San Diego Business Recovery Index

Concept & Methodology

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About the San Diego Business Recovery Index

The San Diego Regional Business Recovery Index (BRI) is a first-of-its-kind, survey-based index designed to measure sentiment across a number of metrics that are important to San Diego County companies. The survey asks business leaders to provide input on both present conditions and expectations for the future. Responses to questions regarding present conditions provide a timelier update on the state of business in San Diego than what is provided by public data reporting agencies, like the Bureau of Economic Analysis and U.S. Census Bureau, while the expectations component of the survey can provide vital information on future hiring, investment, and commercial real estate plans.

The approach to calculating the San Diego Regional BRI borrows from a wide variety of business and consumer sentiment indexes. For instance, the incorporation of a present conditions component and an expectations component is similar to the University of Michigan and Conference Board consumer confidence indexes. The idea behind using an expectations component is that many businesses make present-day decisions based on views of future business and economic activity and can be vital in understanding inflection points in the business cycle, while also using current business and economic conditions as a guide to determine the feasibility and/or possible timing of future hiring and investment.

However, whereas the University of Michigan and Conference Board consumer measures are calculated on an index value of 100 for a particular point in time (i.e., index calculated on the basis of 1985=100), the BRI is a diffusion index similar to the National Federation of Independent Business (NFIB) small business optimism index and the Institute of Supply Management (ISM) purchasing managers index that measures whether economic and business conditions are expanding, contracting, or staying the same in the eyes of local business leaders at any particular point in time.

The San Diego Regional BRI can take on values from 0 (severe contraction across every metric, industry, and business size) and 100 (extreme expansion across every metric, industry, and business size), where values >50 indicate expansion and values <50 indicate contraction.

Where the BRI differs from most other sentiment indexes is in that the answers are weighted across three dimensions:
1. Present conditions (70%) and expectations (30%);
2. The number of employees covered by business responses to each question (i.e., answers from the region's largest businesses are weighted more heavily);
3. How confident or emphatic the response is to each question (i.e., "We _significantly_ increased our workforce by _more than_ 5%" is weighed more heavily than "We _slightly_ increased our workforce by _less than_ 5%").

This was done to ensure that the net responses to questions not only consider the number of establishments responding in certain ways to each question but also that the net economic effects of business decisions are being properly taken into account. To illustrate this point more clearly, negative responses on future hiring, remote work agreements, and commercial real estate (CRE) investment from 100 very small businesses would not be as significant to the San Diego regional economy, on balance,

than if five or 10 megafirms in the region indicate that they will aggressively expand their workforce and CRE footprints.

How the index is calculated

Survey subsegment calculations

The San Diego Regional BRI is calculated using a bottom-up approach that begins with the survey responses received from EDC's Changing Business Landscape (CBL) survey. The survey is conducted every other month, providing a consistent view of changing business sentiment over time.

The survey was designed to capture sentiment across a spectrum of responses, each of which is weighted differently. For example, the below shows one of the questions in the survey regarding recent employment trends, the possible answers businesses can provide, and their respective weights:

Question: Since the beginning of the pandemic era, how has the size of your organization's workforce changed, approximately?

Response	Weight value
We have decreased our workforce by approximately 5% or more	-2
We have decreased our workforce by approximately less than 5%	-1
There has been little or no change to the size of our workforce	0
Not relevant	0
We have increased our workforce by approximately less than 5%	1
We have increased our workforce by approximately 5% or more	2

From here, each set of responses is weighted by the number of employees captured by each answer:

Response	Response weight	Number of employees covered	% of employees	Weighted value
We have decreased our workforce by approximately 5% or more	-2	23,872	12%	-0.240
We have decreased our workforce by approximately less than 5%	-1	24,542	12%	-0.123
There has been little or no change to the size of our workforce	0	94,401	47%	0.000
Not relevant	0	7,000	4%	0.000
We have increased our workforce by approximately less than 5%	1	6,606	3%	0.033
We have increased our workforce by approximately 5% or more	2	42,666	21%	0.429

The weighted values in the far-right column of the above table are then summed and benchmarked to a subindex value for that particular survey component, which in this case is the 'Employment' subindex in the 'Present Conditions' segment of the BRI. The calculation is as follows:

$$BRI_{employment} = 50 + 0.5 * \sum_i Response\ weight_i * Share\ of\ employment_i * 50$$

where *i* is each separate response.

