

The Economic and Fiscal Impacts of the Distilling Industry in Jefferson County

for the



by

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Executive Summary

Kentucky is known internationally for its Bourbon whiskey. The state produces and ages perhaps 95 percent of all the Bourbon in the world. Much of that production occurs either in Jefferson County or within about 75 miles of downtown Louisville. The Bourbon industry is so concentrated in the central part of the state that it spawned the popular Kentucky Bourbon Trail® tourist attraction, much like what happened in several of the wine producing areas of the country. There is even a spinoff Urban Bourbon Trail® bar tour in Louisville and the Louisville Convention and Visitors Bureau has conducted national branding and advertising campaigns to market the major Bourbon producing regions of the state. Although Bourbon production is diffused throughout Central Kentucky, for many distilleries Louisville is the banking, professional services, industrial and logistics hub of the region. Indeed, Louisville is the worldwide headquarters of one of the largest spirits producers in the country, Brown-Forman Corporation.

Nearly all of the distilling industry's products are shipped to customers outside of the region, meaning the dollars generated from sales are 'new' to the region. The dollars support the wages, salaries and benefits of workers in the area's distilling industry, as well as those employed by suppliers. The dollars circulate further, as employees and owners spend their income in the regional economy, generating jobs and income in grocery stores, car dealers, banks, restaurants, doctors' offices and the like. In this study, we build on an earlier statewide study for the Kentucky Distillers' Association and focus on Jefferson County. We will examine the size and economic importance of the distilling industry in Jefferson County and also provide estimates of the local government tax revenues associated with the industry, look at how Jefferson County is impacted by changes in the distilling industry in other parts of Kentucky, and estimate of the economic potential of the emerging Bourbon tourism component.

Among the most important and interesting findings are:

- There are seven major distilling establishments in Jefferson County owned by six corporations. There also are two major cooperages, Kelvin and Brown-Forman Cooperages, making barrels used primarily for the aging of Bourbon whiskey.
- Beam, Inc. opened its new Global Business Service Center in the heart of Louisville's entertainment district, Fourth Street Live!, on July 15. Global Business Services will put Beam's key business activities downtown and add 60 professional jobs to the downtown workforce.
- Heaven Hill Distilleries will open a \$10 million project, The Evan Williams Bourbon Experience, this fall. The facility will have retail space and a fully functioning artisan distillery, adding jobs and increasing tourism to the city's famous "Whiskey Row. In addition, the distillery is investing another \$15.5 million to expand its Bernheim Distillery in Louisville and increase warehouse capacity in nearby Nelson County.
- Michter's Distillery announced plans to renovate the Fort Nelson Building on West Main Street for a small-batch distillery last year, but experienced delays due to structural problems. The project should be completed in two years. However, construction on Michter's 65,000 square foot distilling and bottling facility in the Shively neighborhood is complete, which is an investment of nearly \$11 million.
- Louisville Distilling Co. announced plans in July to spend \$12 million to construct a new distillery and tourism center for its Angel's Envy brand. The distillery will be located in the Vermont American and Baer Fabrics buildings on Main Street near Slugger Field.
- Kentucky Peerless Distilling Co., which operated in Henderson, Ky., in the late 1800s and early 1900s, has announced plans to open a distillery at 10th and Main streets in March 2014, following a complete overhaul of the 43,000-square-foot former factory building. Products will include an initial moonshine, followed by a Peerless Bourbon and a small-batch Bourbon to be branded "Henry Kraver."
- Vendome Copper and Brass works is located in a historic brick townhouse on East Franklin Street in Louisville. Vendome has 57 employees and manufactures metal distillation and process equipment used in the production of spirits.

- Because of its large scale and corporate headquarters operations, Jefferson County hosts about 37 percent of all the state's distilling, warehouse, bottling and office jobs in the distilling industry. Since Kentucky has over 40 percent of all distilling industry jobs in the United States, Jefferson County is home to about a sixth of all such jobs in the country. Distilling companies in Jefferson County employ around 1,360 people, with an annual payroll of about \$154 million, excluding fringe benefits.
- The industry is very stable during economic downturns, helping to diversify the economic base in the county.
- Bourbon production, as well as management and marketing of Bourbon brands, is linked to many other industries. This includes obvious support industries like wooden barrels and pallets, plastic bottles, trucking and electricity. Hundreds of other less obvious industries are impacted directly or indirectly, and these account for the relatively high employment and payroll multipliers for distilling. We estimate that the Jefferson County distilling industry is responsible for a total of 4,200 jobs in the county, with a total annual payroll of \$263 million.
- Since Jefferson County is the service, manufacturing, and logistics hub of the region and hosts many of the corporate office jobs in the state's distilling industry, much of which lies within 75 miles of Louisville, the distilling industry outside of Jefferson County relies heavily on Louisville businesses to supply many of their necessary intermediate goods and services. We estimate that for every 100 distilling industry jobs in Bullitt, Nelson or Franklin counties there would be 132, 80, or 44 jobs, respectively, created in Jefferson County. The total annual payroll impacts would range from \$6.6 million (Bullitt County) to \$2.3 million (Franklin County).
- Our analysis of Jefferson County property tax records documents large investments in buildings, equipment and aging barrels by the industry over the past few years. We found tax assessments and payments have grown by about 80 percent since 2008, attributable to an increase in the number of barrels aging spirits, and the increased value of the spirits aging in the barrels. Kentucky state and local governments tax the

production of distilled spirits, the property owned by the companies, the wages earned by employees and corporate net income. We estimate that state and local governments receive about \$31.6 million annually from spirits production. Of that, Louisville Metro government receives \$4.7 million and Jefferson County Public Schools about \$3.9 million.

