



“Rising Flathead Valley”

**32nd Annual Montana Economic Outlook Seminar
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**Center for Business Information and Research
Flathead Valley Community College
Director: Gregg Davis, Ph.D.**

Non Sequitur/by Wiley

OH, MAN...
IT'S EVEN
WORSE
THAN I
THOUGHT



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Business Sector Inter-Relationships "Linkages"

Suppliers

- Labor
- Utilities
- Parts
- Resources
- Transportation

Sector



Consumers

- Exports •
- Value Added Manuf. •
- Consumption by HH •

County-Level Database Components

- Industry Output
- Employment
- Value Added
- Final Demands for Goods and Services

Industry Output

Value of an industry's total production

Source: BEA

BLS

Employment

full and part time workers

Source: ES202
REIS

D.A. DAVIDSON & CO

Value Added

- Employee Compensation
 - Wages, Salaries, Benefits
- Proprietary Income
 - payments received by self-employed
- Other Property Type Income
 - Rents, royalties and dividends
- Indirect Business Taxes
 - Excise taxes, property taxes, fees, licenses

Source: ES202, REIS, BEA, Derived from BEA GSP

Final Demands

End Use Is

- exports
- hh
- government
- inventory

Source: NIPA

A NAICS Sector is:



collection of businesses with similar production methods who produce similar products



The Economy

**Total Economic Activity = Inter-Industry Transactions
and
Final Demands**

ROAD
CLOSED

ROAD
CLOSED

Multipliers

Capture backward linkages:

- Inter-Industry Transactions
- Household Consumption

Imports

- leakage in our economy
- unmet demand
- reduce multiplier

Multipliers

Do Not Capture Forward Linkages:

- Industries contributing to value added
- Exports
- Households
- Particularly significant for early value added industries

Delineation of Study Area Flathead County

2 Digit NAICS: 20 Sectors

3 Digit NAICS: 81 Sectors

4 Digit NAICS: 217 Sectors

Biggest Bang for the Buck Employment

	Multiplier
Utilities	5.6
Manufacturing	3.1
Information	2.3
Real Estate and Rental	2.3

But ... Ability to Add Employment Must Be Considered

	Direct*	Indirect*	Induced*	Total*	Multiplier
Utilities	0.95	1.49	2.85	5.29	5.59
Manufacturing	3.26	3.72	3.01	9.98	3.06
Information	5.57	3.88	3.55	13.00	2.33
Real Estate	4.43	2.88	2.81	10.11	2.28

* Employment per million \$ change in final demand

Smaller Bang for the Buck Employment

	Multiplier
Administrative and Waste Services	1.3
Arts, Entertainment and Recreation	1.4
Accommodation and Food Services	1.3

Again, the Ability to Add Employment ...

	Direct*	Indirect*	Induced*	Total*	Multiplier
Admin & Waste Services	29.40	3.53	6.41	39.35	1.3
Arts, Entert & Recreation	26.39	5.21	4.53	36.17	1.4
Accommodation & Food Serv	21.74	3.15	4.28	29.16	1.3

* Employment per million \$ change in final demand

Economy Wide Benefits

Sectors Affected

1 200+

A horizontal line with vertical end caps is positioned above the text 'Sectors Affected'. Below the left end cap is the number '1', and below the right end cap is '200+'.

Multiplier Value

low high

A horizontal line with vertical end caps is positioned above the text 'Multiplier Value'. Below the left end cap is the word 'low', and below the right end cap is the word 'high'.

Total Economy-Wide Job Creation

	Total jobs per million \$ change in final demand	Jobs created in other sectors per direct job
Educational Serv	40.8	0.4
Administrative & Waste Serv	39.3	0.3
Arts, Entert. & Recreation	36.1	0.4
Accommodation & Food Serv	29.2	0.3
Health & Social Serv	25.1	0.6
Retail	24.8	0.5

Total Economy-Wide Job Creation

	Total jobs per million \$ change in final demand	Jobs created in other sectors per direct job
Utilities	5.3	4.6
Manufacturing	10.0	2.1
Information	13.0	1.3
Real Estate	10.1	1.3
Construction	20.1	0.9

