Beware the Free Lunch:

A Critique of the Proposal to Privatize Pennsylvania's Wine and Liquor Sales

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Executive Summary

Over the past two years, advocates for the privatization of Pennsylvania's state wine and spirits stores have asserted repeatedly that privatization would benefit the commonwealth economically, including by delivering a large upfront fee often estimated at $1 billion to $2 billion. Recognizing the lack of solid information to support these claims, the Corbett Administration last year commissioned a study by Public Financial Management Group Inc. (PFM) of the state revenue, tax, and consumer implications of a possible privatization of Pennsylvania's state wine and spirits distribution system. The present report critiques the PFM study, *Liquor Privatization Analysis*, building on testimony delivered to the House Liquor Control Committee on December 1, 2011.[1]

We document several major flaws in the PFM study.

- Starting with the simplest error, in **the first year of its projections PFM's estimate of the income of the public wine and spirits system was off by more than 50%**. Actual data show that the public system generated $104 million in 2010-11, 54% more than the $67 million projected by PFM.

- In a second step in our analysis, we compared the actual income the state received from the state's wine and spirits stores in FY 2010-11 with what the state would have received using the privatization scenario recommended by PFM**.** The result: Pennsylvania would have lost $96 million if the wine and spirits stores were private. Lower collection of sales taxes would have resulted in an additional $19-$20 million loss in 2010-11. **Privatization, therefore, would have resulted in an estimated $113 million less revenue for the Commonwealth in FY 2010-11** than the current system.

- Third, we used the actual price paid for retail liquor licenses in West Virginia in 2010 as a test of the PFM projections for upfront license fees. Adjusting for differences in consumption and population, **the actual amount West Virginia received for auctioning off retail liquor licenses projects to an amount for Pennsylvania licenses that is 41% below what PFM projects**. While there are significant differences between the two states, more of these are likely to lower Pennsylvania auction fees further than the reverse.

Identifying other flaws in the PFM study requires probing more deeply the plausibility and internal consistency of the assumptions built into PFM's economic models. These assumptions were shaped by an explicit charge that PFM received from the state to (a) assure that the state achieves revenue neutrality—the same amount of money annually from the wine and spirits industry as under the current system (e.g., through taxes, annual license fees, or transfers to the General Fund), while (a) maximizing the upfront sale value of liquor distribution franchises.

As part of PFM's effort to achieve revenue neutrality, the consulting firm builds into its recommended privatization option

- annual retail and wholesale license fees that are at least four times higher than neighboring states, including West Virginia's; and

[1] Roland Zullo, Ph.D., "Beware the Free Lunch: An Analysis of Public Finance Management's *Liquor Privatization Analysis*," Testimony to the House Liquor Control Committee, December 1, 2011.

- per gallon alcohol taxes that are six to 21 times higher than those of neighboring states on wine, and up to five times higher on spirits.

Both high annual license fees and alcohol taxes will tend to drive down Pennsylvania sales, and reduce profitability, which would make wholesalers and retailers less willing to pay a large sum up front for liquor licenses. To remedy this problem, PFM assumes in its model that both wholesalers and retailers would have operating expense that are low by industry standards which would allow them to profit with low margins (charging customers only a bit more for wine and spirits than distributors pay for the product themselves). The combination of low margins and low operating costs makes it possible, on paper, for companies to be profitable and for prices of Pennsylvania wine and spirits to remain competitive. The body of the present report, however, compares the PFM operating expense and margin assumptions with actual data and shows that these assumptions are unrealistic.

The underlying problem is the incompatibility of the two economic objectives that the commonwealth asked PFM to achieve in its projections: a big upfront payday from auction revenues and revenue neutrality on an annual basis. While high annual license fees, high sales taxes, and low "margins" all help achieve high revenues each year for the state, the same three assumptions make holding licenses less profitable and are thus incompatible with a large revenue windfall from the auction of wholesale and retail licenses. Pennsylvania cannot achieve both a big upfront payday and revenue neutrality if the sale of wine and liquor rights goes forward. As the saying goes, there is no such thing as a free lunch.