- We estimate that in 2012 county distillers paid about \$2.4 million in barrel inventory property taxes and \$1.3 million in property taxes on their buildings, land, equipment, and inventory. These property taxes go to schools, city governments, other local districts and state government. Schools receive nearly two-thirds of the property tax revenues.
- The distilling industry is also responsible for many other taxes to state and local governments. The largest recipient is Kentucky state government, with total distillery-related wages and salaries generating \$20.7 million in individual income and sales tax receipts annually.
- Overall, annual state and local government tax receipts related to spirits production in Jefferson County amount to \$23,200 per distilling industry employee.
- The Kentucky Bourbon Trail® experience has emerged as a significant tourism destination. More than 500,000 people visited at least one Kentucky Bourbon Trail® distillery in 2012, the first time the attraction has broken the half-million mark. In addition, nearly 50,000 people - mostly from out-of-state - have now toured all Kentucky Bourbon Trail® distilleries in the last five years. Surveys revealed the visitors on average to be relatively affluent with multi-night hotel stays in Kentucky. Rough, preliminary estimates indicate that Jefferson County could be seeing as much as \$2.5 million per year in total economic impact from the spending of Bourbon tourists.

The Size of the Distilling Industry in Jefferson County

While the companies this study focuses on may engage in other revenue-generating activities, such as making wooden barrels, managing and marketing other product lines (including wines

and non-liquor products), and selling merchandise in their gift shops, we nevertheless presume they would not be located in the region were it not for their distilling operations. If a distilling company makes barrels in one location, makes Bourbon in another location, ages it at another location and has corporate offices at yet another location, then the company might have activity listed under four different industrial classifications. According to the online Kentucky Business & Industry Information System (accessed at thinkkentucky.com) the distilling companies in Jefferson County have activities that span at least five industrial classifications. These industries comprise much of the entire process of making and selling Bourbon – distilling, cooperage, warehousing and office functions. The table below lists six distilling firms operating in the county, though Early Times is a division of Brown-Forman. Together they employ 1,100 people. In addition, several craft micro-distilleries are planned to open on Main St. in the next two years (including the Evan Williams Bourbon Experience™ from Heaven Hill Distilleries, Inc., later this year). We have also included Brown-Forman’s cooperage subsidiary since it is integral to the functioning of the firm. There is another major cooperage in the county, but we have excluded it because it is independent of the distillery companies and is an example of the spin-off effects of the distilling industry.

Distilling Companies Operating in Jefferson County, 2013			
Facility Name	Employment	Year Reported	Industry Activity (NAICS Code)
Brown-Forman Corp	900	2012	Distillery (312140), Wood Container Manufacturing (321920), Corporate Office (551114)
Beam Global Business Services	60	2013	Corporate Office (551114)
Diageo Americas Supply	32	2011	Warehousing & Storage (493190)
Early Times Distillers Co	30	2012	Distillery (312140)
Heaven Hill Distilleries Inc	83	2012	Distillery (312140), Corporate Office (551114)
Sazerac Company Inc	44	2012	Corporate Office (551114)
Michter's Distillery	26	2013	Distillery (312140)
Maker's Mark Distillery Inc	11	2012	Office Administrative Services (561110)
Brown-Forman Cooperage	262	2012	Wood Container Manufacturing (321920)

Sources: Kentucky Business & Industry Information System at thinkkentucky.com; US Census Bureau, North American Industrial Classification System, 2007.

Employment and Payrolls

For this and our previous statewide study, we have compiled data from many sources, including the Kentucky Business & Industry Information System, County Business Patterns (CBP) and the

Quarterly Census of Employment and Wages (QCEW), as well as internal data provided by the companies. While at the statewide level the QCEW and CBP are comprehensive and consistent data sets, at the county level most employment and wage data is undisclosed for reasons of individual firm confidentiality, including for Jefferson County. The only county level distillery job and wage estimates available are for Nelson County, but we do have range data for employment (e.g. 20-49, 50-99, or 100-249 distillery employees in the county). In order to help overcome this difficulty, we also examined data from the IMPLAN economic impact modeling software package. IMPLAN builds its data starting with the QCEW as a basis for the county-level industry structure and uses CBP to make non-disclosure adjustments, while using other data from the Bureau of Economic Analysis to control for county and state totals (the BEA data is more comprehensive, but is not as finely detailed in terms of industry specification, i.e. beverage manufacturing data cannot be disaggregated).

In all our sources, the number of distilling establishments is almost the same, but the employment counts and payroll estimates are often quite different. We believe the difference is due to the treatment of corporate headquarters and other office activity, with the QCEW and IMPLAN including it and CBP excluding it. A large difference in payrolls is consistent with this explanation, since corporate office employees typically have advanced educational credentials and skills, and thus earn much higher incomes than production workers. In this study we generally follow the Business & Industry Information System as at the state level it generally tracks the QCEW and IMPLAN totals and also helps us discern production from office jobs. We also include the Brown-Forman cooperage facility because it is integral to the Bourbon industry and the cooperage helps account for much of the discrepancy between the QCEW and the state's information system (the entire Brown-Forman operation is likely included in the distillery industry in the QCEW). When internal data is available it takes precedence.

We estimate that the industry directly supports about 1,360 employees with an annual payroll of approximately \$154 million, excluding fringe benefits. However, the total includes both manufacturing operations and some separate headquarters and regional office operations. These two activities have very different linkages with the rest of the economy. We created a

split into two industries for modeling purposes. We estimate that in 2011 the distilling (manufacturing) industry (NAICS 312140) employed 624 persons with payroll of \$31.5 million; and that the management of companies industry (NAICS 551114) employs 738 persons with payroll of \$122 million.