Employee Compensation Resulting From

	per million \$ change in final demand (Direct Effect)	Additional employee compensation per direct
Real Estate	\$34,549	\$3.70
Utilities	\$59,069	\$2.00
Ag/Forestry/Fish	\$95,841	\$1.58
Manufacturing	\$145,406	\$1.25

Employee Compensation Resulting From

	per million \$ change in final demand (Direct Effect)	Additional employee compensation per direct
Government	\$498,548	\$0.32
Administrative & Waste Services	\$437,759	\$0.53
Health & Social Services	\$422,660	\$0.54
Management of Companies	\$401,775	\$0.52

Economic Growth

Increase Labor

Increase Capital

Improve efficiency of each

Labor Component of Growth

Increase Labor Force
employment

quantity: maximize jobs

quality: maximize income

Economy-Wide Growth

Endogenous: population, policy, preferences for local goods and services

Exogenous: regional and national demand
basic industry focus



Endogenous Growth Opportunities

EGO

$$\text{EGO} = \frac{\text{total local production} - \text{exports to other regions}}{\text{total local demand for local and/or imported goods \& services}}$$

$EGO \geq 1$: local demand met by local production

$EGO < 1$: additional local production needed
"import substitution"

Additional Considerations for $EGO < 1$

- 1) Availability of resources for production: backward linkages
- 2) Economy of scale for import price competition
- 3) Forward linkages: intermediate and final demand

Flathead 20 Sector Economy

EGO < 1

		Employment
Mining	.37	213
Manufacturing	.53	3,190
Wholesale	.45	991
Transportation & Warehousing	.92	659
Information	.58	625
Finance & Insurance	.79	1,512
Professional, Scientific, Technical	.66	1,221
Management of Companies	.16	101
Administrative and Waste Services	.78	2,378
Educational Services	.51	382

Flathead 20 Sector Economy

EGO < 1

34% of Employment Base

33% of Total Private Firms

All but 2 pay above average annual wage/job*

*Administrative & Waste Services

*Educational Services

EGO < .50

5 Digit NAICS

Colleges

Home Health Care

Office Administrative Services

Photographic Services

Scientific Research & Development

Management Consulting Services

Computer Systems Design Services

Specialized Design Services

Sound Recording Industries

Clothing and Accessories

Jewelry Manufacturing

Dental Labs

Employment – 2 Digit NAICS

NAICS 2- Digit Sector	Total Economy-Wide Employment Generated per (000,000) \$ of Output	Economy-Wide Multiplier Rank
Educational Services	40.83	18
Adm. & Waste Services	39.35	20
Arts, Enter-Recreation	36.13	17
Accommodation & Food	29.16	19
Other Services	28.47	16
Health & Social Services	25.09	14
Retail	24.84	15
Professional, Scient & Tech	24.79	12
Construction	20.01	9
Transportation & Warehse	17.85	7

Employment – 2 Digit NAICS, Cont.

NAICS 2- Digit Sector	Total Economy-Wide Employment Generated per (000,000) \$ of Output	Economy-Wide Multiplier Rank
Government & Non-NAICS	17.6	13
Wholesale	17	11
Management of Companies	16.78	5
Ag, Forestry, Fish, Hunting	14.8	10
Finance & Insurance	14.37	6
Information	13	3
Mining	12.35	8
Real Estate & Rental	10.12	4
Manufacturing	9.98	2
Utilities	5.29	1

Employee Compensation – 2 Digit NAICS

NAICS 2- Digit Sector	Total Economy-Wide Emp. Comp. Generated per Million \$ of Output	Economy-Wide Multiplier Rank
Educational Services	915,974	19
Administrative & Waste	671.26	14
Government & Non NAICS	661,750	20
Health & Social Services	650,048	13
Management of Companies	608,769	18
Transportation & Warehse	560,943	14
Retail	538,666	15
Wholesale	504,506	16
Professional, Scient & Tech	498,451	6
Accommodation & Food	478,749	12

Employee Compensation – 2 Digit NAICS, Cont.

