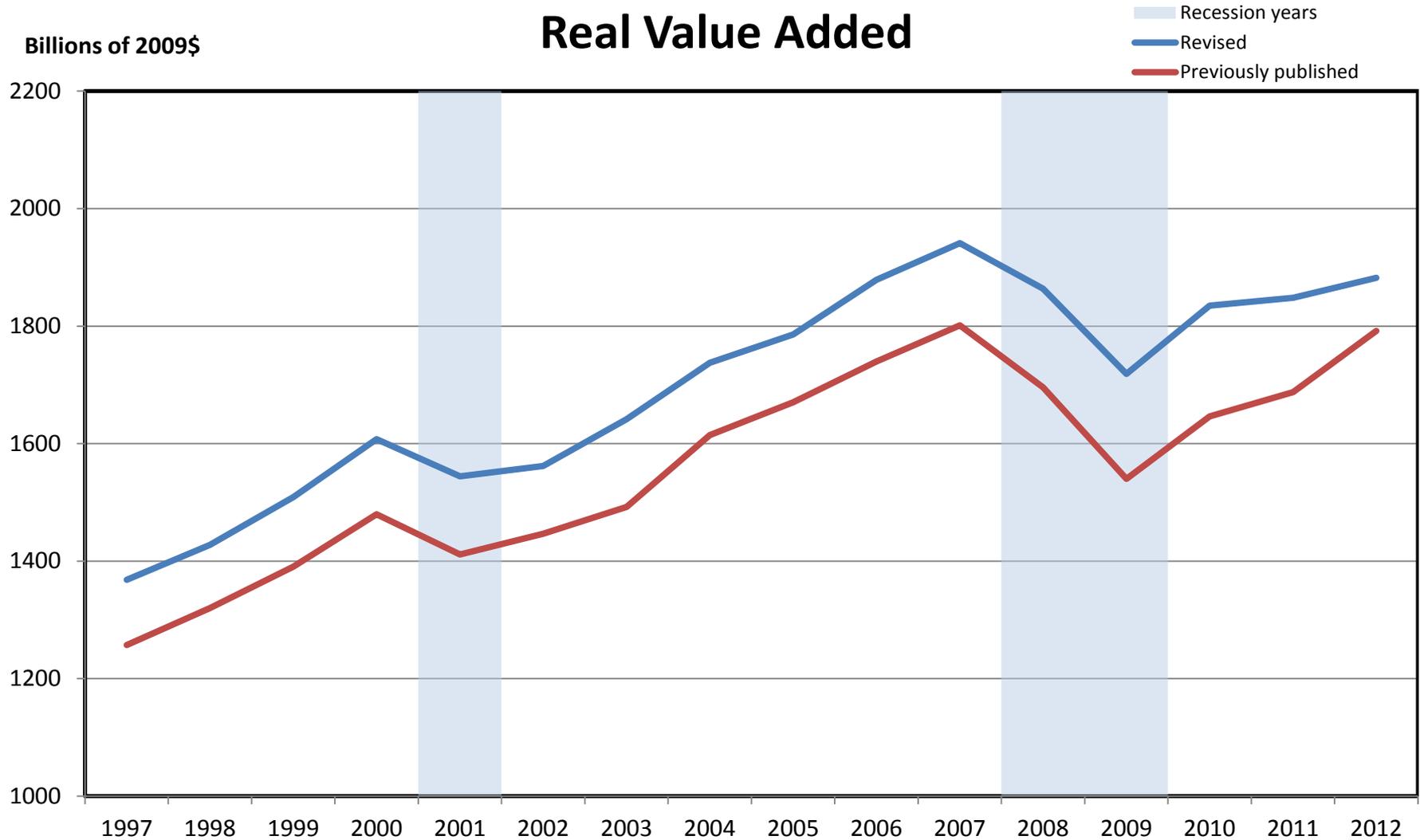


Finance and Insurance Services

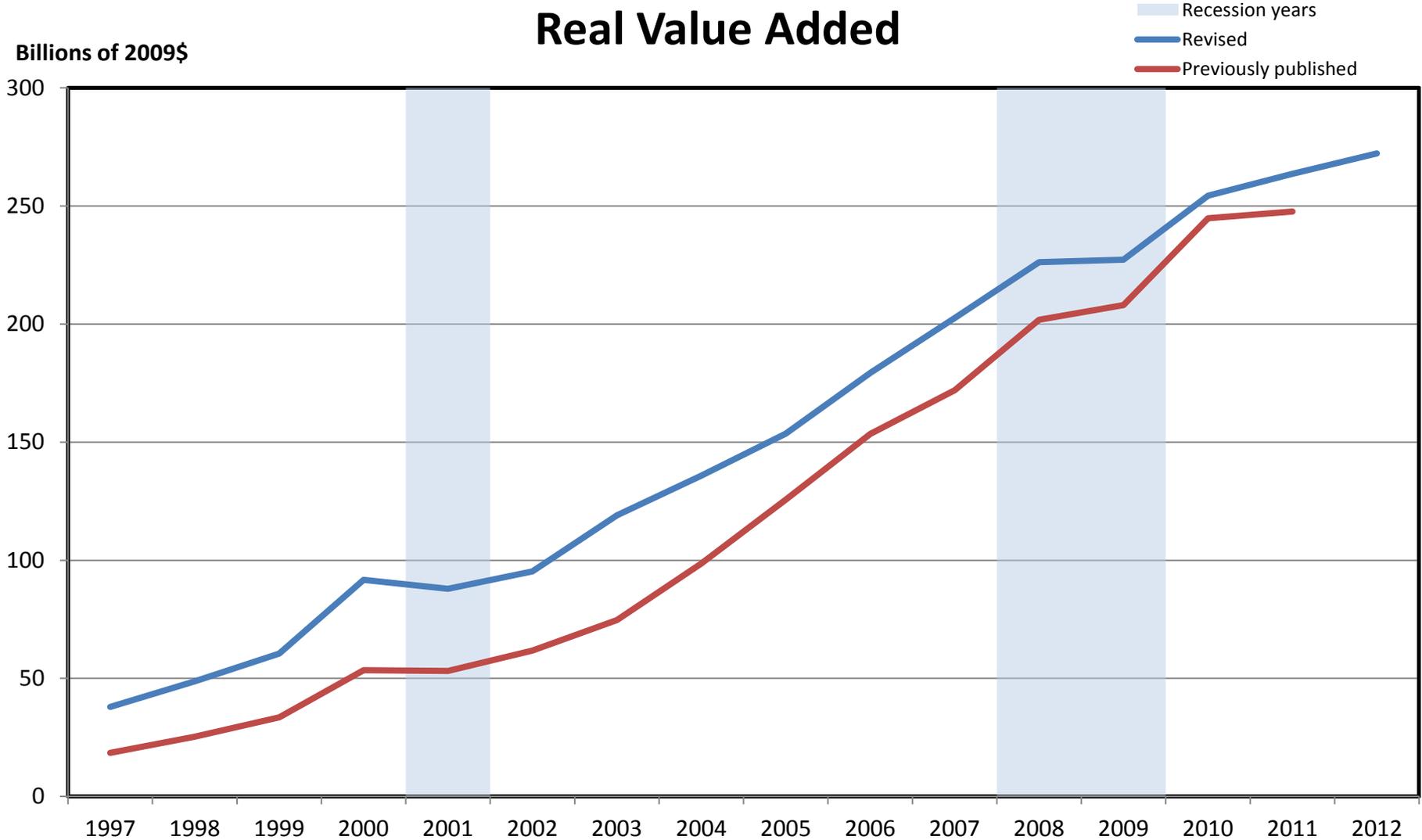
Real Value Added



Manufacturing