Office Jobs

The most visible aspects of the industry in Kentucky are the distilling operations and the large warehouses used for aging Bourbon in barrels. The production side of the business accounts for around 70 percent of the jobs in Kentucky. However, as suggested above, there are hundreds of office jobs in the state as well. These include many highly paid executives, professionals and managers. One of Kentucky's 10 Fortune 1000 corporate headquarters is Brown-Forman Corporation, based in Louisville. The company has about \$2.5 billion in revenues and the corporate headquarters manages worldwide production, distribution and marketing for the company and its many brands. The headquarters attracts many talented and highly educated workers to Louisville, and the corporate and family foundations associated with the company are ostensibly the largest donors to arts and cultural organizations in Kentucky. Other companies with a significant office presence in Louisville include Heaven Hill, Maker's Mark, Beam, Inc., and Sazerac (which owns properties in Daviess, Franklin and Nelson counties). These very high-paying jobs make up over 50 percent of the distillery industry jobs in Jefferson County.

Cyclical Stability

The distilling industry in Jefferson County is much more stable in terms of employment than the manufacturing industry as a whole. This is especially clear over the current decade and recession. Distilling industry employment is up 10 percent in Jefferson County since 2008, according to the state's Business & Industry Information System, while other manufacturing industry employment in the county is down about 10 percent, according to the QCEW. Alcoholic beverages are known to be fairly recession-proof.

Recent Investments in Kentucky Distilleries

The worldwide growth in demand for Bourbon, as well as increases in tourism related to the Kentucky Bourbon Trail® experience, has induced a recent wave of capital investments at Kentucky distilleries. Louisville has benefitted from this as well. Heaven Hill is creating the Evan Williams Bourbon Experience™ in a 19th century building on West Main Street that was formerly part of “Whiskey Row.” This promises to be a real immersive experience into the history and culture of Bourbon as well as a retail and tasting spot. Michter’s plans to renovate the Fort Nelson Building on West Main Street for a small-batch distillery have been delayed due to structural problems, but construction on Michter’s 65,000 square foot distilling and bottling facility in the Shively neighborhood is complete. Beam, Inc. has opened a Global Business Service Center in Louisville’s entertainment district, Fourth Street Live! Global Business Services put Beam’s key business activities downtown and have added 60 professional jobs to the downtown workforce. While not in Jefferson County, Beam has recently opened an expanded visitor center at its nearby Clermont facility.

The Distilled Spirits Epicenter located in downtown Louisville is dedicated to the art and science of distilling spirits. The educational division, Moonshine University, offers classes for enthusiasts and industry professionals. Grease Monkey Distillery is available to large distillers wanting to do small-batch runs and entrepreneurs who want to experiment with flavor profiles. Located in a renovated auto mechanic garage (hence the name), Grease Monkey Distillery features state of the art Vendome equipment. Vendome Copper and Brass works is a century-old family owned Louisville business located in a historic brick townhouse on East Franklin Street.

Distilling companies pay property taxes on their real estate (buildings and land), tangible property (manufacturing equipment, vehicles, and office equipment) and their inventories of aging barrels. Each type of property is subject to different tax rates for different taxing jurisdictions. The value of each type of property at each site is determined annually by the county Property Valuation Assessor (PVA).

We examined assessments and tax payments for real property parcels, including any associated tangible property and inventories. We found that total assessments increased from 2008 to 2012 for real, tangible and inventory property. Real property assessments of Jefferson County distillers now total \$40 million, tangible business property assessments were \$106 million, and the value of the distilled spirits aging in barrels in warehouses was \$269 million in 2012.

Property Related Tax Assessments of Jefferson County Distillers, 2012	
	Assessments 2012
Real Property Taxes	\$40,009,060
Tangible Business Property Taxes	\$106,631,945
Distilled Spirits in Bonded Warehouses Tax	\$268,980,460
Total Property Related Tax Assessment	\$415,621,465

Source: Jefferson County Sheriff tax office.

Corporate Responsibility and Philanthropic Activity

The distilling companies compile data on their corporate responsibility and philanthropic activities. The efforts address problems with underage drinking, drunk driving, alcoholism, environmental stewardship, the lives of employees and the quality of life in communities where the companies operate. We have only partial coverage on this issue, but can document well over \$10 million of corporate and employee giving to relevant community causes, plus thousands of hours of donated time by employees. Brown-Forman, for example, had at least \$8.9 million in charitable contributions in fiscal year 2011. While a sizable portion went to alcohol responsibility issues, about \$7.5 million went towards an array of arts, culture, education, social welfare, environment, health and emergency relief causes.

In Louisville, Brown-Forman supported educational and cultural organizations including Actors Theatre, Bellarmine University, Kentucky Educational Television, Kentucky Opera, the Louisville Ballet, the Louisville Orchestra, Muhammad Ali Center and the Speed Art Museum, among others. In 2010, Brown-Forman donated \$1 million to the Louisville Zoo's arctic exhibit, Glacier Run. On the social welfare front, Brown-Forman made a \$150,000 multi-year grant to The

Healing Place, an organization providing recovery services to people affected by alcoholism, other addictions and homelessness. They also helped support local environmental organizations, such as Bernheim Forest, The Nature Conservancy, Olmstead Park Conservancy, Waterfront Park Development, the Sierra Club and 21st Century Parks Development.

Maker's Mark Distillery, Inc. produced a special, limited edition bottle of their signature Bourbon for charity, each bottle signed by Maker's Mark CEO Rob Samuels and his father, Chairman Emeritus Bill Samuels, Jr. The first \$100,000 proceeds from the sale of the limited edition bottles will benefit 21st Century Parks, a nonprofit organization that is developing the a four-park system in southeastern Jefferson County called the Parklands. The remainder will fund a Habitat for Humanity house in Marion County where the distiller is located.

Economic Impacts

The distilling industry in Jefferson County is described in the first section of this report, with estimates of jobs, payrolls and property owned. These are the direct impacts of the industry on the local economy. However, because the products are purchased primarily by consumers outside the county, the industry brings in new dollars to Jefferson County that re-circulate among vendors, employees and households. In this section, we examine these spin-off effects and estimate the total economic impact of the local distilling industry in Jefferson County, and also look at the impact on Louisville of the large distillery operations in nearby counties.

