

Turning SIC to NAICS, where do we stand?

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Overview of the North American Industry Classification System (NAICS)¹

■ Background

- 1938-1939 Standard Industrial Classification (SIC) debuts
- 1987 Most recent revision of the SIC
- 1992 Economic Classification Policy Committee (ECPC) established by the OMB
- 1994 OMB announces plans to develop new industry classification system
- 1997 OMB announces the adoption of NAICS
- 2002 First revision of NAICS issued

¹ Material excerpted from *North American Industry Classification System, United States, 2002*; and <http://www.census.gov>.





■ Purpose

Analysis - NAICS is designed for statistical purposes

Relevance – NAICS identifies hundreds of new, emerging, and advanced technology industries

International Comparability – NAICS was developed in cooperation with Statistics Canada and Mexico's INEGI

Consistency – NAICS defines industries according to a consistent principle: businesses that use similar production processes are grouped together

Adaptability – NAICS will be reviewed every 5 years



■ Development

NAICS was erected on a production-oriented or supply-based conceptual framework.

NAICS pays special attention to:

- (a) new and emerging industries
- (b) service industries
- (c) industries engaged in the production of advanced technologies.

Time series continuity was maintained to the extent possible.

Compatibility with the two-digit level of the International Standard Industrial Classification (ISIC) was a general goal.



■ **Structure**

Hierarchical

All economic activities classified into 20 sectors

Six-digit coding system

Standardized between the U.S., Canada, and Mexico at the 5-digit level

Compatible with the ISIC at the 2-digit level



NAICS vs. SIC: Structure and Nomenclature

NAICS		SIC	
2-	Sector	Division	Letter
digit	Subsector	Major Group	2-
digit	Industry Group	Industry Group	digit
digit	NAICS Industry	Industry	digit
digit	National	N/A	digit





- **Definition of an Establishment**

A statistical unit defined as the smallest operating entity for which records provide information on the cost of the resources, materials, labor, and capital employed to produce units of output.

The output may be sold to other establishments and receipts or sales recorded, or the output may be provided without explicit charge, that is, the good or service may be “sold” within the company itself.

The establishment is generally a single physical location, where business is conducted or where services or industrial operations are performed.

An enterprise (company) may consist of more than one establishment.



- **New Sectors in NAICS**

Many new sectors reflect recognizable parts of SIC divisions.

Other sectors represent combinations of pieces from more than one SIC division.



Code	NAICS Sectors	SIC Divisions
11	Agriculture, Forestry, Fishing, and Hunting	Agriculture, Forestry, and Fishing
21	Mining	Mining
23	Construction	Construction
31-33	Manufacturing	Manufacturing
22	Utilities	Transportation, Communications and Public Utilities
48-49	Transportation and Warehousing	
42	Wholesale Trade	Wholesale Trade



44-45	Retail Trade	Retail Trade
72	Accommodation and Food Services	
52	Finance and Insurance	Finance, Insurance, and Real Estate
53	Real Estate and Rental and Leasing	
51	Information	Services
54	Professional, Scientific, and Technical Services	
56	Administrative Support, Waste Management and Remediation Services	



61	Educational Services	
62	Health Care and Social Assistance	
71	Arts, Entertainment, and Recreation	
81	Other Services (except Public Administration)	
92	Public Administration	Public Administration
55	Management of Companies and Enterprises	(parts of all divisions)



■ **Major Changes**

Manufacturing – reorganized and resequenced. New Computer and Electronic Product Manufacturing subsector created. Publishing and Logging moved to other sectors. Bakeries and Custom Manufacturing moved in.

Retail and Wholesale Trade – new emphasis on what the establishment does, rather than to whom it sells. Retailers are defined as those establishments that sell merchandise without transformation. Wholesalers are primarily engaged in selling or arranging the purchase or sale of : (a) goods for resale, (b) nonconsumer goods, and (c) raw and intermediate materials and supplies used in production. Restaurants moved to another sector.

Information – new sector. Includes those establishments that create, disseminate, or provide the means to distribute information (including publishing); also includes data processing services.





Finance and Insurance – Real Estate moved to new sector.

Real Estate and Rental and Leasing – new sector.

Professional, Scientific, and Technical Services – groups businesses whose major input is human capital.

Administrative and Support; Waste Management and Remediation Services – new sector.

Health and Social Assistance – new sector.

Accommodation and Food Services – includes lodging from Services and food services from Retail Trade.

Arts, Entertainment, and Recreation – groups businesses engaged in meeting the cultural, entertainment, and recreational interests of their patrons.

Other Services – new sector.



Auxiliary Establishments – those that primarily produce support services for other establishments of the enterprise. In NAICS, these establishments are classified according to the establishment's primary activity (for example, data processing or management of companies and enterprises). In the 1987 SIC, these establishments were classified according to the primary activity of the establishment for which the support activity was performed (for example, automobile manufacturing). NAICS classifies auxiliary establishments based on what they do, not on whom they serve. This change results in significant shifts in employment data.