The PFM study is likely on target when it implies that rural consumers would see higher prices and less product choice as a result of privatization.

This critique of the PFM study does not address the impact of privatization on excessive drinking and associated public health problems and traffic fatalities. Those public health issues are addressed in an earlier policy brief (http://bit.ly/Public-Health-Privatizing-Liquor) and in legislative testimony (http://bit.ly/Testimony-Liquor-Privatization) delivered by the Keystone Research Center.

As of this writing, the PFM privatization scenarios are no longer the focus of legislative discussion about the state's wine and spirits stores — and privatization itself may not be taken up by the legislature this session. Nevertheless, it is important to document the flaws in the PFM study in order to appreciate that there is no free lunch when Pennsylvania privatizes state assets, including her wine and spirits stores. Legislators should not support wine and spirits privatization based on the belief that it is a revenue winner for the commonwealth, because that notion is false, especially beyond the immediate election cycle.

Introduction

After Prohibition ended in 1933, the task of regulating the sale and production of alcohol became primarily a state affair. While regulatory policies vary across the states, the main approaches are generally classified as either "control" or "license." Thirty-two states are license states that grant the right for private firms to distribute and sell alcohol for a fee. Pennsylvania is one of 18 control states that maintain a role in alcohol distribution and sales. Pennsylvania is one of four "heavy control" states (along with Maine, Utah, and Montana) that maintains control over retail sales of at least two types of alcohol (beer, wine, or liquor) and at least one type of liquor at the wholesale level.

Pennsylvania House Majority Leader Mike Turzai has proposed that the Pennsylvania Liquor Control Board (PLCB) exit the role of distributing and selling wine and liquor. His plan would replace the current public operation with a system of private wholesalers and retailers. If the plan is enacted, Pennsylvania would transform into a license state, giving up the revenues earned from the direct sale of alcohol products in return for license fees from the newly formed private wholesalers and retailers.

On October 25, 2011, the Corbett administration released a study it commissioned on the subject of liquor privatization from Public Finance Management Inc. (PFM). This report analyzes that study.[2]

Some observers support or oppose privatization on philosophical grounds. Our analysis, however, will not focus on the debate over the proper scope of government. Instead, we set out to answer the empirical question of whether privatizing this PLCB function makes economic sense for Pennsylvania.

Before launching into that task, it is important to mention that the PFM report does not compare the relative merits of a public versus private distribution and sales system. Doing so would require comparing the performance of public and private operations held under the same policy constraints. For instance, PFM estimates for a privatized operation are based on expanded hours for Sunday retail sales, an increase in the number of stores, and the closure of unprofitable stores. All these changes can be achieved with a public distribution and sales system. However, as PFM admits in its report, a restructured public system was never considered.[3] The PFM analysis, therefore, presents a false comparison between a public operation that must conform to current public policy restrictions and a privatized system that is free to deviate from those same constraints.

As noted on page 16 of the PFM report, the Governor's Budget Office tasked the consulting firm with making an economic case for divesting the PLCB of its distribution and sales function. Two of five parameters provided to the consulting firm were to "Maximize the up-front value of the franchise transfer so that the Commonwealth will have resources to achieve other priorities";

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[2] In addition to the text of the PFM report, the author benefitted from a December 22 briefing from Public Finance Management and arranged by the Governor's Policy Office. Stephen Herzenberg of Keystone Research Center attended the meeting in person and the author of this report attended by phone.

[3] See Public Finance Management (PFM), *Liquor Privatization Analysis*, page 73. The reason given for not analyzing an improved public system was that the public operation failed to meet two of five criteria the state established in the scope of work it provided to PFM: public operation does not (1) end state sales of wine and distilled spirits, or (2) generate upfront revenue for the sale of the service.

and "Assure that the fiscal impact to the state is neutral going forward." In other words, PFM was commissioned to persuade Pennsylvanians that a proverbial "free lunch" was available.