Linkages to Other Sectors

We use custom input-output models of Jefferson County and several of the nearby counties with sizable distilleries to investigate both the linkages between the Louisville distilling industry and other industries in the county, and between distilleries in other counties and industries within Jefferson County. Input-output models are the standard method for measuring sales among industries. Our IMPLAN models have details on 440 industries, and can predict how much each industry buys from every other industry in the county, as well as how much must be imported from elsewhere to support a given level of production.

The accompanying table summarizes the predicted makeup of purchases to support distilling in Jefferson County. It shows that distillers purchase about 26 cents of goods and services for every dollar of distilling output, about 8 cents of labor services, 4 cents for dividend, interest and rent payments, and an amazing 61 cents in tax payments. The table also shows how much of each good or service is likely to be locally sourced. Overall, roughly 57 percent of the commodities purchased are predicted to be from within the county, about 15 cents per dollar of output. We can also see how this differs from commodity to commodity. For example, no

Production Function for the Jefferson County Distilling Industry			
Commodities Purchased by the Distilling Industry in Jefferson County	Purchases per \$1 Million of Distillery Output		
	Total Purchases	From Jefferson County	
		Vendors	
Distilled liquors except brandies	\$88,639	\$48,511	
Wholesale trade distribution services	\$47,208	\$44,537	
Glass containers	\$22,616	\$0	
Management of companies and enterprises	\$14,628	\$14,139	
Wood containers and pallets	\$13,039	\$11,671	
Grains	\$11,666	\$101	
Paperboard containers	\$8,598	\$7,721	
Truck transportation services	\$8,207	\$7,621	
Plastics bottles	\$7,172	\$751	
Wine and brandies	\$4,690	\$91	
Noncomparable foreign imports	\$3,572	\$0	
Rail transportation services	\$3,361	\$3,309	
Machined products	\$3,287	\$118	
Natural gas, and distribution services	\$1,873	\$467	
Flour and malt	\$1,779	\$12	
Motor vehicle parts	\$1,707	\$102	
Electricity, and distribution services	\$1,649	\$1,179	
Scientific research and development services	\$1,629	\$306	
Material handling equipment	\$1,498	\$142	
Advertising and related services	\$1,351	\$1,330	
Real estate buying and selling, leasing, managing, and related services	\$986	\$608	
Other fabricated metals	\$899	\$97	
Water transportation services	\$850	\$63	
Maintained and repaired nonresidential structures	\$767	\$767	
All other chemical products and preparations	\$604	\$27	
Petroleum lubricating oils and greases	\$584	\$95	
Automotive equipment rental and leasing services	\$581	\$527	
Services to buildings and dwellings	\$571	\$571	
Warehousing and storage services	\$557	\$557	
Turned products and screws, nuts, and bolts	\$544	\$13	
Paperboard from pulp	\$533	\$0	
Tires	\$431	\$1	
Employment services	\$429	\$428	
Telecommunications	\$381	\$381	
Refined petroleum products	\$380	\$93	
Subtotal	\$257,267	\$146,336	
Other commodities not shown	\$3,328	\$1,931	
Total intermediate purchases	\$260,595	\$148,267	
Employee compensation	\$68,313		
Proprietors' income	\$14,911		
Other property-type income (dividends, interest, rent)	\$44,573		
Indirect business taxes	\$611,608		
Total value of output	\$1,000,000		

Source: IMPLAN input-output model of Jefferson County, version 3, using 2010 economic data, September 2012.

glass containers and few grains would be purchased locally, but nearly all the Bourbon barrels, trucking and wholesale distribution services. These commodities purchased by the distilling industry, as well as the household income created, are the basis for economic multipliers. Output in one industry lifts output in supporting industries, which in turn raises output in industries that support them. Generally speaking, the more an industry purchases locally, the larger the local spinoff impacts of that industry's activity. The more it imports its raw materials and services, the smaller the local spinoffs.

It is helpful to think of an input-output table as a set of production recipes showing how much each industry purchases from every other industry. For example, the distilling industry nationally is a large purchaser of wholesale services, glass containers, grain, wood containers and pallets, plastic bottles, truck transportation and cardboard. These are identified from national industry surveys. IMPLAN uses economic data on the presence and size of industries at the national, state and county level in order to estimate a model of trade flows between counties. The resulting regional models and industry multipliers take account of the ability of the regional economy to supply inputs to each industry.

The distilling industry's purchases of intermediate goods and services cause rounds of re-spending across other industries. The inter-industry, business-to-business impacts are often referred to as 'indirect' effects since changes in activity at distillers will quickly cause changes in activity at suppliers. Changes in industrial production also hit the regional economy through employees' wages and their spending on goods and services. These household spending impacts are often referred to as 'induced' effects. At each round of re-spending, a portion of the dollars leak out due to saving, purchases of imported goods and tax payments, so that the re-spending ultimately goes to zero. The cumulative impact of the re-spending is measured in economic multipliers, which are the ratio of total economic activity to activity in the distilling industry.

Economic Multipliers

The next table provides a summary of important economic multipliers for the distilling industry in Jefferson County, with separate calculations for the production side and the corporate

headquarters side. The first entry is the job multiplier for distilling, 3.73. This means that if the distilling industry adds an employee, there will be another 2.73 jobs supported elsewhere in the county. About 45 percent of the spinoff impact is due to additional employees among industries that supply distillers, and the rest is due to new employees in retail and other industries that sell to households. This is a large multiplier compared to most other local industries. Given that (a) almost all distillery products are purchased by out-of-state residents and (b) the distilling firms could be located elsewhere, it is valid to apply this multiplier to entire industry employment base. In other words, it is valid to say that the 674 employees primarily involved in production at Louisville distilling companies support a total of 2,515 jobs countywide.