NAICS 2- Digit Sector	Total Economy-Wide Emp. Comp. Generated per Million \$ of Output	Economy-Wide Multiplier Rank
Arts, Entertainment & Rec	466,870	9
Other Services	462,281	8
Construction	461,625	5
Mining	433,912	17
Finance & Insurance	422,759	10
Information	388,350	7
Manufacturing	327,464	4
Ag, Forestry, Fish & Hunt	247,472	3
Utilities	171,228	2
Real Estate & Rental	162,238	1

Economy-Wide Employee Compensation/Total Economy-Wide Employment

Government & Non NAICS	37,599
Management of Companies	36,279
Mining	35,135
Manufacturing	32,812
Utilities	32,368
Transportation & Warehousing	31,425
Information	29,873
Wholesale	29,677
Finance and Insurance	29,420
Health & Social Services	25,919

Construction	23,070
Educational Services	22,434
Retail	21,685
Professional, Scientific and Tech	20,107
Administrative & Waste Management	17,059
Ag, Forestry, Fish & Hunt	16,721
Accommodation & Food	16,418
Other Services	16,237
Real Estate & Rental	16,031
Art, Entertainment & Rec	12,922

Economy-Wide Employee Compensation/Economy-Wide Employment Top 10 3-Digit NAICS

Transportation Eqpmt	32393
Primary Metal Mfg	32505
Fabricated Metal Production	34052
Wood Products	34533
Management of Companies	36036
Government & Non NAICSs	37402
Credit Inmediation & Related	38182
Postal Service	38335
Mining	38695
Rail Transportation	47668

Economy-Wide Employee Compensation/Economy-Wide Employment Middle of the Pack

3-Digit NAICS

Miscellaneous Mfg	21758
Construction	21790
Textile Mills	21826
Educational Svcs	21848
Nursing & Residential Care	22293
Chemical Manufacturing	22866
General Merch Stores	23080
Forestry & Logging	23686
Apparel Mfg	23875
Furniture & Home Furnishings	24101
Beverage & Tobacco	24224

Economy-Wide Employee Compensation/Economy-Wide Employment Bottom 10 3-Digit NAICS

Performing Arts & Spectator Sports	4012
Livestock	4881
Non-Store Retailers	6348
Private Households	7301
Social Assistance	8107
Ag & Forestry Svcs	8563
Mining Services	9295
Crop Farming	9534
Transit & Ground Passengers	10534
Misc Retailers	11143

Now To Combine Employee
Compensation per Worker with
EGO Identified Sectors.....

EGO Sectors with Above Average Added Economy-Wide Employee Compensation Per Added Economy-Wide Worker (Average \$22,666)

3-Digit NAICS Sector	EGO < 50	50 > EGO < 80
Health & Personal Care Stores		\$24,254
Printing & Related	\$25,001	
Plastics & Rubber Products	\$26,211	
Truck Transportation		\$26,336
Waste Management & Remediation		\$26,419
Warehousing & Storage	\$26,573	
Wholesale Trade		\$28,982
Internet & Data Processing		\$29,443
Machinery Manufacturing		\$32,197
Management of Companies	\$36,036	

EGO Sectors with Below Average Added Economy-Wide Employee Compensation Per Added Economy-Wide Worker (Average \$22,666)

3-Digit NAICS Sector	EGO < 50	50 > EGO < 80
Textile Mills	\$21,826	
Misc Manufacturing	\$21,758	
Professional, Scient, Tech		\$19,161
Securities & Other Finance		\$15,520
Food Products	\$15,464	
Clothing & Accessory Store	\$15,123	
Motion Pic & Sound Rec	\$14,122	
Funds, Trusts & Oth Fin	\$13,305	
Transit & Ground Passengrs	\$10,534	
Agric & Forestry Services	\$8,563	
Non-Store Retailers		\$6,348



OWL Index

(Out of Warranty but still Living)

65+		75+	
Commodity	Proportion of Budget	Commodity	Proportion of Budget
Housing	32.98	Housing	36.41
Transportation	15.67	Health care	15.51
Food	13.52	Food	13.66
Health care	12.54	Transportation	12.75
Food at home	8.75	Food at home	9.24
Utlts, fuels, & pub svcs	8.29	Utlts, fuels, & pub svcs	8.88
Health insurance	6.89	Health insurance	8.21
Cash contributions	6.43	Cash contributions	5.99
Vehicle purchases	6.32	Other vehicle expenses	4.66
Prsnl Ins. and pensions	5.12	Food away from home	4.42



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