Our objective in this report is to assess the core claim by PFM that Pennsylvania can obtain an impressive amount of revenue by auctioning the right to sell wine and liquor to private operators, without any loss in annual revenue. First, we analyze the financial and operational performance history of the PLCB. Second, we examine revenue neutrality, first by challenging the PFM forecast of the PLCB's financial performance and second by comparing the actual FY 2010-11 PLCB financial results with a hypothesized privately-run system based on the assumptions in the PFM report. Third, we review the methods by which PFM values the licenses at auction, examine the auction results in West Virginia, and locate inconsistencies between the PFM assumptions in their valuation model and industry experience. Finally, we offer a short list of ideas for improving the PLCB, and keeping the distribution and sales a public service.

PLCB Warehouse and Store Performance

Before embarking on a major divestment of the state's wine and spirits operations, it is prudent to assess the current system in order to properly value the asset up for sale. In this section, we summarize the advantages of the present system.

PFM lists five functions of the PLCB (pp. 23-24):

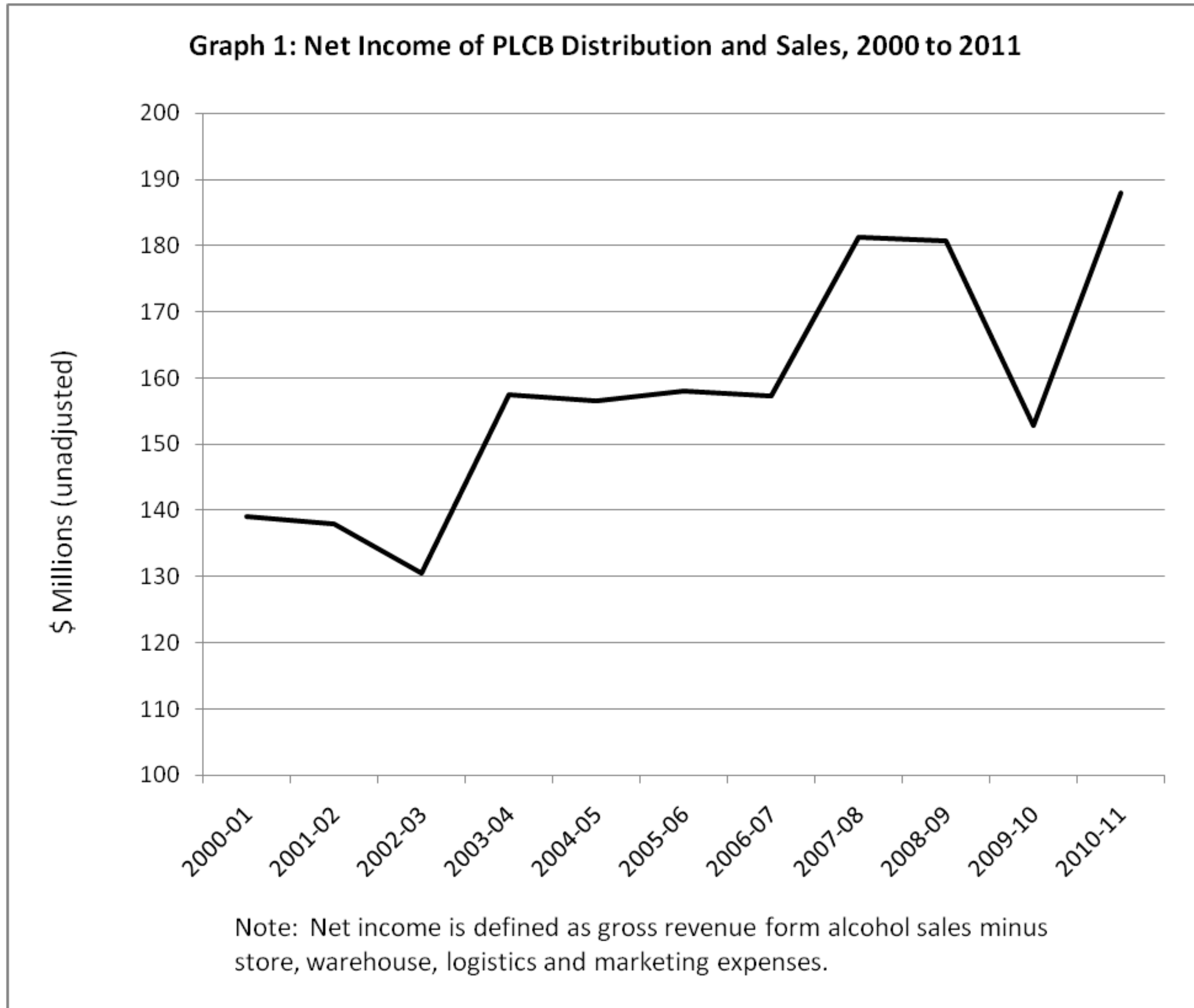
1. Act as an independent administrative board charged with the power and duty to control the manufacture, possession, sale, consumption, importation, use, storage, transportation and delivery of liquor, alcohol and malt or brewed beverages within the Commonwealth.
2. Establish, operate and maintain throughout the Commonwealth wine and spirits stores. The PLCB is the sole source, with two exceptions, for the purchase and delivery of wine and spirits, both to retail outlets and directly to consumers.
3. License and regulate brewers, importers and retailers of malt or brewed beverages.
4. License and regulate restaurants, hotels, clubs and other retail outlets that sell alcoholic beverages.
5. Provide a comprehensive program of public and industry outreach dedicated to the prevention of alcohol-related problems, including underage drinking, high-risk college drinking, impaired driving and other misuse of alcohol.