Economic Multipliers, Distilling Industry in Jefferson County		
	Distilling	Corporate Headquarters
Change in total jobs in Jefferson County per job in industry	3.732	2.552
Change in total employee compensation in Jefferson County per employee compensation in industry	2.466	1.517
Jefferson County firms per value of output in industry	1.304	1.970

Source: Customized IMPLAN (IMpacts for PLANing), version 3, model of Jefferson County, using 2010 economic data.

A similar interpretation can be given to the employee compensation multiplier. The distilling industry's production-related payroll of \$33 million supports total statewide payroll of \$81 million. This represents the wages and salaries, exclusive of fringe benefits, in Jefferson County that would disappear if the distilling industry relocated to another state. The reader may be wondering why the output multiplier is much lower than the job and compensation multipliers. The primary reason is that a very large part of the value of distilling output goes to taxes. Thus, if the value of distilling output were to rise by, say, \$10 million, around half of that amount is captured in taxes, leaving the remainder to circulate in the private economy where it can generate sales for supplying industries.

Total Economic Impact of Distillery Company Operations

In summary, the direct jobs and payroll of distillers and their corporate office activity leads to a total of around 4,200 jobs with annual payroll of \$263 million. This is an estimate of what would

Annual Economic Impact of Distilling Companies in Jefferson County			
	Distilling	Corporate Headquarters	Total
Direct			
Jobs	624	738	1,362
Payroll	\$31,500,929	\$122,482,111	\$153,983,040
Total: Direct + Indirect + Induced			
Jobs	2,329	1,884	4,212
Payroll	\$77,686,578	\$185,785,030	\$263,471,609

Source: Customized IMPLAN (IMpacts for PLANing), version 3, model of Jefferson County, using 2010 economic data.

Note: Indirect impact refers to business-to-business spin-off spending; Induced impact refers to household spending that is a result of increased earnings.

happen in the county in the unlikely event that the distilling industry completely disappeared. Since input-output models are by design linear and symmetric, one can use the economic multipliers (in the more likely case) to estimate the total impact of incremental growth or decline in distilling activity.

The Importance of Jefferson County to the Distilling Industry in Nearby Counties

Jefferson County is the banking, professional services, industrial and logistics hub of the region. Outside of Jefferson County, much of the rest of the state's distilling industry jobs are in Bullitt, Franklin and Nelson counties, which are much smaller in population and still largely rural counties. They are also all within 50 miles of Louisville, so one would expect that they would rely heavily on businesses in Jefferson County to supply their necessary intermediate goods and services. Indeed, looking at the list of distillers present in Jefferson County we see that Heaven

Hill, Maker's Mark and Sazerac all carry out corporate and administrative office functions in Louisville while having most or all of their production facilities elsewhere.

With this in mind, we have taken advantage of new capabilities in the IMPLAN software to simulate the economic impact in Jefferson County of 100 distilling industry jobs located in Bullitt, Franklin or Nelson counties. We find that Jefferson County is a very big part of the distilling industry in these other counties. In fact, the indirect employment effect (due to business-to-business spending) is nearly as big in Jefferson County as it is in the home county of the industry for Bullitt and Franklin counties and is actually larger when the distiller is located in Nelson County (and due to higher average salaries in Louisville, the indirect payroll effect is larger in Jefferson County than it is for each of the three simulated home counties).

We estimate that 100 distilling jobs in Bullitt County support 132 jobs in Jefferson County with a payroll of \$6.6 million. If the distilling jobs are in Franklin County, they support 44 Louisville jobs with a payroll of \$2.2 million, and 100 distillery jobs located in Nelson County support 80 Jefferson County jobs with a payroll of \$4.2 million.

Economic Impact in Jefferson County of 100 Distilling Industry Jobs in Kentucky's Other Major Distilling Industry Counties

Distilling Industry Changes	Resultant Change in Jefferson County					
	Employment			Payroll		
	Indirect	Induced	Total Impact	Indirect	Induced	Total Impact
100 job change in Bullitt County	72	60	132	\$4,676,718	\$1,908,792	\$6,585,510
100 job change in Franklin County	25	19	44	\$1,677,006	\$590,341	\$2,267,347
100 job change in Nelson County	46	34	80	\$3,143,768	\$1,101,285	\$4,245,053

Source: Customized IMPLAN (IMpacts for PLANing), version 3, models of Jefferson, Bullitt, Franklin, and Nelson Counties, using 2010 economic data.

Bullitt and Nelson counties, which are shown to be more tightly linked to Jefferson County in terms of distillery production, are part of Louisville's 13-county Metropolitan Statistical Area (MSA), while Franklin County is not. Franklin County is more closely aligned with Lexington, so leakages outside of the county are more likely to head that way than would be the case for the

other two counties. In general, it appears that what happens in the distillery does not stay in the distillery, and Louisville benefits even at the edges of the region.

Impact of Construction Activity

Brown-Forman, Heaven Hill and Michter's Distillery have all made or are in the process of making significant investments in Louisville. And over the last decade, all of the state's distilleries have expanded and/or upgraded their facilities. Indeed, distillery companies have invested more than \$230 million in their facilities and equipment over the last few years, as is evident from the large property tax payments they make to government jurisdictions each year, a topic we examine in the next section. Here we analyze the one-time economic impacts of a hypothetical \$10 million distillery construction project. Our estimates can be scaled up or down according to the size of the investment under consideration. As in the last section we also estimate the impact in Jefferson County of investments in Bullitt, Franklin and Nelson counties.

