

JSI Analytics

Business Persons Are Required to Make Decisions
With **Imperfect** and **Incomplete** Information

AKA 'The Real World'

4 Sections to this Presentation

1. Key points from the 'Covid years', how inflation materially impacted low and middle income households. The consequences of that inflation on businesses through today, and the future.
2. Where the economy is at today and how divergent economic activity is by geographic region. The events over the past few years have set up states and cities with severe fiscal problems. This introduces real operational risk to all businesses.
3. Debt, debt, debt and more debt. And why it matters to everyone.
4. Q & A

We Solve Problems by Distributing Facts & Data

- Leader in data and actuarial work for student lenders since 2010
- 2010 era, Edu mentality 'Borrow and go'. Disastrous outcomes.
- Founded EducateToCareer.org (ETC) in 2013 and created the movement of fiscally responsible college planning
- Since 2015 Google provides financial and tech support for ETC
- 1 mi students and 2,000 campuses used our programs annually
- ETC substantially improved the outcomes of millions of students
 - Education paths that leads to real jobs
 - Little or no student debt
- Concurrently worked with banks, wealth mgrs, publishers to develop *forward looking data products*, including commercial credit risk intel

The Reality of Inflation

	All consumer units	Less than \$15,000	\$15,000 to \$29,999	\$30,000 to \$39,999	\$40,000 to \$49,999	\$50,000 to \$69,999	\$70,000 to \$99,999	\$100,000 to \$149,999	\$150,000 to \$199,999	\$200,000 +
household income										
2020	\$ 75,235	\$ 8,912	\$ 22,349	\$ 33,895	\$ 41,389	\$ 52,655	\$ 71,914	\$ 99,543	\$ 133,513	\$ 226,090
2022	\$ 83,193	\$ 9,810	\$ 24,622	\$ 37,370	\$ 45,658	\$ 58,126	\$ 79,460	\$ 110,099	\$ 147,787	\$ 250,412
2024	\$ 88,073	\$ 10,258	\$ 25,804	\$ 39,246	\$ 48,021	\$ 61,251	\$ 83,942	\$ 116,629	\$ 156,888	\$ 266,268
2025 est	\$ 90,620	\$ 10,490	\$ 26,416	\$ 40,219	\$ 49,248	\$ 62,876	\$ 86,277	\$ 120,038	\$ 161,647	\$ 274,568
as a pct of household income										
non-discretionary spending										
2020	61%	247%	118%	87%	80%	72%	63%	57%	54%	44%
2022	64%	258%	123%	92%	83%	75%	67%	60%	56%	46%
2024	65%	264%	126%	94%	85%	76%	67%	60%	56%	46%
2025 est	67%	285%	125%	98%	90%	81%	71%	63%	58%	46%
discretionary spending by year										
2020	23%	58%	29%	29%	25%	24%	22%	21%	22%	20%
2022	24%	58%	29%	30%	26%	25%	23%	21%	23%	20%
2024	23%	59%	29%	30%	26%	25%	23%	21%	22%	20%
2025 est	24%	61%	30%	30%	26%	25%	23%	21%	22%	20%
total spending by year										
2020	84%	304%	147%	117%	105%	96%	86%	78%	76%	64%
2022	88%	316%	153%	122%	110%	100%	89%	81%	79%	66%
2024	88%	323%	155%	124%	111%	101%	90%	81%	79%	66%
2025 est	90%	346%	154%	128%	117%	105%	94%	84%	80%	66%