■ What does this mean for time series data?

Data for more than two-thirds of all 4-digit SICs will be derivable from the NAICS system.

Many industries, however, are profoundly changed, leading to breaks in the availability of time series data.

1168 U.S. industries with NAICS (versus 1004 with SICs). 358 are new, 388 represent revisions, 422 are substantially unchanged.

There are major disruptions in the availability of time series information for individual industries as well as the broad sectors, such as Manufacturing and Retailing.

The BLS provides an historical time series of employment for many industries (beginning in 1993) at the state level from the Current Employment Statistics Survey.



■ REMI Advantage for NAICS Forecasting and Policy Analysis

- Traditional Econometric: depends on time series data
- REMI Structural Model: pooled data estimation





■ REMI Approach

- Structural Equations: cause-and-effect relationships
- Key Parameter Estimates: time series for 3,000+ counties
- SIC Parameters: used for similar NAICS



■ Model Calibration

- One Year of Data
- Exceptions:
 - Lags in Past Variables
 - Compensating Differential in Migration





■ Elements of REMI Forecast

- National Forecast
- Regional Forecast: industry structure, demographics
- Supports Alternative Forecasts and “What-If” Questions



■ How does NAICS affect REMI?

Redesign and reprogram model building system.
Twelve month project involving several staff.

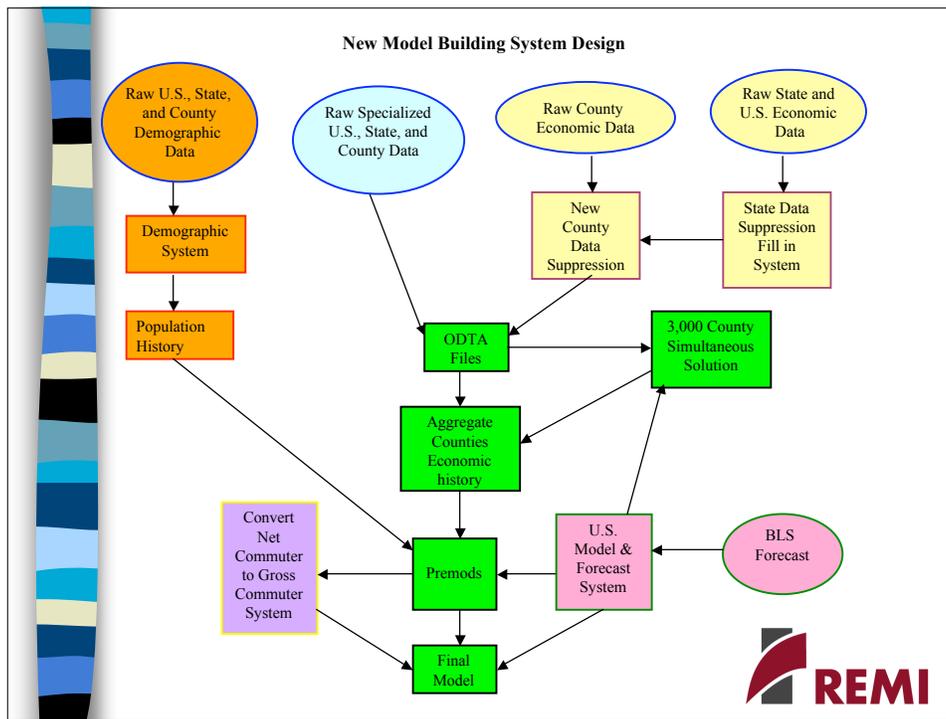
Major goals:

- Eliminate unnecessary steps
- Streamline files, batch procedures, programs
- Organize data and procedures
- Ensure programs are industry and time period flexible
- Update and improve documentation

Results to date:

- Reduced programs from >1000 to 50
- Reduced batch files from >800 to 28





■ **How does NAICS affect REMI Users?**

New Industries

- 23 instead of 14
- 70 instead of 53
- 169 instead of 172

Shortened History

- Economic history will start in 2001.
- Demographic history will start in 1990.
- There will be no SIC data, and no bridge between NAICS and SIC data.



New Policy Variable Numbering System

All existing policy variables will be renumbered.

No compatibility between SIC and NAICS models.

No copying/pasting of policy variables from SIC model to NAICS model.

Effect on Analysis

Results will not be comparable between SIC and NAICS models.

Users may need to collect input data differently.



- **When will REMI issue new models based on NAICS?**

Release of 2002-2012 BLS I-O tables and projections delayed until February 2004.

REMI hopes to begin producing NAICS models with 2001 history in April 2004.

Release of 2002 BEA state personal income and employment data delayed until April 2004. County data will hopefully follow shortly after.

New models with 2001 and 2002 history should be available beginning in August 2004.

