MIDDLE-INCOME JOB DECLINE IN PENNSYLVANIA

Update 2001-13: Business-Cycle, Great Recession and Recovery



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EXECUTIVE SUMMARY

Total employment in Pennsylvania expanded only 0.1% during 2001-13. Job gains during the 2001-07 business-cycle and recovery 2009-13, were offset by losses in the Great Recession 2007-09.

Embedded in the cyclical changes in total employment during 2001-13 were a wide range of job gains and losses among major industries – notably between above average and below average wage industries.

This report tracks job change in 17 major industries in Pennsylvania during 2001-13. The industries are grouped from High wage to Low wage by industry "Annual Average Weekly Wage" (AAWW) as a percent of AAWW for total employment statewide:

Industry	Number of	Industry AAWW % of	Job Change	% Change AAWW	
Wage Group	Industries	AAWW Total Employment	2001-13	2001-13	
High	4	150 & over	97,320	56.9	
High-Middle	6	100-149	-324,130	40.3	
Low-Middle	6	50-99	197,792	37.3	
Los	1	under 50	58,328	31.6	

IMPACTS OF JOB CHANGE: INDUSTRY WAGE GROUPS, 2001-13

On Employment:

During 2001-13 High-Middle wage industries - due mainly to a steep decline in manufacturing - lost 324,130 jobs. In contrast, Low-Middle wage industries - powered by growth in Health Care & Social Assistance - added 197,792 jobs. High wage industries added 97,320 jobs, and Low wage industries 58,328 jobs over the 12 years.

Bottom-line: There was a significant job shift from above-average to below-average wage industries during 2001-13.

On Annual Average Weekly Wage (AAWW):

The AAWW of all industries in the four wage groups increased during 2001-13, but dollar and percent change in AAWW decreased from High- to Low industry wage groups. Average dollar increase in AAWW during 2001-13 ranged from \$611 for High wage to \$75 for Low wage, and average percent change in AAWW decreased from 56.9% for High wage to only 31.6 percent for Low wage industries.

Bottom-line: Lower wage industries did not keep pace with higher wage industries in weekly wage increases during 2001-13.

On Total Wages:

Total wages increased \$26.5 billion for Low-Middle and Low wage groups combined, and only \$17 billion for High-Middle wage industries during 2001-13. This reduced High-Middle industries share of total wages (for all industries) from 48.4 to 40.7%, and increased Low-Middle and Low industries share from 30.5 to 33.7% over the 12 years.

<u>Bottom-</u>Line: Pennsylvania's regressive state income and local wage taxes suggests the shift in total wages from High-Middle to Low-Middle and Low wage industries during 2001-13 also resulted in some shift in tax burden to workers in the lower wage industries.

SUMMING UP: WHERE TO?

The job shift from High-Middle to Low-Middle wage industries during 2001-13 is a current and likely future problem for Pennsylvania. Action options include:

- 1) Job retraining for workers losing jobs in High-Middle wage industries,
- 2) Supporting viable efforts to slow/reverse job loss in manufacturing.
- 3) Promoting expansion of "growth" industries.
- 4) Investing in infrastructure to promote economic growth.

TRACKING MIDDLE-INCOME JOBS IN PENNSYLVANIA

This report explores middle-income job trends by tracking employment in 17 major industries in Pennsylvania during 2001-13. Industries are grouped by Annual Average Weekly Wage (AAWW) as percent of AAWW for total employment statewide.

Industry & Wage Group	Industry	AAWW (\$)
Wage Group: Percent of State AAWW	2001	2013
High Wage: 150% and over		
Management of Companies & Enterprises	1,241	2,211
Utilities	1,193	1,672
Professional & Technical Services	1,080	1,585
Finance & Insurance	1,015	1,544
High-Middle Wage: 100-149%		
Wholesale Trade	898	1,393
Information	929	1,311
Manufacturing	797	1,091
Construction	771	1,085
Public Administration	714	1,034
Educational Services	703	973
State Average		
Total Employment – Public & Private	673	944
Low-Middle Wage: 50-99%		
Health Care & Social Assistance	625	872
Administrative & Waste Services	482	623
Agriculture, Forestry, Fishing & Hunting	420	593
Arts, Entertainment & Recreation	423	578
Other Services (except Public Administration)	411	565
Retail Trade	407	496
Low Wage: Under 50%		
Accommodation & Food Services	237	312

NOTE: Three industries – comprising about six percent of total employment statewide – changed wage group during 2001-13 and are not included in the analysis.