The Consequences of Inflation

	A	B	C	D	Q	R	S	T	U	V	W	X	Y	Z
1				1										
2														
3					Share									
4				Item	All consumer units	Less than \$15,000	\$15,000 to \$29,999	\$30,000 to \$39,999	\$40,000 to \$49,999	\$50,000 to \$69,999	\$70,000 to \$99,999	\$100,000 to \$149,999	\$150,000 to \$199,999	\$200,000 and more
71														
72														
73	2015	64		Food at home	7.2	10.7	9.2	9.3	7.4	7.5	7	6.4	6.1	4.6
74	2016	64		Food at home	7.1	10.4	9.1	7.6	8.3	7.5	7.3	6.6	6.1	4.5
75	2017	64		Food at home	7.3	10	9.4	9.1	8.3	7.7	7.1	7	5.4	4.7
76	2018	64		Food at home	7.3	10.6	9.3	8.8	7.8	8	7.4	6.7	6.2	5
77	2019	64		Food at home	7.4	9.7	9.3	8.9	9.2	8	7.5	7	6.3	5
78	2020	64		Food at home	8.1	11.5	9.5	9.9	9.1	8	7.9	7.9	7	6.1
79	2021	64		Food at home	7.9	12.1	10	9.6	8.3	8.6	8	7.4	7.1	5.8
80	2022	64		Food at home	7.8	12.5	9.3	8.9	9.3	9.1	8.5	7.8	6.8	5.5
81	2023	64		Food at home	7.8	12.6	10.2	9.4	9.5	9.3	8.5	7.8	7.3	5.5
82														
83														
84	2015	189		Food away from home	5.4	5.2	5	5.1	4.9	5.3	5.9	5.6	5.8	4.9
85	2016	189		Food away from home	5.5	5.6	4.8	5.4	5.4	5.5	5.6	5.7	6.2	5.6
86	2017	189		Food away from home	5.6	6	5.1	5	6	6.1	5.5	5.7	5.1	5.4
87	2018	189		Food away from home	5.6	5.7	5	5.5	5.7	5.5	5.9	5.9	5.9	5.3
88	2019	189		Food away from home	5.6	5.3	5.3	5.3	6.1	5.6	5.5	5.6	5.4	5.7
89	2020	189		Food away from home	3.9	3.4	3.4	4.2	4	3.8	3.8	4.1	4	3.6
90	2021	189		Food away from home	4.5	4.5	4	4.1	4.2	4.7	4.4	5	4.8	4.3
91	2022	189		Food away from home	5	4.7	4.2	4.4	5	5	4.7	5.4	5.2	5.1
92	2023	184		Food away from home	5.1	5.1	4.4	4.8	5	4.8	5	5.4	5.6	5

Business Consequence of Consumer Deterioration

- 68% of economic activity flows off the consumer
- The consumer lost 20% of purchasing power since 2021
- More \$\$ allocated to housing, energy, food, insurance
- Low and mid income households reduced discretionary purchases
- Wage growth is now slightly ahead of inflation--- the consumer is has recovered 1% of the 20% loss of purchasing power
- Fewer \$\$ flowing to SMBs
- More \$\$ flowing to larger retailers
- The consolidation of revenue and profits into large companies accelerated due to inflation

The Business Profit Trend

	<\$1 mi	\$1mi - \$5mi	\$5mi - \$10mi	\$10mi - \$50m	\$50mi - \$100	\$100mi - \$250	\$250mi - \$500	\$500mi - \$1b	>\$1bi
2019	5%	6%	6%	7%	8%	9%	9%	9%	10%
2020	5%	5%	6%	6%	7%	8%	9%	9%	11%
2021	4%	4%	5%	5%	6%	7%	8%	9%	11%
2022	4%	3%	4%	5%	6%	6%	8%	9%	12%
2023	3%	2%	4%	4%	5%	6%	7%	8%	12%
2024	2%	2%	3%	3%	4%	5%	7%	7%	13%

- Exposure to SMBs requires rigorous risk analysis
- Generating revenues from SMBs requires rigorous market analysis

Shifting Gears - Good News & Bad News

- The US economy is going in divergent directions, by geography
 - 18 states are in or on the edge of recession. And they're going to get worse
 - 24 states are growing at better than 4% annually. And their growth will accelerate through 2026 and onward
 - Remaining states are flatlining
- Because it's easier to lose money than it is to make it, we'll focus first on the Bad News

Bad News

- Nationally, GDP is approx 2.0%, but that's the average
- Economic activity is diverging substantially by state
- 18 states are in, or teetering on recession
 - Unsustainable budgets before covid, add 40% more spending during covid
 - Outbound migration of high earners & businesses at record rates
 - Very little new business formation
 - Large parts of their economies are based on 'synthetic' demand
 - Federal funding propped up budgets during covid, now is drying up
- Most of these states have no mathematical way out. They will require a bail out, or default.
- Large cities within failing states are in even worse fiscal shape
- Contemplate the possibility of ~ 25 'Detroit' scenarios

