# Economic Development Planning Skills

Session One

January 16, 2007

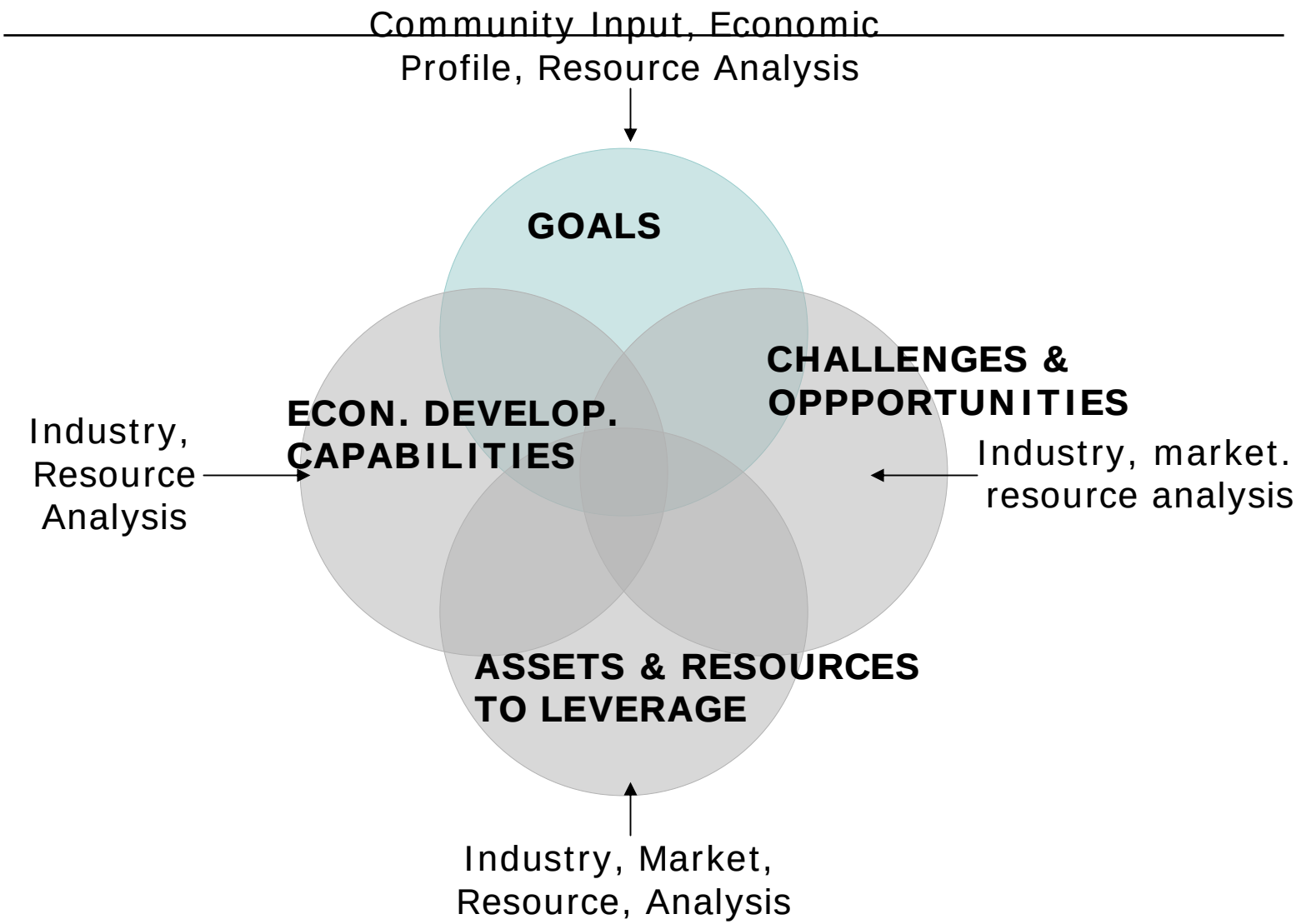
# Course Overview

- Overview of data and analytical tools used in economic development planning
- Purpose is using data and information as the basis for action-”actionable knowledge”
  - Deepen understanding of a region’s economic conditions, challenges & opportunities
  - Develop an agenda for change
  - Formulate strategies and action plans