	Wage Group		Employment		Employment Change 2001-13	
Industry	2001	2013	2001	2013	Number	Percent
Mining, Quarrying & Oil & Gas Extraction	Hi-Mid	High	18,476	35,180	16,704	90.4
Transportation & Warehousing	Hi-Mid	Lo-Mid	247,036	259,107	12,701	4.9
Real Estate, Rental & Leasing	Lo-Mid	Hi-Mid	69,512	59,059	-10,453	-15.0
Total			335,024	353,346	18,322	5.5

CONTENTS

- 2 Executive Summary
- 3 Tracking Middle-Income Jobs in Pennsylvania
- 4 Contents
- 5 The Pennsylvania Economy: Big Picture, 2001-13
 - 5 Total Employment
 - 6 Sector Employment: Private and Public
 - 7 Employment: Growth and Declining Industries
 - 8 Unemployment: Pennsylvania and the U.S.
 - 8 Gross Domestic Product (GDP): Pennsylvania and the U.S.
- 9 Middle-Income Job Decline in Pennsylvania, 2001-13
 - 9 Employment: Industry Wage Groups
 - 12 Average Annual Weekly Wage (AAWW): Industry Wage Groups
 - 14 Total Wages: Industry Wage Groups
- 16 Summing-Up: Trends Impacts Where To?
 - 16 The Pennsylvania Economy, 2001-13
 - 16 High-Middle Wage Job Loss: Pennsylvania, 2001-13
 - 17 High-Middle Wage Job Loss: Where To?

Data Sources:

Employment and Wages: "Quarterly Census of Employment and Wages" (QCEW) – Pennsylvania Department of Labor & Industry

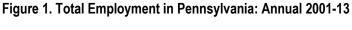
Unemployment: "Labor Force, Employment, and Unemployment" (LAUS) -Pennsylvania Department of Labor & Industry

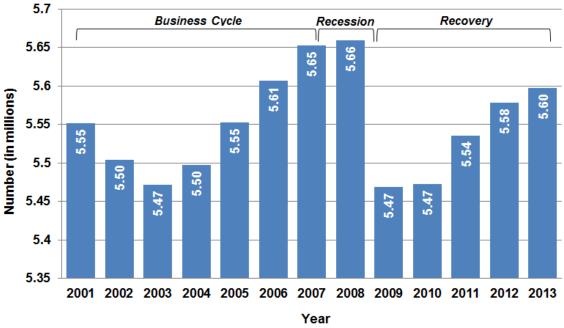
Gross Domestic Product (GDP): National Bureau of Economic Research.

THE PENNSYLVANIA ECONOMY: BIG PICTURE 2001-13

Total Employment

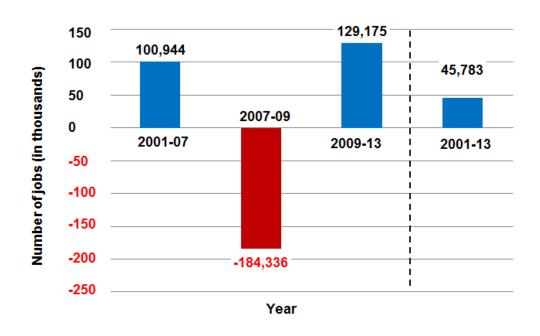
• Total employment in Pennsylvania fluctuated from decline to growth twice during 2001-13, as the state weathered two recessions (Fig. 1).





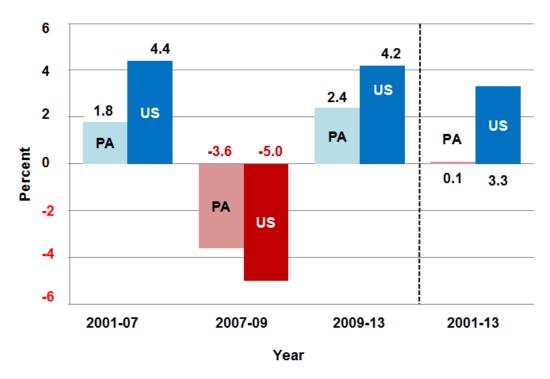
• Pennsylvania had a net gain of only 45,783 jobs (0.1%) during 2001-13. Job gains in the business cycle 2001-07 and recession recovery 2009-13 were nearly offset by jobs lost in the Great Recession (Fig. 2).