Many Large Cities Are Dying Economically

- Math problem – local budgets were already a fiscal abyss
- Then covid hit. Profligate states and cities increased budgets 40%
- Outbound migration of high earners and businesses shot up
- Massive federal \$\$ thru 2024 to states and cities is drying up
- State & muni revenues collapsing, minimal offsetting cost cuts
- Public works and services decline, while crime rises
- Downward spiral manifests where businesses close, taxpayers leave, govt budget cuts cause further economic deterioration
- There is still the overhang of bond obligations and massive retiree pensions & benefits

200 Cities, Ranked for Solvency

- Orlando, SLC, 120 others rated B or higher
- Approx 50 cities, C rated, but trending down
- 25 cities, mathematically impossible to avoid massive cuts to employees, services and pensions without a bailout- Detroit Trajectory

Debt ratio (Total Liabilities / Total Assets)			
Municipality	2023	2024	2025 est
Orlando	0.45	0.43	0.42
Salt Lake City	0.53	0.51	0.5
Seattle	0.53	1.1	2
Los Angeles	0.68	1.1	1.7
Denver	0.69	0.92	1.3
San Francisco	0.73	1.3	1.9
Portland	0.77	1.8	3.2
Dallas	0.86	1.08	1.4
Miami	1.34	1.55	1.9
Chicago	1.55	2.3	3.5
New York	2.02	2.7	3.8

Calif Loses At Least 4% of Tax Base Each Year

- The highest earners are leaving at the fastest rate
- Personal income tax is ~60% of state revenue
- State budget
 - 2019 – \$215 bi
 - 2026 - \$321 bi
- Poverty trend line
 - 2019 - 33% of residents on Medi Cal
 - 2025 – 42% of residents on Medi Cal
- Fun fact – 200 individuals paid 47% of income taxes in 2024

California	Taxpayers	% of taxpayers
\$1 under \$10,000	-7,053	-0.8%
\$10,000 under \$25,000	-19,149	-0.8%
\$25,000 under \$50,000	-29,694	-0.8%
\$50,000 under \$75,000	-17,898	-0.7%
\$75,000 under \$100,000	-13,209	-0.8%
\$100,000 under \$200,000	-29,952	-1.1%
\$200,000 or more	-24,670	-1.4%

Organic vs Synthetic Economic Activity

- Organic activity is based on voluntary, private sector transactions
 - Organic activity is generally sustainable, but subject to market forces
- Synthetic activity based on govt disbursements, and is declining
 - Social services
 - Healthcare
 - Education
- A tale of two cities
 - Salt Lake City – balanced budget, ~5% synthetic activity, gaining taxpayers
 - San Francisco – 18% deficit, ~30% synthetic activity, losing 6% of taxpayers annually
- As many state and muni budgets collapse, economic activity that is synthetically supported dries up

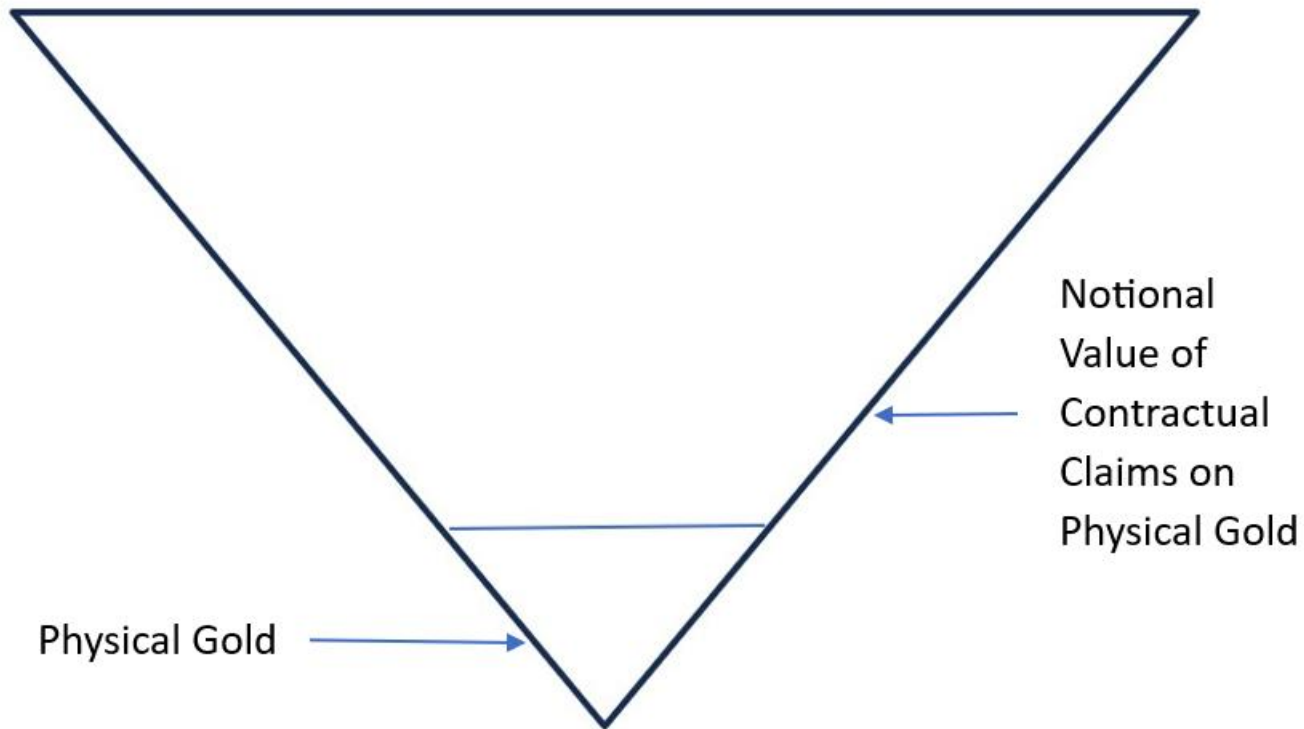
Doing Business in a Failing Municipality