# Key Economic Analysis Tools

- Profiling a local economy
  - Provide core knowledge of economic composition, trends, strengths and weaknesses
- Industry and cluster analysis
  - Reveal ED potential/inter-relationships for key industries
  - Understand issues, challenges and needs for critical industries/clusters
- Market analysis
  - Determine market potential for retail and other real estate development
- Resource and asset base assessment
  - Understand character of resources that shape economic development potential
  - Define critical areas for improvement, action, investment

# Analytical Tools and Strategies



# Components of Local Economic Profile

- Define study area and comparison areas
  - reflects focus for intervention
  - relate to metropolitan area context
- Demographic analysis
  - Profile a key economic resource
  - Population trends
  - Characteristics inform ED needs and issues
- Economic performance analysis
  - Benchmarking and diagnostic tool
- Economic base analysis
  - Identify local economic structure & trends
  - Informs opportunities, needs, and assets

# Economic Data Sources

- Relevance depends on data composition and methods
  - **Establishment or Household-Based**
    - Boston jobs vs. Boston labor force
  - Geographic Area Covered
  - Level of Industry Aggregation
  - Type of Information Provided
  - Frequency and Availability
  - Coverage and Methods

# Household-Based Data

- Data collected at place of residence
  - Information on area population and workforce (not employers or businesses)
- Data on population, income, poverty rates, unemployment rates, & workforce characteristics are household-based
- Key household-based data sources
  - US Census of Population and Housing
  - US Census American Community Survey
  - Current Population Survey (CPS)
  - Population & poverty estimates
  - Local area unemployment statistics (LAUS )
  - Census data is detailed but quickly outdated
  - CPS and LAUS data is timely but with sampling errors; CPS covers limited geographies
  - Private companies supply data that can fill gaps in time or geography

# Establishment-Based Data

- Collected at place of employment
  - Information on area employers and businesses (not population)
  - Data on number of businesses, employment, payrolls, wage levels, sales
- Key establishment-based data sources
  - ES-202 data series
  - Current employment statistics (CES)
  - US Economic Census
  - County Business Patterns

# New Portals to Multiple Data Sources

- www.econdata.net
  - Portal that links most data sources by category or portal
- www.dataplace.org
  - Integrates data from many sources for a specific place, allows comparative analysis
- State, city and regional data center
  - Portal to many data sources for a smaller region
  - www.gnocdc.org

# Local Profile: Demographic Analysis

- Population size, characteristics & trends
  - Composition by age, race, national origin
  - Stability of residency
  - Income levels and sources of income
  - Poverty rates
- Labor force characteristics
  - Participation rate and size
  - Educational attainment, occupation, industry
  - Location/journey to work
  - Unemployment rates
  - Extent of self-employment
  - Variations by age, race, gender
- Trends and comparison with other areas

# Demographic Analysis: Data Sources

- Census Bureau is Critical Data Source
  - Decennial Census of Population & Housing
  - American Community Survey
  - Population Estimates
  - Small Area (County) Income & Poverty Estimates
- Bureau of Labor Statistics
  - Local Area Unemployment Statistics
- State and Local Data Sources
  - Population Census
  - School department statistics
  - Welfare caseloads
  - Local Plans and Studies

# Local Profile: Economic Performance Analysis

- How is an area's economy performing relative to the state, region and other communities?
- Is the area and its population benefiting from key growth industries and higher paying jobs?
- Common performance measures
  - **Population and employment growth**
  - **Unemployment rate**
  - **Income levels and poverty rates**
  - **Earnings and wage levels**
  - **Labor force participation**
  - **Firm births, deaths, and relocations**
  - **New development and investment**
  - **Property values and tax revenues**
- Analyze trends over time
- Compare to state, metro area, nearby cities
- Variation among demographic subgroups and sub-areas
- Link indictors to key goals & track over time