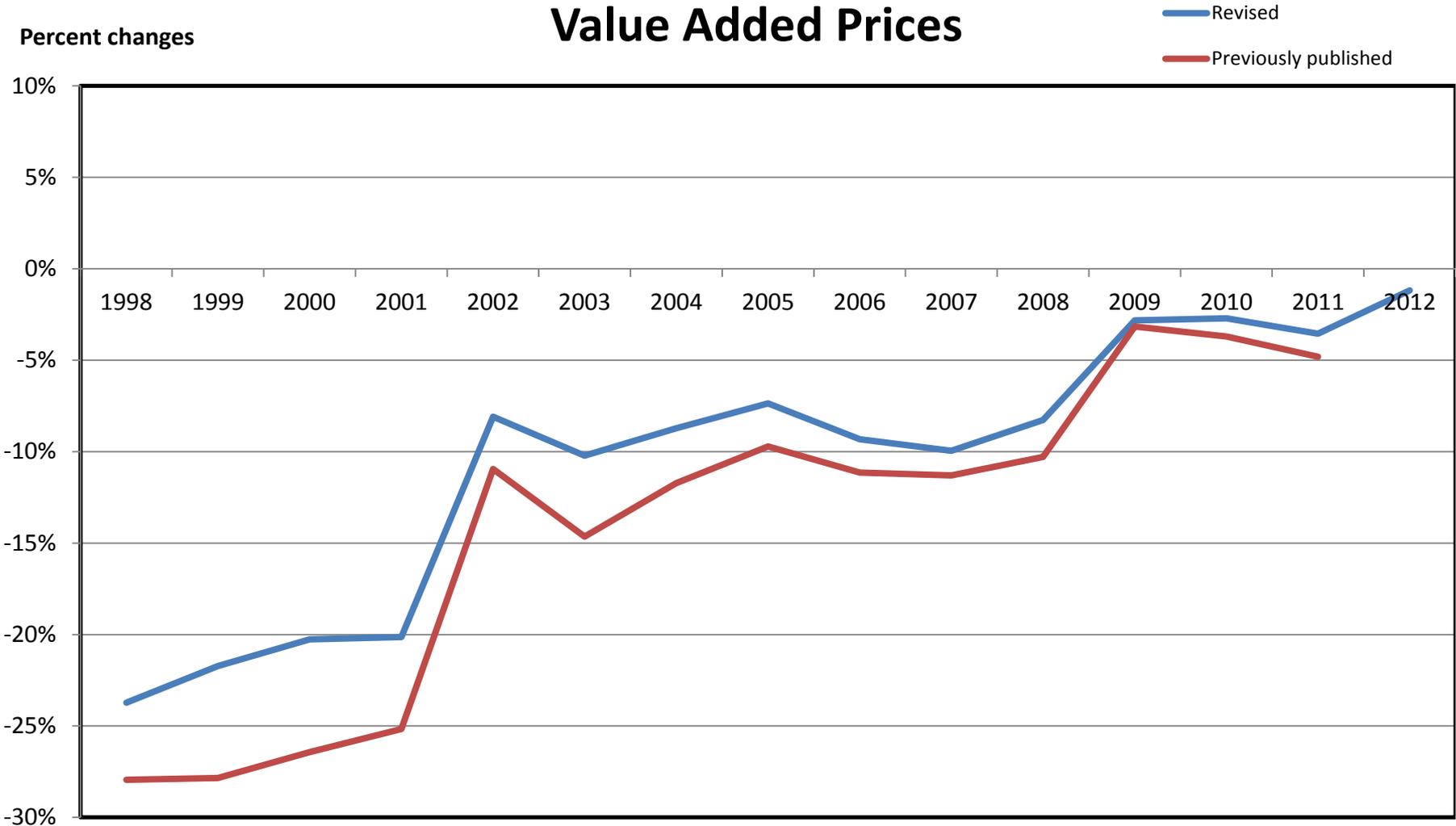


Computer and Electronic Product Manufacturing



Computer and Electronic Product Manufacturing

Value Added Prices