Figure 2. Number Change in Total Employment: Pennsylvania, 2001-13



• Pennsylvania's job growth (0.1%) lagged the U.S. (3.3%) during 2001-13. Job loss (-3.6%) was less than the U.S. (-5.0%) in the Great Recession, but job growth lagged the nation during the business cycle 2001-07, and recovery 2009-13 (Fig. 3)

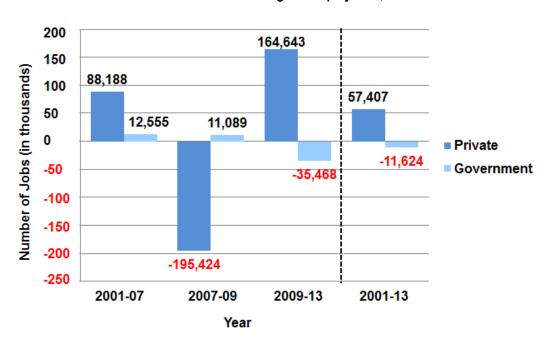
Figure 3. Percent Change in Total Employment: Pennsylvania and the U.S., 2001-13



Sector Employment: Private and Public

• During 2001-13 the private sector in Pennsylvania gained 57,407 jobs. The public sector – Federal, state, and local – lost 11,624 jobs (Fig 4).

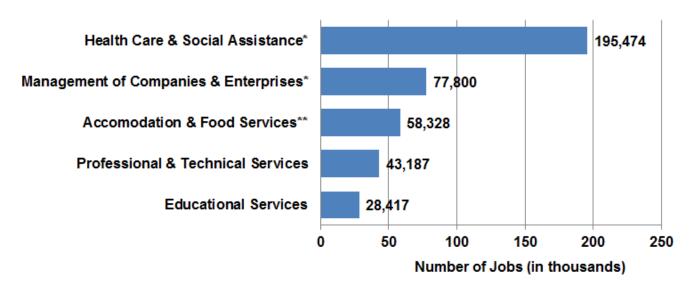
Figure 4. Private & Government Sectors: Number Change in Employment, 2001-13



Employment – Growth and Declining Industries

• Health Care & Social Assistance topped all industries in job growth (195,474) during 2001-13. Management of Companies & Enterprises (77,800) and Accommodation & Food Services (58,328) also had significant job growth (Fig. 5).

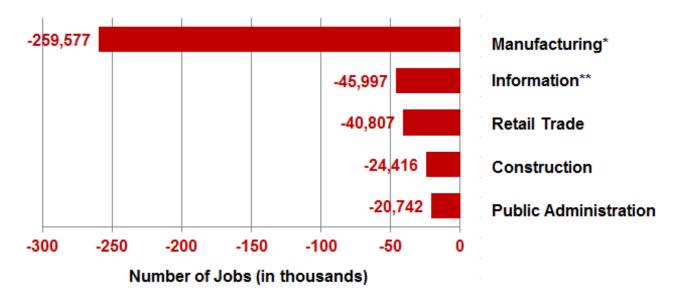
Figure 5. Top 5 Growth Industries in Pennsylvania: Change in Number Employed, 2001-13



^{*}Job growth annually 2001-13

• Manufacturing topped all industries in job loss (-259,577) during 2001-13. Information (-45,997) and retail trade (-40,807) also had significant job loss.

Figure 6. Top 5 Declining Industries: Change in Number Employed. 2001-13



^{*}Job loss annually 2001-10; job gain of 1.1% 2010-12; job loss 2012-13

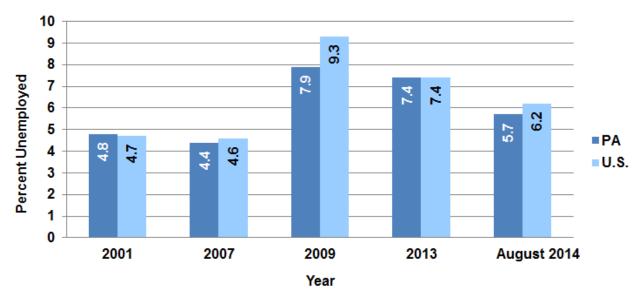
^{**}Job growth annually 2001-13, except recession year 2008-09

^{**}Job loss annually 2001-13

Unemployment: Pennsylvania and the U.S.