# Economic Performance Analysis: Data Sources

- Household data on population, income, poverty rates:
  - Decennial census, ACS, pop. estimates, current population survey, small area income and poverty estimates
  - Regional economic information system (REIS)
    - State, county, metro-area levels
- Household data on unemployment and labor force
  - Decennial census and ACS
  - Bureau of Labor Statistics LAUS
- Place of work-based employment and earnings data:
  - REIS, CES for states, counties, MSAs
  - ES 202 data series
  - County business patterns
  - US Economic Census
- Investment and taxes from local government data
- Firm births, deaths, relocations from private data bases

# Local Profile: Economic Base Analysis

- What is the local economic structure?
- What opportunities, issues & challenges does the local economic base present?
- Topics/Questions to Address
  - Composition of employment by sector & industry
  - Largest sources of jobs and payroll
  - Wage levels for major sectors and industries wages
  - What sectors and industries are growing, stable, declining?
  - How does composition and growth compare to the metro region and other areas
  - Occupational composition of largest and fast-growing industries sectors
  - Industry concentrations and clusters
  - Inter-industry relationships

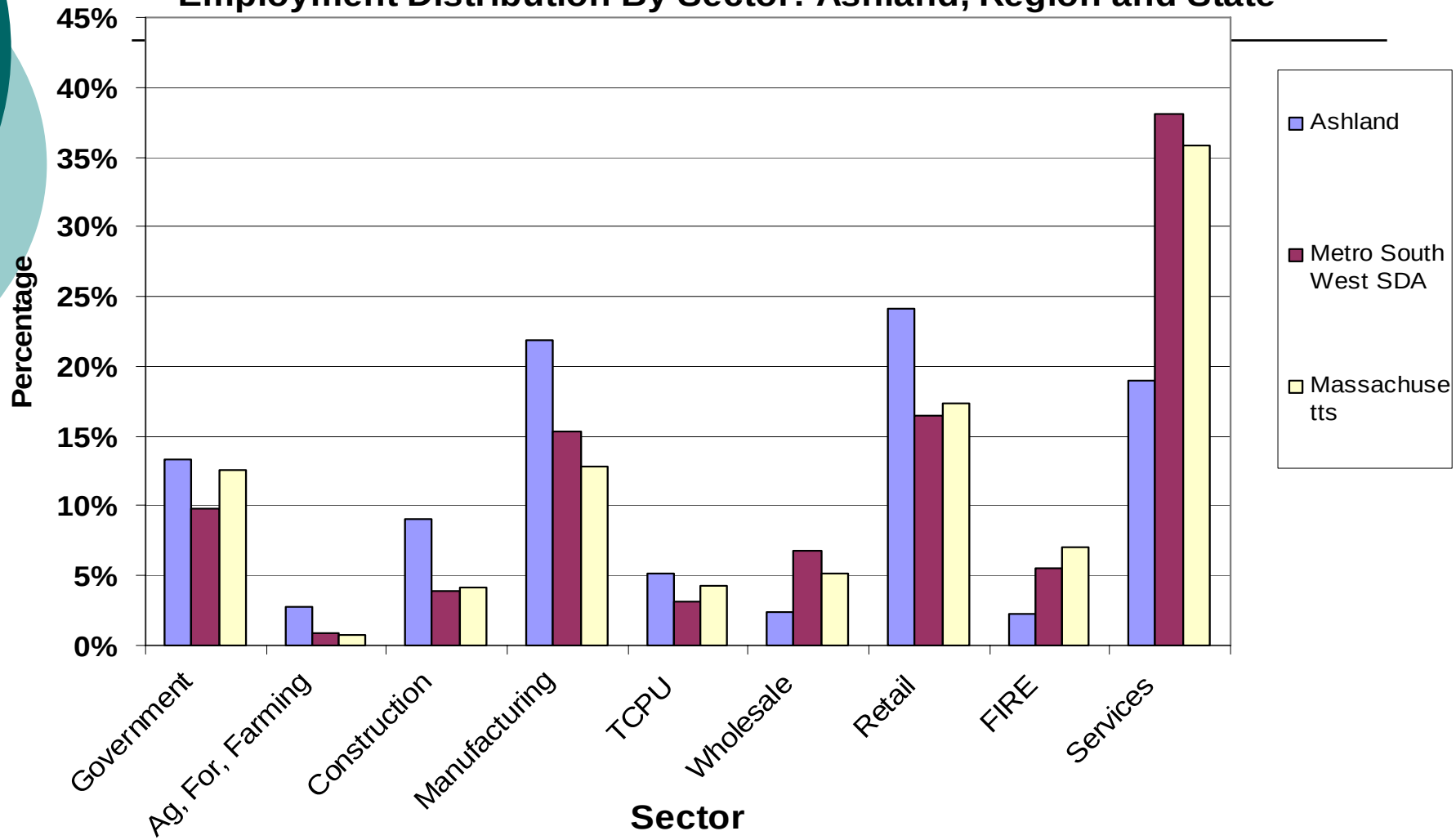
# Economic Base Analysis: Data Sources & Classification