We use our IMPLAN models of the counties to perform the analysis. The model has a sector entitled "Construction, new nonresidential manufacturing" that fits this question. We simulated a \$10 million increase in demand for that sector, and the model predicted the impacts on business output, jobs and payrolls. The results are shown in the table below (though we only show job and payroll effects). The first column indicates where the investment occurs. The table is divided into employment and payroll impact sections. The columns labeled "Direct" refer to the actual construction jobs needed to undertake the investment, and we can see that Jefferson County does not experience a direct impact when the investment is elsewhere. A \$10 million investment in Jefferson County is associated with 78 direct construction jobs with a payroll of \$3.3 million. The "Indirect" impacts refer to inter-industry linkages, wherein the contractors for the project purchase goods and services from other companies. The "Induced" impacts refer to the cumulative rounds of household spending caused by the increased income flowing to employees. The last column in each section summarizes the total impacts. The \$10 million project in Jefferson County leads to an increase in jobs of 132 and an increase in payrolls of about \$5.2 million. But even if the project were located in another part of the region, Jefferson County would still benefit. Such a project in Bullitt County could temporarily support

15 jobs in Louisville with a payroll of \$600,000. A project as far away as Franklin and Nelson counties would support six to seven jobs earning just under \$30,000 each. Once the project is complete, construction-related spending ceases and the impacts disappear, but if the investment results in the additional permanent jobs or increases facility output, there is a multiplier effect.

Economic Impact in Jefferson County of \$10 Million Investment by Distilling Company								
	Resultant Change in Jefferson County							
	Employment				Payroll			
Distilling Investment in:	Direct	Indirect	Induced	Total Impact	Direct	Indirect	Induced	Total Impact
Jefferson County	78	16	38	132	\$3,281,036	\$671,146	\$1,210,026	\$5,162,199
Bullitt County	0	7	8	15	\$0	\$337,050	\$263,000	\$600,058
Franklin County	0	3	3	6	\$0	\$132,173	\$85,623	\$217,804
Nelson County	0	3	4	7	\$0	\$153,015	\$125,099	\$278,114

Source: Customized IMPLAN (IMpacts for PLANing), version 3, models of Jefferson, Bullitt, Franklin, and Nelson Counties, using 2010 economic data.

We can make an estimate of the amount of additional tax revenues that would be generated using some of the results developed later in this study. Construction supplies and materials are potentially subject to Kentucky's 6% sales tax, and could amount to as much as \$300,000 in tax revenues for the project. However, when job growth is involved, companies can qualify for an exemption to the sales tax. Kentucky state government would receive a one-time increase in individual income and sales tax receipts of \$405,000 for a project in Jefferson County.

Occupational taxes in the county would provide a temporary boost of \$65,000 to Louisville Metro government, \$10,000 to TARC and \$29,000 to Jefferson County Public Schools. Thus, excluding any possible sales tax payments on construction materials and machinery, governments in Kentucky would receive a total one-time increase of \$470,000.

It is impossible to precisely predict the long-term fiscal impacts of such an investment without specifying where the investment occurs in the state. Property tax rates vary widely among jurisdictions, even within Jefferson County. A rule of thumb is that real estate is subject to property taxation at the rate of one percent, though the rate can be much higher in very

urbanized places with intensive public services (schools, fire, police, libraries, streets, garbage pickup, EMS). In Jefferson County, the current rates vary from about 0.9% for the old (pre-merger) unincorporated areas of the county to 1.25% in the downtown management district. Assuming that the property was valued at construction cost, this implies that the direct investment leads to annual property tax revenues to local and state governments of about \$100,000 per year.

Taxation and Fiscal Impacts of the Industry

In this section, we investigate and document the tax revenues paid directly and indirectly by the industry to state and local governments in Kentucky. There are many types of taxes that distillers and liquor consumers pay, and the taxes go to many different jurisdictions in Kentucky. We have collected data and made estimates for the most important tax items, including local and state property taxes, state alcohol production taxes, local occupational taxes and Kentucky state individual income and sales taxes. Our focus here is on production-related taxes and not consumption-related ones since collections would likely be about the same whether or not the distilling industry was located in Louisville.

A summary of our estimates is provided in the table below. All entries refer to the latest year available for data, primarily calendar or fiscal year 2012. Production-related taxes are estimated to total \$31.6 million. Some of the entries are based on courthouse records and official government tallies, some on company-provided reports, while other entries are estimates based on historical ratios or national industry figures. The entries for income, sales and occupational taxes include the indirect and induced economic impacts of the distilling industry in the county. Clearly, Kentucky state government is the biggest tax recipient, accounting for 73 percent of the total over all levels of government. Local governments and school districts are the biggest recipients of property taxes paid by the industry.

Estimated Annual Kentucky Taxes Resulting from Distillery Industry Related Activity in Jefferson County

	Jefferson County Public Schools	Louisville Metro and Other Local Governments	Kentucky State Government	Total
Property taxes - real estate and tangible property	\$570,646	\$427,450	\$303,152	\$1,301,248
Property taxes - spirits aging in barrels	\$1,845,206	\$437,577	\$134,490	\$2,417,274
Individual income taxes from distillery-related payrolls			\$9,336,537	\$9,336,537
General sales taxes from distillery-related payrolls			\$11,416,789	\$11,416,789
Occupational taxes from distillery-related payrolls	\$1,482,028	\$3,820,338		\$5,302,366
Corporate income taxes paid (partial)*		\$0	\$1,818,888	\$1,818,888
Subtotal	\$3,897,880	\$4,685,366	\$23,009,856	\$31,593,101

* This represents a five year average of Kentucky corporate income tax payments, but data were not available for all companies. We lacked data on the local net profits tax.

Note: The income, sales, and occupational tax figures include the indirect and induced economic impacts of the distilling industry in the county.

The entries are probably the most important taxes on distilled spirits, but there are many other taxes paid that are harder to quantify. For example, we do not know the amount of insurance premiums, gasoline and utility taxes paid to state and local governments, so \$31.6 million should be considered a lower bound on the true unknown amount of taxes paid.