• Pennsylvania lagged the U.S. in job growth, but generally kept pace with the nation in percent unemployed during 2001-13 (Fig. 7).

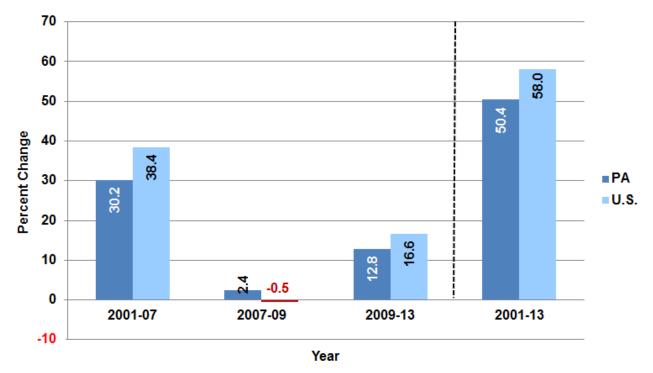
Figure 7. Percent Unemployed: Pennsylvania & the U.S., 2001-13



Gross Domestic Product (GDP): Pennsylvania and the U.S., 2001-13

• Pennsylvania's GDP grew 50.4% from 2001-13, nearly keeping pace with the U.S. (58.0%) (Fig. 8).

Figure 8. Percent Change in Gross Domestic Product (GDP): Pennsylvania & the U.S., 2001-13



MIDDLE-INCOME JOB DECLINE IN PENNSYLVANIA, 2001-13

Overview:

Pennsylvania had a net gain of only 45,783 jobs (0.1%) from 2001 to 2013. The state's rate of job growth was slow relative to the nation during the 2001-07 business cycle, and 2009-13 recovery.

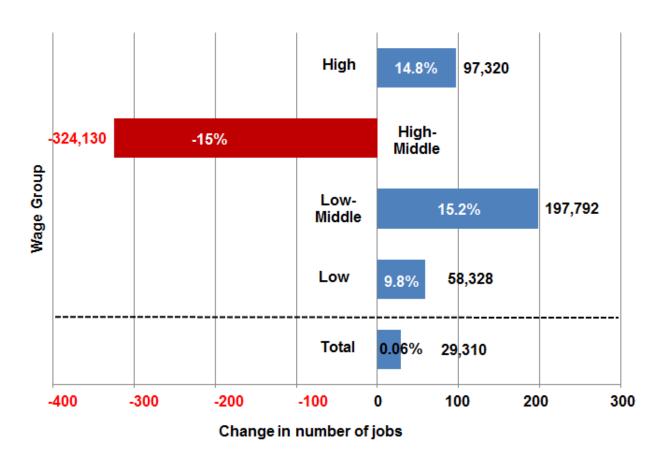
Pennsylvania's minimal net gain in total employment 2001-13 suggests a stagnant job picture over the 12 years. However, the reality was a mix of job gains and losses among major industries, as 10 industries added jobs and 10 lost jobs during 2001-13. Also, the job gains and losses of major industries were unevenly distributed among four industry wage groups – High, High-Middle, Low-Middle, and Low – during 2001-13.

EMPLOYMENT: INDUSTRY WAGE GROUPS 2001-13

Change in Number Employed: Industry Wage Groups, 2001-13

• Industries in the High-Middle wage group had a net loss of 324,130 jobs during 2001-13. Industries in the Low-Middle wage group had a net gain of 197,792 jobs. The High and Low wage groups also added jobs (Fig. 9).

Figure 9. Change in Number Employed: Industry Wage Groups, 2001-13



Employment Change: Industry Wage Groups, 2001-07 and 2007-13

• Industries in the High-Middle wage group had a net job loss both during the 2001-07 business cycle, and from 2007-13 including the Great Recession and 2009-13 recovery (Fig. 10).

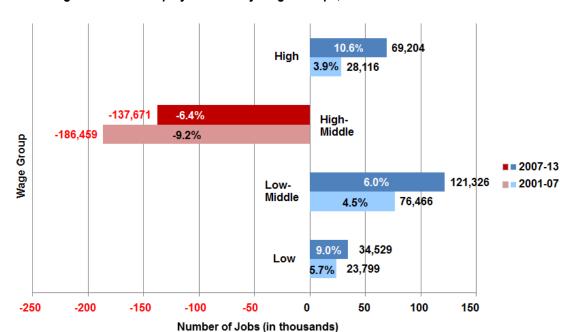


Figure 10. Change in Number Employed: Industry Wage Groups, 2001-07 and 2007-13

Distribution of Employment: Industry Wage Groups, 2001 and 2013

• The loss of 324,130 jobs in the High-Middle wage group during 2001-13 reduced its share of total employment from 41.5% in 2001 to 35.1% in 2013. The other three wage groups with job gains 2001-13 increased their share of total employment (Fig 11).