- Firms, employment, wage levels:
  - ES-202 data series
  - US Economic Census
  - County Business Patterns
- BLS occupational data
- Focus groups and interviews
  - Help define clusters, inter-industry relationships and occupational structure
- NAICS industry classification system
  - Replaced SIC in late 1990s
  - Two-digit code denotes broad sector
    - 31 to 33 are manufacturing sectors
  - Three-digit denotes industries within broad sector:
    - 316 is leather and allied products
  - Four to six-digit denotes narrower industry segments
    - 3162 is footwear mfg;
    - 316211 is rubber and plastic footwear mfg

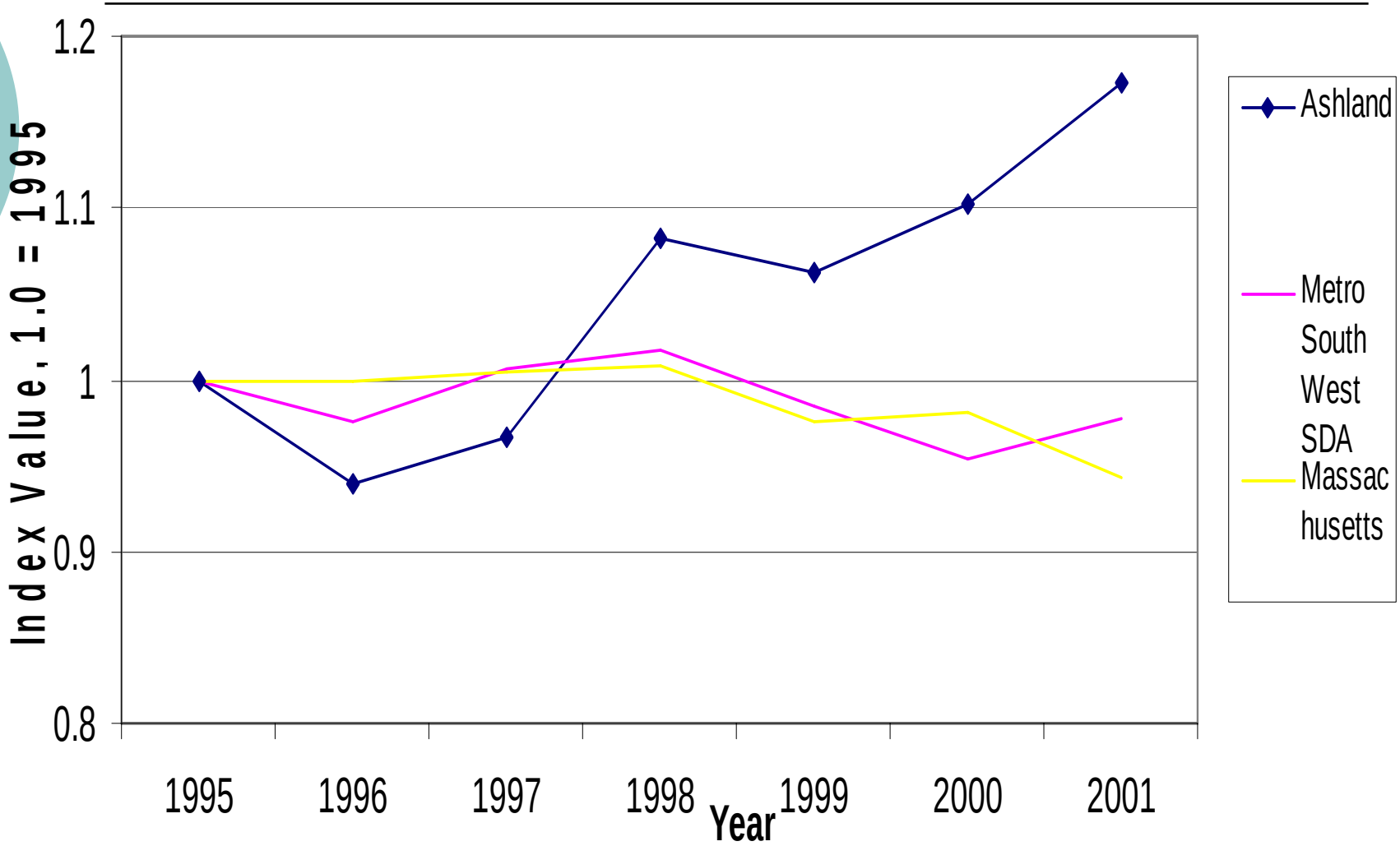
# Economic Base Analysis: Key Steps

- **Determine cross-sectional composition of economy by sector and compare to region, state, and nation**
  - Identifies major economic sectors and how they compare with other areas
- **Compare local growth in sectors to region, state and nation**
  - Identifies which local sectors are growing faster and slower than other areas
- **Look at cross-section composition, payrolls, and wage levels of largest sectors at three-digit level**
  - Identifies most important industries within key sectors
  - Shows how industry mix varies with that of region
  - Determines relative wages of locality's major industries
- **Look at recent trends for key three-digit industries at local and regional level**
  - Determines which industries are fastest growing
  - Identifies declining and "at-risk" industries
  - Compares local and regional industry growth trends