Property Taxes

A distillery may pay property taxes on its land and buildings to the local school system, the county government, the city government, a fire district, a library, health or agricultural district and the state of Kentucky. They also pay tangible property taxes to those jurisdictions on the value of machinery, furniture, vehicles and the distilled spirits in warehouses. Finally, the distillery industry pays property tax on all of their Bourbon aging in barrels sitting in bonded warehouses. These tax payments are substantial, with most of it going to local jurisdictions.

We have attempted to track down the various properties owned by the distillery companies, and to organize public information on their tax bills in 2008, 2010, and 2012. We were able to identify a total of about \$3.7 million paid to local and state governments. For 2012, the assessed value of land, buildings, equipment and inventory (ready to sell) was \$146.6 million, of which \$40 million was real estate and \$106.6 million was tangible property. The assessed value of the distilled spirits in bonded warehouses was \$269 million in 2012. Jefferson County distillers paid about \$473,000 in real property taxes, \$828,000 in tangible property taxes and

\$2.4 million in distilled spirits inventory taxes in 2012, across all jurisdictions. That represented a 31 percent increase over 2008 for real property taxes, a 62 percent increase over 2008 for tangible property taxes, and a 128 percent increase from 2008 for the inventory of aging spirits in warehouses. Although we do not have statewide figures for 2012, in 2010 distillery operations in Jefferson County contributed 22.2 percent of all distillery associated property tax related revenues collected in Kentucky (across all taxing jurisdictions).

Property Related Tax Payments of Jefferson County Distillers, 2008, 2010, & 2012

	Estimated Payments			Percent Change
	2008	2010	2012	2008-2012
Real Property Taxes	\$359,659	\$411,930	\$472,930	31.5%
Tangible Business Property Taxes	\$510,322	\$581,899	\$828,318	62.3%
Distilled Spirits in Bonded Warehouses Tax	\$1,058,937	\$2,032,699	\$2,417,274	128.3%
Total Property Related Tax Payments	\$1,928,919	\$3,026,529	\$3,718,521	92.8%
Percent of State Total	18.2%	22.2%	n/a	

Source: Jefferson County Sheriff tax office.

The next table shows the distribution of taxes paid by jurisdiction type. Public schools are the biggest recipient of property tax payments, with revenues of about \$2,416,000, most of that coming from the distilled spirits in bonded warehouses tax. Louisville Metro government received about \$864,000 in tax revenue from county distillers in 2012, a bit more than half of it due to the aging spirits in warehouses. Kentucky state government received nearly \$438,000 from Louisville distillers in 2012.

Distribution of Property Related Tax Payments of Jefferson County Distillers, 2012

	Total Paid	State Govt	Metro	Schools	Fire
			Govt		Districts
Real Property Taxes	\$472,930	\$48,263	\$147,372	\$276,917	\$379
Tangible Business Property Taxes	\$828,318	\$254,889	\$279,385	\$293,729	\$313
Distilled Spirits in Bonded Warehouses Tax	\$2,417,274	\$134,490	\$437,577	\$1,845,206	\$0
Total Property Related Tax Payments	\$3,718,521	\$437,642	\$864,335	\$2,415,852	\$692

Source: Jefferson County Sheriff tax office.

Tax Revenues Related to Payroll of Distilleries

Next we turn to the income and sales tax paid by employees who owe their incomes to distillery operations in Kentucky. The most important categories are the Kentucky individual income tax, the Kentucky general sales tax and the occupational taxes paid to local governments.

Kentucky income and sales tax receipts related to distillery payrolls can be estimated using effective tax rates. Effective tax rates are calculated by dividing historical tax revenues by payrolls. We use the average effective tax rates over the 2007-09 periods (the latest years for which we have information on state income and sales taxes collected by county). The effective income tax rate for Jefferson County is 3.54 percent and the effective sales tax rate is 4.33 percent. That is, the amount collected as state income taxes from Jefferson County residents is 3.54 percent of all the wages and salaries paid to workers within the county. Similarly, the amount of state sales taxes collected from county businesses is 4.33 percent of all the wages and salaries paid to workers within the county. For income taxes, the effective rate is lower than most individuals in the county experience because substantially more Jefferson County workers live elsewhere than there are Jefferson County residents who work outside the county, so that on net the total amount of wages and salaries earned by residents of the county is less than what is earned by workers in the county.

Multiplied times the total distillery-related payroll of \$267 million yields \$9.3 million in Kentucky individual income tax receipts and \$11.4 million in Kentucky sales tax receipts, for a total of \$20.7 million to state government annually. This represents an estimate of how much less in tax receipts Kentucky state government would receive from these two most important categories were the distillery industry in Jefferson County to go to another state.

Next, we turn to occupational taxes received by local governments. We have included the Louisville metro government rate of 1.25 percent plus the 0.20 percent rate for Transit Authority of River City. There are a few smaller jurisdictions with an occupational license tax in the county (such as Shively), but we do not know if or how many workers are located in those places. Louisville Metro also levies a 'net profits tax' on companies at the same rate as the tax

on payrolls, but we do not have data on corporate profits subject to the tax. The nominal rate of the public schools occupational tax is 0.75 percent, but it is only paid by county residents, so we have adjusted it to reflect the historic percentage of Jefferson County payrolls that go to workers who reside in the county. We estimated this according to the implied ratio when comparing county government occupational tax receipts to schools occupational tax receipts (around 75 percent).

Applying these rates to the total distillery-related payroll of \$267 million, we estimate that \$5.3 million in occupational taxes went to local governments and schools in 2011. Of that, \$1.5 million went to Jefferson County Public Schools and \$3.8 million to Louisville Metro government. These figures, as well as those for the income and sales taxes above, include all the indirect and induced economic impacts related to the distillery industry being located in Jefferson County (rather than someplace else).