Putting the above into practice, we get a subindex value of:

$$BRI_{employment} = 50 + 0.5 * \big((-2 * 12\%) + (-1 * 12\%) + (0 * 51\%) + (1 * 3\%) + (2 * 21\%)\big) * 50$$
$$= 50 + 0.5 * 0.099 * 50 = 52.5$$

Note that the index calculation returns a slightly expansionary result even though the share of employees at companies responding negatively (~24%) is about the same as those responding positively (also ~24%). However, it's the fact that companies employing 21% of the sample workforce have expanded more aggressively than the share of the workforce that has been subject to aggressive layoffs and cost-saving measures in recent months (~12%).

Expanding on the above, it's also important to note that, strictly in terms of the number of responses, the subindex value for employment would be higher than the officially calculated value:

Response	Response weight	Number of responses	% of responses	Weighted value
We have decreased our workforce by approximately 5% or more	-2	14	10%	-0.209
We have decreased our workforce by approximately less than 5%	-1	21	16%	-0.157
There has been little or no change to the size of our workforce	0	5	4%	0.000
Not relevant	0	42	31%	0.000
We have increased our workforce by approximately less than 5%	1	25	19%	0.187
We have increased our workforce by approximately 5% or more	2	27	20%	0.403

The above yields a subindex value of 55.6. It's also interesting to note that, even though "We have increased our workforce..." responses account for 39% of all responses, those 52 companies only represent about 24% of local employees covered by the sample. As a result, performing the calculations solely on the number of responses can severely skew the results and lead to erroneous conclusions being drawn from the data.

Aggregating the survey subsegment index values

The survey is split into questions pertaining to present conditions and forward-looking questions pertaining to future business plans. The Employment example used above is an example of a Present Conditions subindex value.

For posterity, the complete list of subindex concepts surveyed, captured, and calculated is below:

Present Conditions:
- Business Development and Marketing/Sales
- Earnings (revenues minus costs)
- Employment Changes since the pandemic began
- Hiring Difficulty since the pandemic began
- HR Changes that may or may not have been beneficial
- Remote Work Efficiencies
- Revenues
- San Diego Business Perceptions
- San Diego Economic Conditions
- Supplier & Vendor Management
- Worker Retention

Expectations:
- Economic Expectations - 6 mos hence
- Economic Expectations - 12 mos hence
- CRE Expectations (increase or reduce commercial space)
- Employment Expectations
- Remote Work Expectations (plans to expand or reduce remote work going forward)

The present conditions and expectations subcomponents are each aggregated separately by averaging each group of subindex values:

$$BRI_{present\ conditions} = \frac{\sum_{j=1}^{n} BRI_{present\ conditions\ subindex_j}}{n}$$

$$BRI_{expectations} = \frac{\sum_{k=1}^{m} BRI_{expectations\ subindex_k}}{m}$$

Where j is each subindex component (e.g., employment changes) and n is the number of subindex components relating to present conditions in the CBL survey, and k is each subindex component (e.g., employment changes) and m is the number of subindex components relating to expectations in the CBL survey.

Once all of the above calculations have been carried out, the final index value is defined as:

$$BRI_{total} = 0.7 * BRI_{present\ conditions} + 0.3 * BRI_{expectations}$$

BRI by industry and business size

Separate sets of index and subindex calculations are carried out in the same way as the above for each industry covered by the survey and cohorts of different business sizes to ascertain differences in sentiment within different segments of the regional economy.

Industries covered by the BRI:
- Action Sports
- Aerospace
- Biomedical Devices and Products
- Biotechnology and Pharmaceuticals
- Cleantech
- Cybersecurity
- Education
- Entertainment
- Government and/or Defense
- Healthcare
- Information and/or Communications Technology
- Innovation Cluster
- Manufacturing
- Marketing, Advertising, or Publishing
- Non-profit
- Other Services
- Real Estate
- Software
- Sporting Goods

Business size cohorts:
- <50 workers
- 50 – 250 workers
- 250+ workers