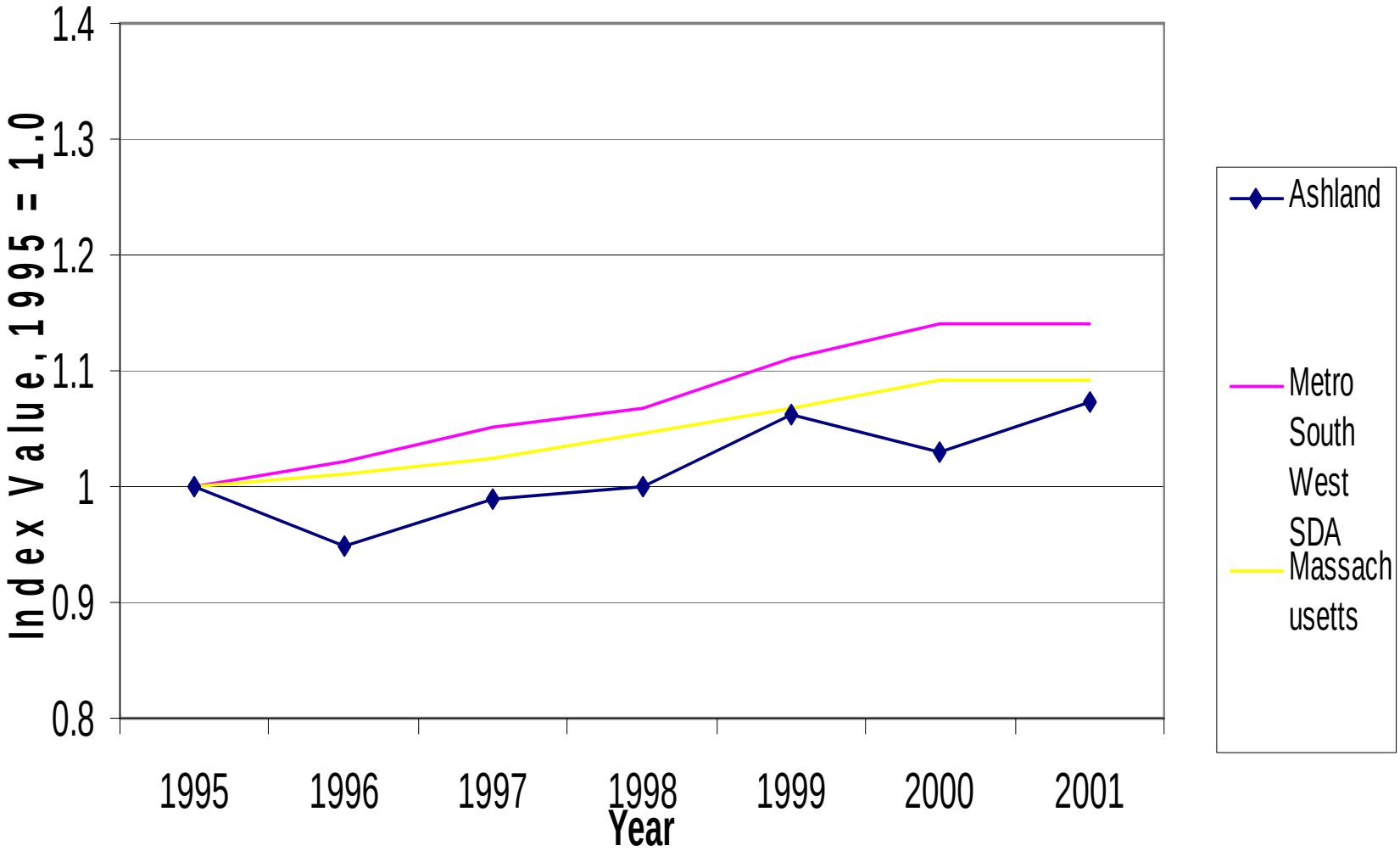
## Figure 1.
## Employment Distribution By Sector: Ashland, Region and State



# Manufacturing Job Growth, 1995 to 2001



# Retail Job Growth, 1995 to 2001



# Economic Base Analysis: Location Quotients

- Location Quotient
  - Ratio of the share of an industry's employment (or other measure) for a region to the share of that same industry's national employment (or other
- $LQ_i = (e_{i,r}/e_r)/(E_{i,n}/E_n)$
- $e_{i,r}/e_r$ = share of region's employment in industry i
- $E_{i,n}/E_n$ = share of national employment in industry i
- Alternative formula:
  - $LQ_i = (e_{i,r}/E_{i,n})/(e_r/E_n)$
- LQ indicates industry concentrations in a region and export industries

# Interpreting Location Quotients

**Interpretation 1:**

- When LQ > 1, the industry is considered an export or base industry

**Interpretation 2:**

- Very high LQ indicates industry concentration. A regional comparative advantage may exist for that industry

**Interpretation 3:**

- When LQ<1, may indicate opportunity for expansion in local-oriented retail and service industries where you'd expect LQ = 1. LQ < 1, suggests local population is buying these services outside the community and opportunity for growth in this business may exist
- LQ can be adapted to measure different types of relative concentrations: output, income, exports

# Shift Share Analysis

- A descriptive tool to analyze the components of employment change in a region.
- Shift share decomposes employment growth in a region into three parts:
  - $(e_{i,t} - e_{I,T-1}) = N + I + R$

National Growth effect (N) – growth attributable to the national growth rate, i.e., how much growth would occur if every industry in the region grew at the national growth rate.