- National chains report sales down 70% Y/Y in some cities
- Crime is making operating nearly impossible, including hiring
- Chains reactively close locations based on crime and sales drop
- Plan for:
 - Rising defaults by customers
 - Increasing fraud
 - Banks changing collateral requirements, or pulling credit lines
 - Collateral devaluations, especially CRE
- Recall- Detroit population went from 1.8 mi to 650k
- 20+ metro areas are mirroring the Default Trajectory of Detroit

A World of Debt

- Worldwide GDP is ~\$100 trillion in 2025
- Worldwide debt is ~\$320 trillion in 2025
 - Household- \$60 trillion, sustainable
 - Corporate- \$80 trillion, sustainable
 - Governmental- \$180 trillion, unsustainable
- Why government debt matters
 - Central banks set interest rates, until the market loses trust
 - Businesses and households borrow at rates above their central bank
 - As bond holders get skittish about debt, rates are driven higher
 - Higher rates change the calculus of everything (private credit.....)
- 10 yr Treasury likely to stay in 3.5% to 5% range, not 2%

Paper Claims Far Exceed Value of Real Assets



Shifting Gears.... Good News

- 24 states are growing GDP 4% or higher
- Inbound migration of high earners & existing businesses, plus new business formation, capex in mfg and AI
- Early stages of a manufacturing renaissance of high value goods
- 2025 spending on mfg plants (\$220 bi), up 192% from 2020
- Spending on mfg facilities is 4x that of data centers
- Planned capex for mfg and will be approx 30% higher in 2026
- Upper Midwest, South and SE are the fastest growing regions in the world
- Employment is rising, avg income growth is up at least 6% y/y, shortages of skilled workers

Good News Continued

- Economically friendly states will prosper for the foreseeable future
- Tax rates are meaningful to high earners – rational policy makers understand this
 - This supports the private sector
 - Which induces the private sector to support the public sector
- Energy accessibility/pricing is a big driver for business decisions
- High productivity mfg will drive profits, and further investments
- Wealth creation will generate sustainable growth
- All of this activity is organizing in states
 - That don't have legacy liabilities
 - That recognize the value of real assets and productive capacity

JSI's Added Value is in Looking Forward

- Credit bureaus and managers generally rely on historical intel
 - As we all know, that works.... until it doesn't
- JSI forward looking credit data complements credit bureau intel
- JSI focuses on getting the questions right
 - No longer is it- 'How is the economy?'
 - Today the question is- 'What is the economy? And where? And why?'
- JSI generates estimates of future activity at a granular level
 1. Manage risk
 2. Capitalize on opportunities
- As a credit risk manager, combine credit bureau records with JSI's intel, for a complete historical and forward looking perspective



Where is your organization adopting AI or automation in the order-to-cash process?

ⁱ The Slido app must be installed on every computer you're presenting from