**The Cardroom Industry
Economic Impact Study**

**Methodology and Documentation
Prepared for:**

California Gaming Association

By

John Dunham & Associates

October 28, 2019

Executive Summary:

The 2019 Cardroom Industry Economic Impact Study estimates the economic contributions made by the cardroom industry, which includes cardrooms, third-party proposition player providers, and associated restaurants, security services, gift shops, bars and hotels, to the California economy in 2019. John Dunham & Associates (JDA) conducted this research, which was funded by the California Gaming Association. This work used standard econometric models first developed by the U.S. Forest Service, and now maintained by IMPLAN Inc. Data came from the California Gaming Association, Infogroup, the California Gambling Control Commission, and survey information provided by cardrooms and third-party proposition player providers.

The study measures the number of jobs in the cardroom industry, the wages paid to employees, and total output. In addition, it measures the economic impact of the suppliers that support the cardroom industry, as well as those industries supported by the induced spending of direct and supplier employees.

Industries are linked to each other when one industry buys from another to produce its own product or service. Each industry in turn makes purchases from a different mix of other industries, and so on. Employees in all industries extend the economic impact when they spend their earnings. Thus, economic activity started by the cardroom industry generates output (and jobs) in hundreds of other industries, often in areas far removed from the original economic activity. The impact of supplier firms, and the "induced impact" of the re-spending by employees of industry and supplier firms, is calculated using an input/output model of California's economy. The study calculates the impact for the state, and by legislative districts, counties and cities.

The study also estimates taxes paid by the industry and its employees. State and local tax systems vary widely. State business taxes may include state and local sales taxes, license fees, and applicable gross receipt taxes as well as real estate and personal property taxes, business income taxes, and other business levies that vary in each municipality. Taxes paid to city governments through gaming licenses, cardroom taxes or other similar fees were accounted for on a separate line for those localities where data is made available.[1]

The cardroom industry is a dynamic part of the California economy, accounting for about $5.60 billion in output. It directly and indirectly creates approximately 32,425 Californians who earned wages and benefits of about $1.64 billion.

Summary Results

The cardroom industry (as defined in this study) includes cardrooms, third-party proposition player providers, and associated restaurants, security services, gift shops, bars and hotels. The cardroom industry reaches into all corners of California, employing 17,993 and generating $728.80 million in wages and benefits. Cardrooms directly generate $3.01 billion in economic activity in the state.

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[1] Data provided by California Gaming Association, gathered from the cities with a large amount of revenue coming from cardrooms through direct cardroom taxes or fees. The cities are as follows: Hawaii Gardens, Commerce, Bell Gardens, Colma, San Jose, Gardena, Inglewood, Emeryville, Compton, San Bruno, Fresno, Oceanside, and Chula Vista.

Table 1 – Economic Contribution of the Cardroom Industry

	Direct	Indirect	Induced	Total
Jobs	17,993	7,689	6,743	32,425
Wages	$728,797,300	$530,670,600	$375,979,700	$1,635,447,600
Economic Impact	$3,006,515,700	$1,490,866,000	$1,098,306,100	$5,595,687,800
Gaming City Taxes				$100,923,600
State and Local Business Taxes				$398,828,300
Total				$499,751,900

To put the direct impact of the cardroom industry in context, it directly employs almost as many people as every museum, historical site, zoo and park in California combined.[2]

Other firms are related to the cardroom industry as suppliers. These firms provide a broad range of products like food and beverages, gambling chips and player tables. In addition, supplier firms provide a broad range of services, including personnel services, financial services, advertising services, consulting services or transportation services. Finally, a number of people are employed in government enterprises responsible for the regulation of the industry. All told, JDA estimates that the industry is responsible for 7,689 supplier jobs paying wages totaling $530.67 million. These firms generate about $1.49 billion in economic activity.[3]
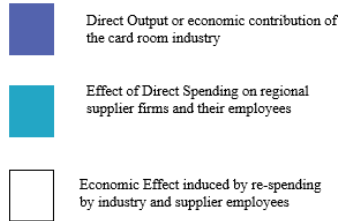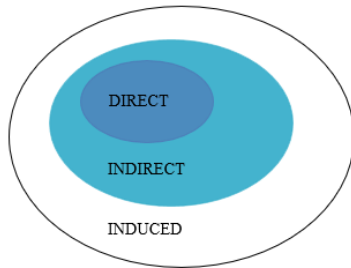
An economic analysis of the cardroom industry will also take additional linkages into account. While it is inappropriate to claim that suppliers to the suppliers are part of the industry being analyzed,[4] the spending by employees of the industry, and those of supplier firms that are directly dependent on the cardroom industry, should be included. This spending - on everything from housing, to food, to education and medical care - makes up what is traditionally called the "induced impact," or multiplier effect, of the cardroom industry. For 2019, the induced impact of the industry creates 6,743 jobs paying total wages of $375.98 million and generates $1.10 billion in economic impact, for a multiplier of 0.37.[5]

Another important part of an impact analysis is the calculation of the contribution of the industry to the public finances of the state and local governments. In the case of the cardroom industry, the taxes paid by firms and their employees provide $398.83 million to state and local governments including income taxes, property taxes, profits taxes, etc. Additionally, more than $100.92 million was paid to city governments through gaming licenses, cardroom taxes or other similar fees.[6]

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[2]   Based on comparisons of economic output from 2016 IMPLAN tables. This data does not include government jobs at these locations.