Industry Mix effect (I) - growth attributable to the region's industry mix, i.e., to having a larger share or fast growing or slow growing industries

Regional Shift effect (R) - growth attributable to shift in industry jobs from one region to another, i.e., are growth rates in the region's industries above the national industry growth rates

# Shift Share Calculations

- Can be calculated by sector & industry, then aggregate to determine how each sector/industry impacts overall employment growth
- Calculate each component (N,I,R) separately
- **National share effect: $N_{i,t} = e_{i,t-1} * (E_t / E_{t-1} - 1)$**
- **$N_{i,t}$ is employment growth in industry i during period t-1 to t explained by national growth**
- **$e_{i,t-1}$ is region's employment in industry i at beginning of period**
- **$E_t / E_{t-1} - 1$ is overall national growth rate for all industries during period**

| Sector | Beginning Employment | Nat Growth Rate | N |
|---|---|---|---|
| Agriculture | 150 | .50 | 75 |
| Manufacturing | 50 | .50 | 25 |
| Services | 50 | .50 | 25 |
| Government | 10 | .50 | 5 |
| Total | 260 | .50 | 130 |

# Shift Share Calculations

- Industry mix effect:
- $I_i = e_{i, t-1} * [(E_{i,t}/E_{i,t-1} -1)-(E_t/E_{t-1}-1)]$
- $I_i$ = beginning employment for industry I times the difference between industry i national growth rate and national overall growth rate, i.e., is industry i a high or low growth industry for the Nation

| Sector | Beginning Employment | Nat Ind Growth | Difference fr Nat. Growth Rate (.5) | I |
|---|---|---|---|---|
| Agriculture | 150 | 0 | - .50 | -75 |
| Manufacturing | 50 | 1 | +.50 | 25 |
| Services | 50 | .5 | 0 | 0 |
| Government | 10 | 1.33 | +.83 | 8 |
| Total | 260 | | | -42 |

# Shift Share Calculations

- R is the residual from the N and M.
  - **$(e_{i,t} - e_{i,t-1}) = N + I + R$**
  - **$R = (e_{i,t} - e_{i,t-1}) - N - I;$**
  - **$R = 55 - 130 - (-42) = -33$**
- R can also be calculated directly:
  - **$R_I = e_{i,t-1} * [(e_{i,t} / e_{i,t-1} - 1) - (E_{i,t} / E_{i,t-1} - 1)]$**
  - **Beginning employment for industry i times the difference between industry i *regional* growth rate and industry i national growth rate**

| Sector | Beginning Employment | Reg Ind Growth | Difference from Nat. Ind. Rate | R |
|---|---|---|---|---|
| Agriculture | 150 | -.2 | -.20 - 0 = -.20 | -30 |
| Manufacturing | 50 | .6 | .60 – 1 = -.40 | -20 |
| Services | 50 | .9 | .9 - .5 =.40 | 20 |
| Government | 10 | 1 | 1.0 – 1.33 =-.33 | -3 |
| Total | 260 | | | -33 |

# Interpreting Shift Share

- Helps assess the basis for a region's performance by providing a way to look at the components of growth: separate out cyclical, industry and possible local competitive factors.
- Flags industries where performance is particularly good or bad, i.E., Where large regional shifts are occurring. Industries with a large positive R are performing better than the national industry while a negative r indicates regional industries that doing worse. Study these industries in more detail to understand the factors shaping their performance.
- Use shift-share analysis to target "at-risk" industries for potential help and industries to recruit based on regional competitive advantages