Under the current system, function 2 generates enough income to pay for functions 1, 3, 4, and 5. The proposal to privatize the distribution and sale of wine and spirits would eliminate function 2, and leave the PLCB responsible for all other functions.

While the PFM report describes the PLCB as a financially failing system, the data indicate otherwise. To illustrate, Figure 1 below plots the income the PLCB earns through the distribution and sale of alcohol (i.e. revenue from sales minus marketing, logistics, wholesale and retail operating expenses). These figures were derived from the audited financial statements on page 40 of the PFM report, with the addition of the 2010-11 statements produced by the Office of the Budget.[4] In order to isolate the income from function 2, the graph plots only the difference between gross revenue and store and warehouse expenses. Other sources of

[4] Commonwealth of Pennsylvania, Office of the Budget, Comptroller Operations*, Pennsylvania Liquor Control Board (PLCB) Financial Statements, Fiscal Year 2010-2011*.

operational revenue, such as licensing and investments, are excluded. Also excluded are costs that are largely associated with indirect overhead, licensing, enforcement, and education (i.e. functions 1, 3, 4 and 5).



The first observation to make based on Figure 1 is that income is always positive. Second, despite two off years, FY 2002-03 and FY 2009-10, there is an upward trend in net income over the past decade, which grew by slightly more than 35% (from $138 million in FY 2000-01 to more than $188 million). Privatization of distribution and sales will end this growing income stream for the Commonwealth.

Every year, net income from the distribution and sales of alcohol products sufficiently covers the cost of the regulatory and administrative functions of the PLCB. Other sources of operating revenue, such as licensing, enforcement and investment, are comparatively minor.[5]

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[5] Other revenue sources (i.e. licensing and enforcement, interest and investments, and miscellaneous income) account for approximately 3% to 5% of total operating revenue annually. See PFM's Liquor Privatization Analysis, p. 40.

The largest non-operating source of revenue comes from sales taxes. All Pennsylvania taxes are based on a percentage of the value of the product. The Johnstown Flood Tax is 18%, and there is a sales tax of 6% charged at the point of sale. There are also two regional taxes of 2% for Philadelphia and 1% for Allegheny County.

A widely recognized advantage to the PLCB controlling the distribution and point of sale is efficient tax collection – 100% compliance. In a privatized system, some owners may have an incentive to avoid remitting sales tax, especially as they exit the business, which is why license states never achieve a 100% tax collection rate. In Pennsylvania, for every 1% loss in the tax collection rate on alcohol sales, the state will lose nearly $4 million in tax revenue.

