



# Computer Services

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US Bureau of Labor Statistics  
Producer Price Index



# Computer Services

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- Prepackaged Software
  - Data from December 1997
- Data Processing Services
  - Data from December 2000
- On-line Information Services
  - Currently Researching



# Evolving Industries

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- Changes in Industry Definitions
- Products in the industry
- Companies in the industry



# Industry Definitions

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- Prepackaged Software
  - Software Publishing
- Data Processing Services
  - Data Processing, Hosting, and Related Services
- On-line Information Services
  - Internet Service Providers and Web Search Portals



# Prepackaged Software

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- Prepackaged Software has been reclassified as software publishing because the activity -- creation of a copyrighted product and bringing it to market -- is equivalent to the creation process for other types of intellectual products. Reproduction of pre-packaged software is treated as a manufacturing activity and custom design of software to client specifications remains in Professional, Scientific, and Technical Services. These distinctions arise because of the different ways that software is created, reproduced, and distributed.



# Prepackaged Software

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- Publication Structure
  - Application software (non-suite)
  - Applications software (suite)
  - Systems Software
  - Games and other prepackaged software
  - Maintenance, documentation, training, and other software services



# Prepackaged Software

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- New products
  - Short life cycle of products (games)
  - New revolutionary products
  - Updates or new versions of products
  - New licensing structure



# Prepackaged Software

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- Industry dominated by several large companies
- Turnover of companies in the industry
  - New companies entering the market
  - Companies being bought out
  - Companies going out of business





# Prepackaged Software

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- Product substitution during monthly data review
- Item Augmentation
- Directed substitution
- Sample Augmentation



# Prepackaged Software

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- Product substitution during monthly data review
  - Timing of substitution
  - Version changes or updates are directly compared when there are no new capabilities
  - Price differences linked out when sub is new generation product (not comparable)



# Prepackaged Software

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- Item Augmentation
  - Current reporters only
  - New items only
  - Retail sales of software used to sample
  - Reallocation of current reporters item weights when necessary



# Prepackaged Software

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- Directed substitution
  - Annual update of products from current reporters
  - Resampling of products (disaggregation)



# Prepackaged Software

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- Sample Augmentation
  - Frame source for new entries into the industry
  - Identifying companies producing revolutionary new products
  - Weighting new companies
  - Revising publication structure



# Prepackaged Software

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Other strategies????



# Prepackaged Software

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- Hedonic model
  - Variety of products
  - Limited uses for model



# Prepackaged Software

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- Producer cost quality adjustment
  - Research and development costs
  - Projected number of licenses
  - Secondary sources used if reporter cannot provide the data





# Data Processing Services

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- The Data Processing, Hosting, and Related Services industry group includes establishments that process data for others. Mainframe computer time-share facilities and web hosting establishments are included.



# Data Processing Services

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- Publication structure
  - Transaction processing services
  - Timesharing data processing services
  - Data entry services
  - Other data processing services



# Data Processing Services

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- Web Hosting
  - New service
  - New companies
  - New publication cell



# Data Processing Services

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- Sample Augmentation for Web Hosting
  - Frame source with weights required
  - Weighting new companies
  - Cell weights needed to revise publication structure



# On-line Information Services

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- The Internet Service Providers and Web Search Portals industry group includes establishments that provide access to the Internet or provide the means to search for information on the Internet.



# On-line Information Services

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- Industry dominated by several large companies
- Frame source
  - Turnover of companies in the industry



# Computer Services Pricing

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- Prepackaged Software
  - Sale of licenses
- Data Processing Services
  - Transaction, unit or time fees
- On-Line Information Services
  - User fees or advertising sales



# Computer Services

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