[3]   Throughout this study, the term "firms" actually refers to physical locations. One third-party proposition player provider, for example, may have employees in 5 or 6 locations.

[4]   These firms would more appropriately be considered as part of the indirect firm's industries.

[5]   Often economic impact studies present results with very large multipliers – as high as 4 or 5. These studies invariably include the firms supplying the induced industries as part of the induced impact. John Dunham & Associates believes that this is not an appropriate definition of the induced impact and as such limits this calculation only to the effect of spending by direct and indirect employees.

[6]   Data provided by California Gaming Association, gathered from the cities with a large amount of revenue coming from cardrooms through direct cardroom taxes or fees. The cities are as follows: Hawaii Gardens, Commerce, Bell Gardens, Colma, San Jose, Gardena, Inglewood, Emeryville, Compton, San Bruno, Fresno, Oceanside, and Chula Vista.

Economic Impact Modeling – Summary

The Economic Impact Study begins with an accounting of the direct employment in the cardroom industry. These employees include cardroom dealers, proposition players, bartenders, security guards, chefs and other jobs directly related to cardrooms. The data comes from a variety of government and private sources. It is sometimes mistakenly thought that initial spending accounts for all of the impact of an economic activity or a product. For example, at first glance it may appear that consumer expenditures for services, like gaming, are the sum total of the impact on the local economy. However, a single economic activity leads to a ripple effect whereby other sectors and industries benefit from this initial spending. This inter-industry effect of an economic activity can be assessed using multipliers from regional input-output modeling.

Direct Output or economic contribution of the card room industry

Effect of Direct Spending on regional supplier firms and their employees

Economic Effect induced by re-spending by industry and supplier employees

The economic activities of cardrooms are linked to other industries in the state economy. Activities related to cardrooms represent the direct effects on the economy. Indirect impacts occur when these activities require purchases of goods and services such as advertising services or merchandising material from local or regional indirect firms. Additional induced impacts occur when workers involved in direct and indirect activities spend their wages. The ratio between induced output and direct output is termed the multiplier.

This method of analysis allows the impact of local services to be quantified in terms of final demand, earnings, and employment in California as a whole. Once the direct impact of the industry has been calculated, the input-output methodology discussed below is used to calculate the contribution of the indirect sector and of the re-spending in the economy by employees in the industry and its indirect firms. This induced impact is the most controversial part of economic impact studies and is often quite inflated. In the case of the cardroom economic impact model, only the most conservative estimate of the induced impact has been used.

Model Description and Data

This economic impact analysis was developed by JDA based on data provided by the California Gaming Association, Infogroup, the California Gambling Control Commission, and survey information provided by cardrooms and third-party proposition player providers. The analysis utilizes the IMPLAN model in order to quantify the economic impact of the cardroom industry on the economy of California, as well as in state legislative districts, counties and cities.[7] The model adopts an accounting framework through which the relationships between different inputs and outputs across industries and sectors are computed. This model can show the impact of a given economic decision – such as a factory opening or operating a sports facility – on a pre-defined, geographic region. It is based on the national income accounts generated by the US Department of Commerce, Bureau of Economic Analysis (BEA).[8]

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[7]   The model uses 2016 input/output accounts.
[8]   The IMPLAN model is based on a series of national input-output accounts known as RIMS II. These data are developed and maintained by the U.S. Department of Commerce, Bureau of Economic Analysis as a policy and economic decision analysis tool.

Every economic impact analysis begins with a description of the industry being examined. In the case of the cardroom industry, it includes firms in the following economic sectors:

❖ Gaming: Cardrooms, third-party proposition player providers
❖ Non-Gaming: On-site restaurants, bars, security services, hotels, gift shops

The IMPLAN model is designed to run based on the input of specific direct economic factors. It uses a detailed methodology (see IMPLAN Methodology section) to generate estimates of the other direct impacts, tax impacts and indirect and induced impacts based on these entries. In the case of the cardroom model, direct employment in the cardroom industry is a starting point for the analysis. Direct employment is based in part on data provided to John Dunham & Associates by California Gaming Association, Infogroup, the California Gambling Control Commission, and survey information provided by cardrooms and third-party proposition player providers as of June of 2019. Infogroup data are recognized nationally as a premier source of micro industry data. Infogroup is the leading provider of business and consumer data for the top search engines and leading in-car navigation systems in North America. Infogroup gathers data from a variety of sources, by sourcing, refining, matching, appending, filtering, and delivering the best quality data. Infogroup verifies its data at the rate of almost 100,000 phone calls per day to ensure absolute accuracy.