Another advantage of controlling the point of sale is that PLCB personnel carry out state regulatory policy, most importantly, preventing the sale of alcohol to minors. Placing that and other regulatory responsibilities in the hands of private outlets will necessitate an expansion of the PLCB bureaus involved in law enforcement and impose a higher cost burden on the Pennsylvania State Police. The PFM report appears to acknowledge the need to expand the licensing and regulatory functions of the PLCB,[6] but it is unclear if these added costs were adequately budgeted in PFM's forecasts.[7]

Further, the current delivery system features centralized warehouse operations, which give the PLCB purchasing power to negotiate quantity discounts with suppliers. This, in turn, raises the level of revenue from sales while allowing for price competitiveness at the retail level. The PFM report does not include the loss of purchasing power in its privatization analysis.

Privatization will also limit access to products in rural communities. Pennsylvania mandates a PLCB store in every county in the state and requires the price on wine and liquor to be uniform across the stores. The least profitable PLCB stores tend to be located in rural counties. With a market-based system, uniform pricing will end in order to attract private investors to rural locations; one can safely predict that store owners in less populated areas will raise product prices and reduce selections.

Finally, the PFM privatization plan calls for the termination of an estimated 4,196 public-sector jobs. The majority of the positions, 3,777 full-time equivalents (FTE), will be lost in retail stores, along with 178 FTE in administration, 68 FTE in distribution (i.e. the supply chain), 51 FTE in finance, and 50 FTE in marketing. While many of these jobs will be replaced by the private firms that take over the distribution and sales system, not all the dislocated workers are likely to find similar employment.

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[6] See PFM, *Liquor Privatization Analysis*, , appendix O.

[7] Nationwide, nearly 80 percent of alcohol is purchased through retail outlets for off-premise consumption, as opposed to on-premise purchases in bars, restaurants, hotels, and so forth (see: Cook, Philip J. (2007) *Paying the Tab: The Economics of Alcohol Policy*, Princeton NJ: Princeton University Press: p. 63). The current enforcement and regulatory apparatus of the PLCB is largely focused on handling on-premise licenses and violations, where an estimated 20 percent of alcohol sales occur. With privatization, PFM projects an increase in PLCB licensing and regulatory affairs staff of approximately 10 percent based on the proportionate number of new private outlets in their model (see fiscal neutrality worksheet in PFM, *Liquor Privatization Analysis*, p. 274). We question whether an increase in PLCB licensing and regulatory affairs FTE by only 10 percent is sufficient when privatization would affect 80 percent of alcohol sales. The same holds for the 9 percent increase in subsidy to the Pennsylvania State Police (see fiscal neutrality worksheet in PFM, *Liquor Privatization Analysis*, p. 244)

Summing up, the advantages to a public distribution and sales system include:

1. Revenue from the sale of alcohol products pays for the regulatory, licensing, enforcement, education, and health functions of the PLCB. In FY 2010-11, the income contribution from distribution and sales was estimated at $188 million. Over the past decade, this income source has grown by an estimated 35%.

2. A sales tax collection compliance rate of 100%.

3. Improved enforcement of state liquor laws, in particular, the prohibition of the sale of alcohol to minors.

4. Access to alcohol products for rural consumers, with a selection and price that is comparable to urban consumers.

5. Gainful employment for more than 4,000 Pennsylvanians.

Projected Change in Operating Income

As mentioned in the introduction, PFM claims that its recommended privatization plan will achieve revenue neutrality. What this means is that the operations in future years will generate approximately the same amount of revenue for the state regardless of whether the distribution and sales function is privatized.

There are two major sources of revenue in the current wine and spirits system: revenue from operations and sales taxes. In this section, we evaluate operations. In FY 2010-11, the PLCB generated $104 million in income before operating transfers,[8] nearly doubling the FY 2009-10 income of $52.5 million.[9]

The PFM report relies heavily on FY 2009-10 to develop revenue and cost projections for future years. As Graph 1 above illustrates, FY 2009-10 was not a stellar year for net income; however, this was not due to sales, which reached a record level of $1.5 billion. This sale figure represented a historically small 1.3% increase from the previous year, but store and warehouse expenses grew at an even slower pace, less than 1% from FY 2008-2009. Thus, the lackluster income performance in FY 2009-10 had little to do with direct operations.