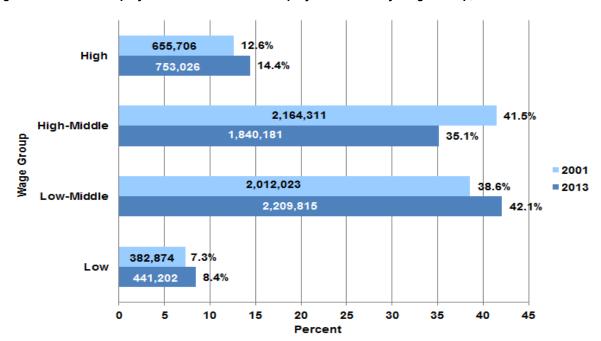
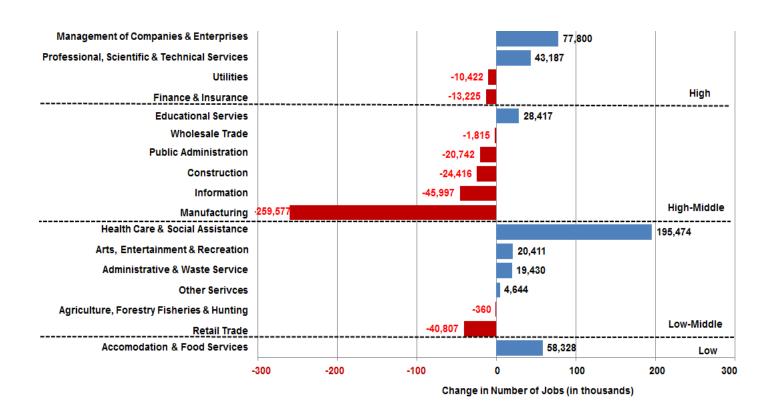


Figure 11. Number Employed & Percent of Total Employment: Industry Wage Group, 2001 & 2013

Employment Change: Industries in Wage Groups, 2001-13

- High Wage: Two industries had a combined gain of 119,987 jobs and two industries a combined loss of 23,667 jobs.
- High-Middle Wage: Five industries, led by Manufacturing, had a combined loss of 352,547 jobs. One industry gained 28,417 jobs.
- Low-Middle Wage: Four industries, led by Health Care & Social Services, had a combined gain of 239,959 jobs, and two
 industries a combined loss of 41,167 jobs.
- Low Wage: The one industry, Accommodation & Food Services, added 58,328 jobs.

Figure 12. Number Change in Employment: Industries in Wage Groups, 2001-13



AVERAGE ANNUAL WEEKLY WAGE (AAWW): INDUSTRY WAGE GROUPS

Average Annual Weekly Wage: Industry Wage Groups, 2001 & 2013

AAWW ranged from \$1,074 in High wage group to \$237 in Low wage in 2001 and from \$1,685 in High wage to \$312 in Low wage in 2013 (Fig 13)

1,800 1,600 1,685 1,400 1,200 1,100 1,000 1,074 2001 800 784 **2013** 689 600 502 400 200 237 0 High High-Middle Low-Middle Low Wage Group

Figure 13. Annual Average Weekly Wage: Industry Wage Groups, 2001& 2013

Change in Average Annual Weekly Wage: Industry Wage Groups, 2001-13

• Increases in AAWW during 2001-13 ranged from \$611 in the High wage to \$75 in the Low wage group. Percent increases in AAWW 2001-13 ranged from 56.9% in the High wage to only 31.6% in the Low wage group (Fig 14)