By cross referencing job numbers from Infogroup with survey data, JDA is able to gather job numbers for most cardrooms and third-party proposition player providers. Third party proposition players were distributed to the card rooms at which they play by using survey and license data. For businesses where no job data was immediately available, median jobs by business were used. In the cases where cardroom jobs were deemed inaccurate, an average employee per table was used.

Once the initial direct employment figures have been established, they are entered into a model linked to the IMPLAN database. The IMPLAN data are used to generate estimates of direct wages and output. Wages are derived from data from the U.S. Department of Labor's ES-202 reports that are used by IMPLAN to provide annual average wage and salary establishment counts, employment counts and payrolls at the county level. Since this data only covers payroll employees, it is modified to add information on independent workers, agricultural employees, construction workers, and certain government employees. Wage data include not only cash wages, but health and life insurance payments, retirement payments and other non-cash compensation. It includes all income paid to workers by employers.

Total output is the value of services by industry in a given state, district, county or city. It is estimated by IMPLAN from sources similar to those used by the BEA in its RIMS II series. Where no Census or government surveys are available, IMPLAN uses models such as the Bureau of Labor Statistics' growth model to estimate the missing output.

The model also includes information on income received by the state and local governments, and produces estimates for the following taxes at the state and local level: Corporate profits, property, sales, severance, estate and gift and personal income taxes; licenses and fees and certain payroll taxes. Specific taxes and fees imposed on cardrooms by city governments was added to the calculation as well.

While IMPLAN is used to calculate the state level impacts, Infogroup data provide the basis for legislative district and local level estimates. Publicly available data at the county and legislative district level is limited by disclosure restrictions, especially for smaller sectors of the economy. This model therefore uses actual physical location data provided by Infogroup in order to allocate jobs – and the resulting economic activity – by physical address or when that is not available, zip code. For zip codes entirely contained in a single county or district, jobs are allocated based on the percentage of total sector jobs in each zip code. For zip codes that are broken by geographies, allocations are based on the percentage of total jobs physically located in each segment of the zip code.

IMPLAN Methodology[9]

Francoise Quesnay one of the fathers of modern economics, first developed the analytical concept of inter-industry relationships in 1758. The concept was actualized into input-output analysis by Wassily Leontief during the Second World War, an accomplishment for which he received the 1973 Nobel Prize in Economics.

Input-Output analysis is an econometric technique used to examine the relationships within an economy. It captures all monetary market transactions for consumption in a given period and for a specific geography. The IMPLAN model uses data from many different sources – as published government data series, unpublished data, sets of relationships, ratios, or as estimates. The Minnesota IMPLAN group gathers this data, converts it into a consistent format, and estimates the missing components.

There are three different levels of data generally available in the United States: Federal, state and county. Most of the detailed data are available at the county level, but there are many issues with disclosure – especially in the case of smaller industries. IMPLAN overcomes these disclosure problems by combining a large number of datasets and by estimating those variables that are not found from any of them. The data is then converted into national input-output matrices (Use, Make, By-products, Absorption and Market Shares) as well as national tables for deflators, regional purchase coefficients and margins.

The IMPLAN Make matrix represents the production of commodities by industry. The Bureau of Economic Analysis (BEA) Benchmark I/O Study of the US Make Table forms the bases of the IMPLAN model. The Benchmark Make Table is updated to current year prices, and rearranged into the IMPLAN sector format. The IMPLAN Use matrix is based on estimates of final demand, value-added by sector and total industry and commodity output data as provided by government statistics or estimated by IMPLAN. The BEA Benchmark Use Table is then bridged to the IMPLAN sectors. Once the re-sectoring is complete, the Use Tables can be updated based on the other data and model calculations of interstate and international trade.

In the IMPLAN model, as with any input-output framework, all expenditures are in terms of producer prices. This allocates all expenditures to the industries that produce goods and services. As a result, all data not received in producer prices is converted using margins which are derived from the BEA Input-Output model. Margins represent the difference between producer and consumer prices. As such, the margins for any good add to one.

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[9] This section is paraphrased from IMPLAN Professional: Users Guide, Analysis Guide, Data Guide, Version 2.0, MIG, Inc., June 2000.

Deflators, which account for relative price changes during different time periods, are derived from the Bureau of Labor Statistics (BLS) Growth Model. The 224 sector BLS model is mapped to the 536 sectors of the IMPLAN model. Where data are missing, deflators from BEA's Survey of Current Businesses are used.

Finally, the Regional Purchase Coefficients (RPCs) – essential to the IMPLAN model – must be derived. IMPLAN is derived from a national model, which represents the "average" condition for a particular industry. Since national production functions do not necessarily represent particular regional differences, adjustments need to be made. Regional trade flows are estimated based on the Multi-Regional Input-Output Accounts, a cross-sectional database with consistent cross interstate trade flows developed in 1977. These data are updated and bridged to the 536 sector IMPLAN model.

Once the databases and matrices are created, they go through an extensive validation process. IMPLAN builds separate state and county models and evaluates them, checking to ensure that no ratios are outside of recognized bounds. The final datasets and matrices are not released until extensive testing takes place.