Three cost items lowered operating income in FY 2009-10. First, cost of goods sold increased at a 4.4% rate, reflecting higher prices charged by wine and alcohol producers or higher freight costs. Second, interest and investment income was low by historic standards.[10] A third factor is administrative costs, which increased substantially after FY 2007-08, in large measure because of accelerated costs related to contractual services for an electronic data system. These cost and revenue items aligned negatively for the PLCB in FY 2009-2010, which largely explains the below-average financial performance for that fiscal year.

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[8] See: Commonwealth of Pennsylvania, *PLCB Financial Statements, Fiscal Year 2010-2011*. .

[9] See PFM, *Liquor Privatization Analysis*, page 40. Unlike the net income figures in Graph 1 above, the figures provided here include administrative and regulatory expenses and revenues for the PLCB.

[10] Interest and investment income dropped significantly following the 2007-09 recession and the resulting correction in financial markets.

Using the historically weak FY 2009-10 financial figures as a baseline, PFM built a pessimistic forecast for the PLCB, with expense growth exceeding revenue growth up through 2015.[11] Practically all the bureau expenses listed on page 41 of the PFM report are a simple linear percentage increase from FY 2009-10. Similarly, the major revenue items: sales, cost of goods sold, licenses and fees are a straight percentage increase from FY 2009-2010. No consideration was given to recent investments by the PLCB to increase efficiency and improve customer service. More critically, PFM gave little weight to PLCB performance in the previous decade, when net income averaged almost $95 million annually.

By starting from the below par FY 2009-10 figures, PFM creates a dire forecast for the PLCB, which is essential to model revenue neutrality. To gauge the inaccuracy of the PFM forecast, one can compare PFM's projected net income for the public system in FY 2010-11 with the actual net income for FY 2010-11 now available from the Pennsylvania Office of the Budget. PFM predicted a FY 2010-11 net income for the PLCB of $67.4 million; actual net income was $104 million, 54% higher than the PFM projection. This degree of forecasting error, *occurring for the same year in which the report was written*, casts doubt over the validity of the projections for the remaining years in the PFM report.[12]

More generally, PFM's report portrays the public system as failing but it does not make the case. In fact, the system consistently generates enough net income to pay for the regulatory and enforcement functions of the PLCB, as well as providing funding to the Pennsylvania State Police ($20.3 million in FY 2010-11), drug and alcohol treatment programs ($1.7 million in FY 2010-11), and state general services (estimated at more than $80 million in FY 2010-11).

PFM may be correct that a small fraction of the 622 state wine and spirits stores are unprofitable. On pages 38-39, PFM focuses on a group of 53 unprofitable stores and concludes that "nearly all stores would be unprofitable" (p. 39) if one assumes that they had to pay wholesalers to cover their costs.[13] As the text does not adequately explain, these are an unusual group of stores predominately located in sparsely populated rural regions. These regions currently benefit from state system rules that require at least one store in each county and common pricing across the state. Under privatization, Pennsylvanians in these areas are likely to see higher prices, less product choice, and potentially less accessibility.[14]

Testing Revenue Neutrality: Operations

As noted earlier, actual 2010-11 figures are now available on the PLCB's financial performance. This section compares actual net income (before transfers) from the present system in 2010-11 with net income if the distribution and sales function had been privatized. Our projection for a privatized scenario relies on assumptions offered by PFM in its "option three" model. Hence, this is a test of revenue neutrality; one that compares actual FY 2010-11 performance against the recommended privatization scenario.

If privatization occurs, the PLCB income statement would change in several major ways. First, the PLCB would no longer receive gross revenue from sales; these monies will be owned by

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[11] PFM, *Liquor Privatization Analysis*, p. 41.
[12] PFM had access to the FY 2010-11 PLCB financial figures at the time they drafted their analysis.
[13] In 2011, using the same assumptions, the number of unprofitable stores declined to 37. Source: PLCB.
[14] While never stressing this point, PFM admits that rural stores will have higher prices than urban stores in their discussion on valuation. See PFM, *Liquor Privatization Analysis*, page 264.

private interests. Second, there will be changes in the staffing of PLCB bureaus after they exit the distribution and sales roles. In particular, purchasing, logistics, marketing, store operations and supervision will no longer be necessary. Staffing changes in other bureaus will also occur, but less dramatically. Third, the PLCB will receive an increase in the licensing fees from the new private wholesalers and retailers. The PLCB will also receive more revenue in enforcement fines. Finally, there will be increases in costs for the licensing and regulatory functions.