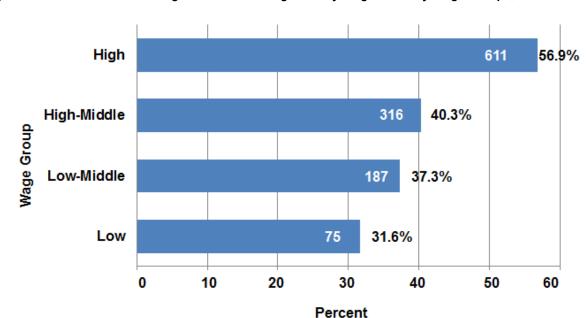
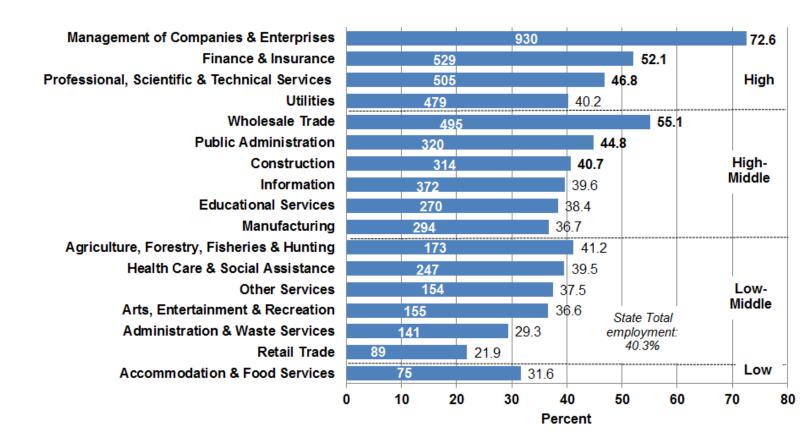


Figure 14. Dollar & Percent Change in Annual Average Weekly Wage: Industry Wage Groups, 2001-13

Change in Average Annual Weekly Wage: Industries in Wage Groups, 2001-13

• Individual industry dollar and percent changes in AAWW generally declined from High to Low wage groups 2001-13. Three of four High wage industries had percent gains greater than the state average for total employment (40.3%). Only one of six High-Middle, and one of six Low-middle industries had percent gains in AAWW above the state average (Fig 15).

Figure 15. Dollar & Percent Change in AAWW: Industries by Wage Group, 2001-13



TOTAL WAGES: INDUSTRY WAGE GROUPS

Distribution of Total Wages: Industry Wage Groups, 2001 and 2013

The distribution of total wages among industry wage groups was roughly similar in 2001 and 2013. Total wages in each wage group increased during 2001-13 (Fig 16).

120 100 105.2 Jollars (in billions) 88.2 80 79.1 60 99 2001 **2013** 40 20

Figure 16. Total Wages by Wage Group: 2001 & 2013

Dollar and Percent Change in Total Wages: Industry Wage Groups, 2001-13

High

0

Wage Group

There were wide variations in both dollar and percent change in total wages among industry wage groups during 2001-13. The High-Middle industry wage group lagged both the High and Low-Middle groups in dollar and percent change in total wages (Fig 17)

Wage Group

Low-Middle

Low

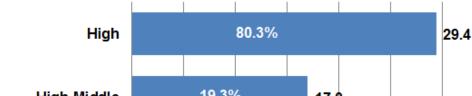


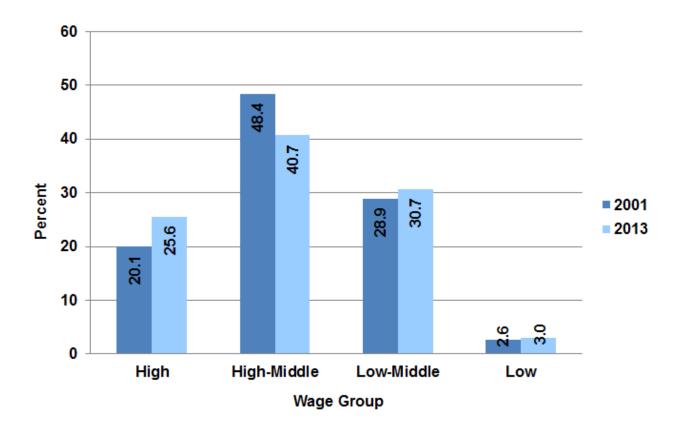
Figure 17. Dollar & Percent Change in Total Wages: Wage Groups, 2001-13

High-Middle

Distribution of Total Wages: Industry Wage Groups, 2001-13

• As a result of the job loss the High-Middle wage group's share of total wages declined from 48.4% in 2001 to 40.7% in 2013. The other three wage groups increased their share of total wages 2001-13 (Fig 18).