Urban Bourbon Trail®, the Kentucky Bourbon Trail® and Tourism Potential

Over the past few years, the Louisville Convention & Visitors Bureau has worked to aggressively market the Urban Bourbon Trail®, a collection of bars in Louisville that offer Bourbon flights, special Bourbon cocktails and are stocked with at least 50 different Bourbons with trained staff that can explain the nuances of the various offerings. This tour also highlights the Bourbon industry's Louisville history and growing significance in the city's nightlife and culture, particularly in the culinary and mixology fields.

A central part of Bourbon tourism is the Kentucky Bourbon Trail® adventure, sponsored by the Kentucky Distillers' Association. The Kentucky Bourbon Trail® refers to a tour of seven distilleries in the Shepherdsville, Bardstown, Lawrenceburg, Lebanon, Lexington and Versailles areas. The KDA announced in June that the Evan Williams Bourbon Experience on Whiskey Row will become the tour's eighth official stop when it opens later this fall, marking the first time that the journey has rolled into the River City.

The distilleries have venerable labels with worldwide brand recognition. Loyal, or simply curious, customers like to visit the places where the whiskey is made, to learn about the

distilling process and people, and generally enjoy the pastoral settings. Like some wine and whisky regions of California and Europe, distilleries are making significant investments to make the Kentucky Bourbon Trail® experience a major tourism destination that can bring new dollars into the Kentucky communities and further enhance the spirits industry.

The KDA also has launched the new Kentucky Bourbon Trail Craft Tour® to showcase the state's emerging artisan distilling industry. There are seven founding members with distilleries stretching from Marshall to Mason counties. It is expected that craft distilleries locating in Louisville will want to be part of this new statewide attraction, thereby bringing more visitors and tourism dollars to the community. There are also tours offered at distilleries outside of Louisville that are not members of the Kentucky Distillers' Association. *[Note: The Urban Bourbon Trail®, the Kentucky Bourbon Trail® and the Kentucky Bourbon Trail Craft Tour® are trademarks/service marks of the Kentucky Distillers' Association.]*

A 2011 survey of travelers in Kentucky commissioned by the Kentucky Department of Travel & Tourism showed that 28 percent of people who visited the "Derby" region (15 counties in the north central part of the state and centered around Louisville) visited a distillery during their stay. The Kentucky Bourbon Trail® tour has brought more than 2.5 million visitors from all 50 states and 25 countries to the Commonwealth over the past five years. Louisville can expect to benefit from Bourbon tourism as the new craft distilleries downtown become part of the statewide attraction.

Kentucky Bourbon Trail® Tour Visitation Data and Potential Economic Impacts

The KDA has a program that recognizes people who visit all seven Kentucky Bourbon Trail® and Craft Tour® distilleries. Once a person has their 'Passport' stamped at each site, they can mail it to the KDA to receive a free commemorative t-shirt, or a julep cup for the Kentucky Bourbon Trail Craft Tour®. This program generates a database of people, along with their home addresses. The Kentucky Bourbon Trail® adventure attracts nationwide patronage; of the nearly 50,000 Passport holders who had completed the entire tour through August 2013, about 13 percent lived in Kentucky. It also appears that at least two-thirds of those visitors came from far enough away that they would have to stay overnight in the region. The tour has increased in

popularity every year since its inception in 2007, with 18,384 people completing the tour in 2012, a 56 percent increase over 2011 and a 9,627 percent increase in the last five years.

We know from the sample of 3,279 Passport holders who responded to a KDA survey that 74 percent reported that the Kentucky Bourbon Trail® tour was the primary reason for their visit to Kentucky, the average party contained 2.93 persons, and the average length of stay was 2.80 days, 76 percent stayed in area hotels or B&Bs, one-third of the Passport visitors reported household income above \$100,000 annually, only 13 percent of the respondents were Kentucky residents, nearly identical to the share for those issued Passports (suggesting that the survey respondents were representative of the whole group of holders).

In a previous report for the KDA, “The Economic and Fiscal Impacts of the Distilling Industry in Kentucky” (January 2012), we used this information to estimate the impacts of Kentucky Bourbon Trail® Passport holders on the regional economy. We averaged various market segments (e.g. whether visiting the Kentucky Bourbon Trail® distilleries is the primary purpose or not, whether area hotels are used or not, and different levels of household incomes) and assigned plausible estimates of spending on lodging, meals, retail shopping and fuel. We also constructed a separate input-output model of the 22-county region that incorporates the Kentucky Bourbon Trail® distilleries. The model represents the inter-industry and household spending linkages within the region, and in particular reveals how hospitality-related spending impacts the regional economy. We used the multipliers from the model to arrive at an estimated economic and fiscal impact on the region.

We estimated that each set of 1,000 parties completing their Kentucky Bourbon Trail® Passports is likely to spend about \$585,000 in the region. Of that, the largest share is for food and beverages (\$235,000), retail shopping (including at the distilleries) and gas accounting for about \$200,000, and lodging at area hotels, motels, and B&B’s another \$150,000. Of course, the extra demand causes the patronized businesses to spend more on labor and supplies, and any added take-home labor income is incorporated into household spending, thus multiplying the impact of the direct spending. Taking this into account, we estimated that the total

economic impact on the region resulting from 1,000 parties completing the Kentucky Bourbon Trail® tour is about \$737,000. This spending impact could support about nine jobs.

With the program currently generating upwards of 18,000 completed Passports per year, there could be as much as \$12 million in economic impact regionally. Clearly, Jefferson County will not capture all of that since the participating distilleries are outside the county and many people will stay elsewhere, but it is possible that Louisville might be used as a base by as many as half (or more) of the Kentucky Bourbon Trail® visitors and, if so, it seems likely the county would capture at least half of their spending. While we cannot know for sure with the available data, it seems possible that Bourbon tourism is currently generating as much as \$2.5 to \$3 million in total economic impact in Jefferson County.