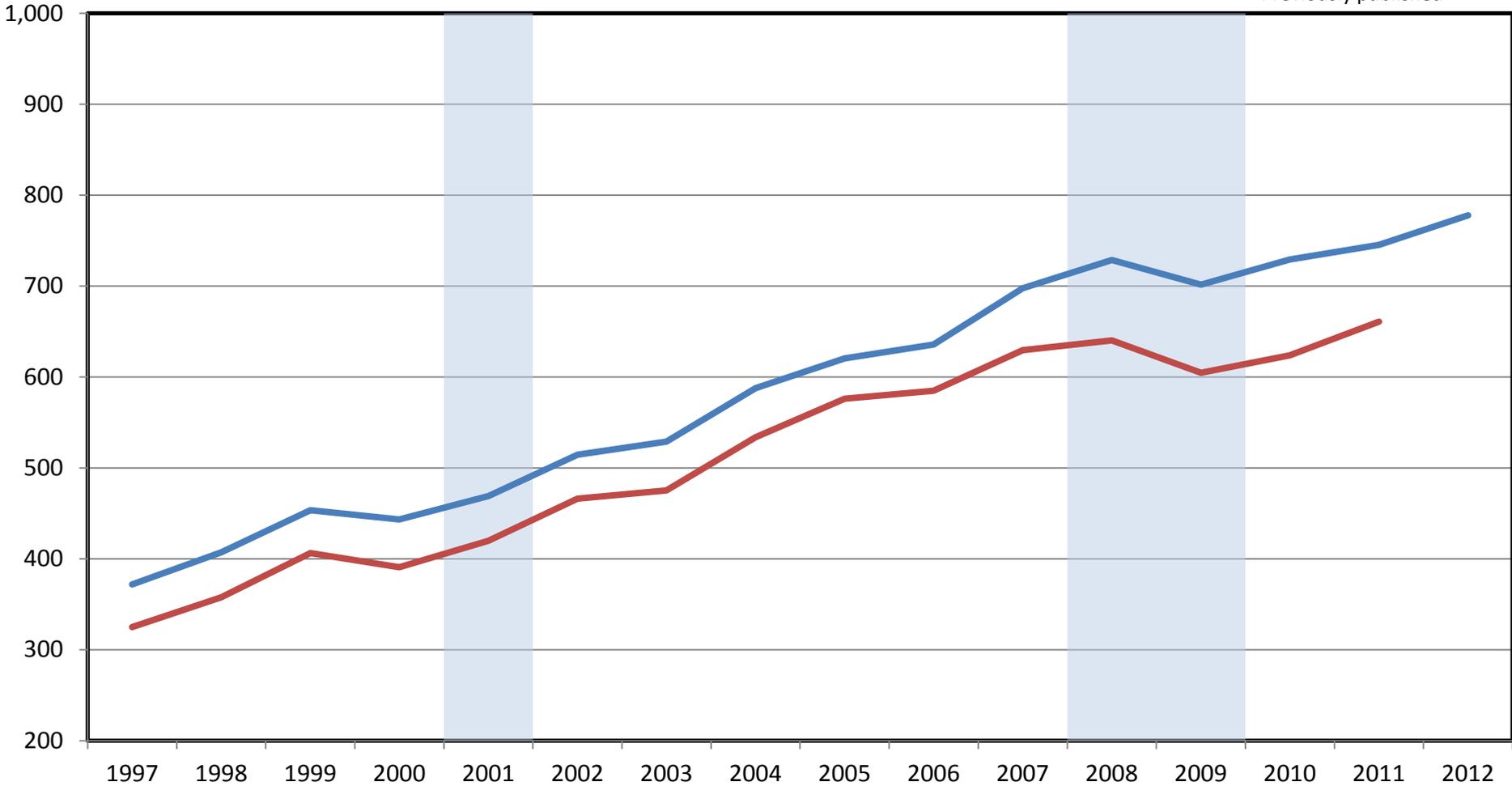


Information Services

Billions of 2009\$

Real Value Added

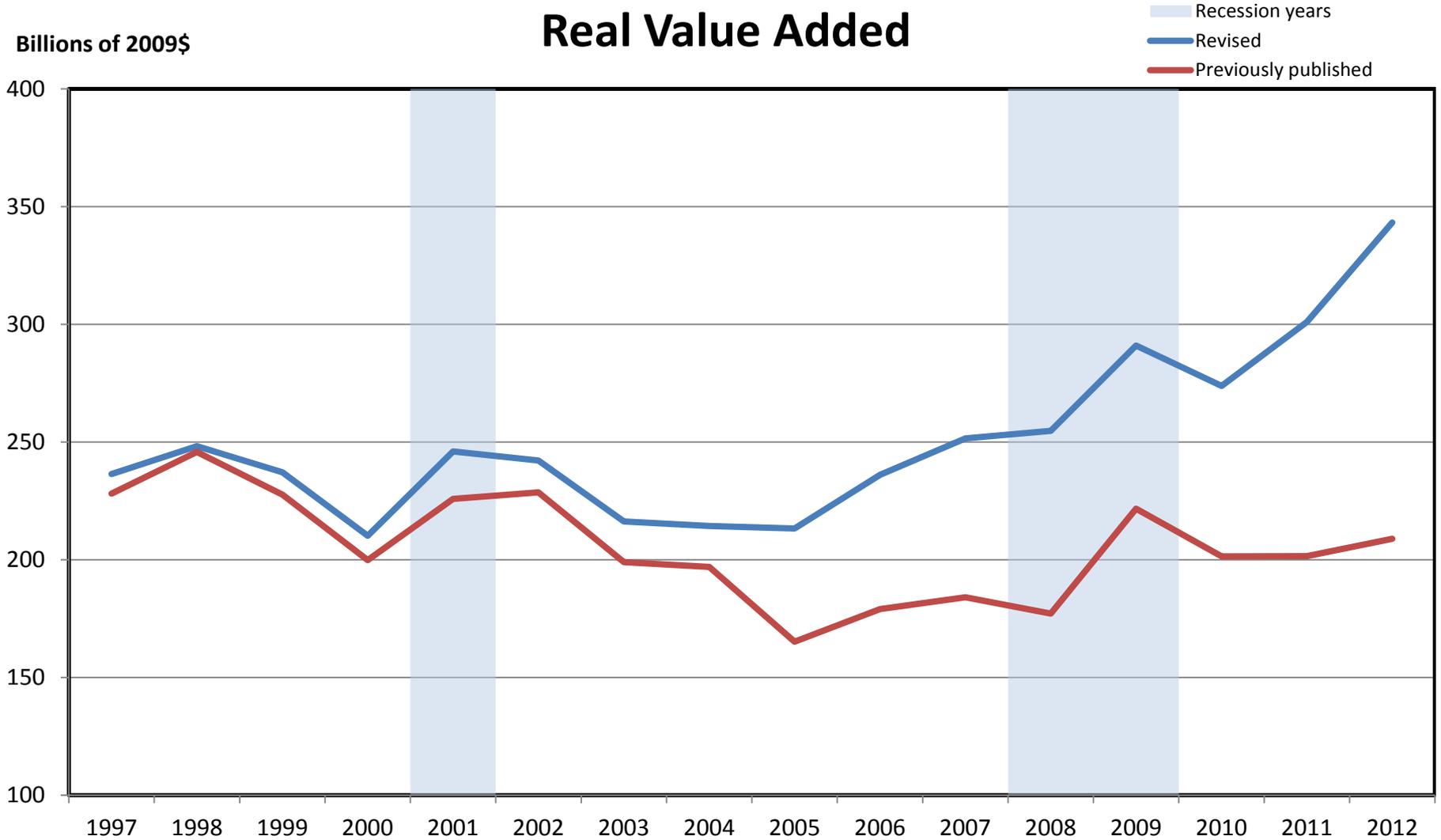
- Recession years
- Revised
- Previously published



Mining

Real Value Added

Billions of 2009\$



Summary

- Overview of the 2014 CR
 - February 2014 SURVEY article
- 2007 Benchmark I-O
- GDP by Industry for selected industries

- Looking forward...
 - Quarterly GDP by Industry
 - Integrated GDP & Productivity Account at the Industry Level
 - Satellite accounts