Figure 18. Percent of Total Wages: Wage Groups, 2001 & 2013



SUMMING UP TRENDS – IMPACTS – WHERE TO?

THE PENNYSLVANIA ECONOMY, 2001-13

In Brief:

During 2001-13 Pennsylvania had minimal net job gain. The state trailed the U.S. in rate of job growth during both the business-cycle 2001-07, and the 2009-13 recovery from the Great Recession. In contrast, the state matched the nation's low unemployment rates during the business-cycle, and had lower rates during both the recession and recovery. Also during 2001-13 Pennsylvania's GDP grew at near the nation rate.

Bottom-line: Pennsylvania's combo of negligible job growth, relatively low unemployment, and near U.S. average GDP growth during 2001-13 suggests an economy with few serious problems.

However, embedded in the state's minimal growth in total employment 2001-13 were wide industry variations in job change. Ten major industries gained, and ten lost jobs during 2001-13. Significantly, the industries with gains and those with losses were unevenly distributed among four industry wage groups – High, High-Middle, Low-Middle and Low wage.

HIGH-MIDDLE WAGE JOB LOSS: PENNSYLVANIA, 2001-13

EMPLOYMENT: INDUSTRY WAGE GROUPS

Trends:

In Pennsylvania, during 2001-13, industries in the High-Middle wage group – powered by job decline in manufacturing - had a net loss of 324,130 jobs. In contrast, industries in the Low-Middle wage group – powered by job growth in Health & Social Assistance - had a net gain of 197,792 jobs. The net result was a marked job shift from above-average to below-average wage industries in Pennsylvania from 2001 to 2013.

Impacts:

This report does not track what happened to the many working in industries in the High-Middle wage group losing jobs during 2001-13. However, one can assume that, outside of those able to retire, the options were limited to 1) finding full or part-time employment in a Low-Middle or Low wage industry or 2) dropping out of the labor force when the unemployment insurance ran out. In short, to the many losing jobs in High-Middle wage industries during 2001-13 adjustment must have been difficult..

AVERAGE ANNUAL WEEKLY WAGE (AAWW): INDUSTRY WAGE GROUPS

Trends:

The AAWW of industry wage groups decreased markedly from High to Low wage groups both in 2001-13. Also, dollar increases in AAWW decreased from High to Low wage groups during 2001-13. Significantly, percent increases in AAWW also decreased from High- to Low wage groups over the 12 years.

Impacts:

The decline in dollar and percent increases in AAWW from High to Low wage groups during 2001-13, indicates a widening wage gap between those employed in higher versus lower wage industries.

TOTAL WAGES: INDUSTRY WAGE GROUPS

Trends:

During 2001-13 total wages for High-Middle wage industries increased by 17.0 billions of dollars compared to a 26.5 billion increase for Low-Middle and Low wage industries. The High-Middle wage group's share of total wages for all wage groups fell from 48.4% in 2001 to 40.7% in 2013, while the combined Low-Middle and Low wage groups share of total wages increased from 30.5% to 33.7%.

Impacts:

Possible impacts of the shift in percent of total wages from High-Middle to Low-Middle and Low wage groups are twofold. First, Pennsylvania's regressive state and local tax structure suggests that those employed in Low-Middle and Low wage industries had their share of total tax burden increase from 2001-13. Second, it is likely that the shift in total wages caused shifts in the mix of consumer spending in the state – i.e. those employed in Low-Middle and Low wage industries likely purchase a somewhat different "market basket" of good and services than those employed in High-Middle wage industries.

HIGH-MIDDLE WAGE JOB LOSS: WHERE TO?

For several decades both the U.S. and Pennsylvania economies have been impacted by two powerful forces - globalization and technology change. Both forces have reduced the demand for labor in major industries. In Pennsylvania during 2001-13, reductions in the demand for labor has hit High-Middle wage industries – like manufacturing – the hardest.

The large job loss in High-Middle wage industries during 2001-13 raises the question of "Where to? - What to do? Two broad actions are suggested:

Short-run: Retrain workers losing jobs in High-Middle wage industries, for current and future job opening in growth industries.

Long-run: Promote viable opportunities for slowing/reversing job loss in industries such as Manufacturing, and the expansion of "growth industries" – e.g. Health Care & Social Assistance and Professional, Scientific & Technical Services.

Make investments in Pennsylvania's infrastructure that will promote economic growth.