Table 1 provides a comparison of the income under the current public wine and spirits distribution and sales system and a hypothetical private system. In FY 2010-11, the public system raised $104 million in income; divesting would have resulted in income of $8 million, for an estimated loss of $96 million. At least for FY 2010-11, revenue neutrality would not have been achieved. (See Appendix A for a more detailed explanation of the assumptions made in the privatized net income model.)

Table 1. Public and Private Operational Income Comparison, FY 2010-11

	Public Performance		Privatized Performance	
Sales Net of Taxes		1,571,222,784		0
COGS		1,080,960,596		0
Gross Revenue		490,262,188		0
Operating Expenses:				
Purchasing, Logistics, Marketing	18,341,363		0	
Store Operations & Supervision	283,919,494		0	
Central Administrative Support	68,137,911		24,666,412	
Comptroller Operations	5,217,381		456,521	
Commonwealth provided service	10,470,658		818,883	
Total		386,086,807		25,941,816
Operating Income		104,175,381		(25,941,816)
Non-operating Revenue (Exp.):				
Enforcement Fines	1,839,629		2,023,592	
Interest Income	258,869		0	
License Fees	11,694,225		49,170,929	
Miscellaneous Income	1,637,463		0	
Administrative Law Judge	(2,225,995)		(2,448,595)	
Legal	(3,079,195)		(3,448,698)	
Licensing & Investigations	(10,287,739)		(11,358,140)	
Total		(162,743)		33,939,088
Income Before Transfers		104,012,638		7,997,272

Note. See text and Appendix A for explanation of the numbers in the privatized performance column.

Source. Public Performance data from Commonwealth of Pennsylvania, *PLCB Financial Statements, Fiscal Year 2010-2011*.

Revenue Neutrality: Tax Collections

Without question, the greatest source of revenue that flows to the Commonwealth from the PLCB is through taxes. On page 40 of the PFM report, the historical financial figures show an upward trend in tax revenue from wine and spirits sales, with FY 2009-2010 tax revenues reaching about $383.1 million.

As noted earlier, the present system comes with a tax collection rate of 100%. This is achieved because the state controls the point of sale, and there is no conflict of interest between the seller of product and the imperative of collecting tax.

Privatization will eliminate this advantage. The Department of Revenue estimated that there would be a non-compliance rate of 5% if the distribution and sales of wine and spirits is privatized, which equates with a loss of $19 million to $20 million in tax revenue for FY 2009-10.[15] For the PLCB, every 1% loss in tax compliance equates with nearly $4 million in lost tax revenue. The PFM revenue neutrality analysis assumes a 100 percent tax collection rate under a privatized model.

There is an increase in tax revenues from the expansion of private business, but the amount is minor in comparison to the loss from non-compliance. PFM project $2.2 million in new revenue from corporate taxes.[16]

All totaled, considering the change in revenues from operations, sales taxes, and corporate taxes, a conservative estimate for the amount of lost revenue for the Commonwealth is $113 million for FY 2010-11 under the PFM privatization proposal.

Valuation of Auction Revenues

PFM strives to demonstrate that Pennsylvania can enjoy a one-time infusion of funds by auctioning the right to distribute and sell wine and spirits. PFM applied three different methods to estimate the magnitude of upfront auction fees, and arrived at a range of $1.1 billion to $1.6 billion.

As PFM mentions throughout its report, predicting the value from an auction is speculative. Much of the valuation method used by PFM relies on proprietary industry data, and without access to the data, it is impossible for a third party to review and critique PFM's projections. Nonetheless, we did identify deficiencies in the PFM analysis.

West Virginia

PFM mentions that West Virginia auctioned its distilled spirits retail operation in 1991, and that the auction underperformed.[17] However, there is little discussion of why the auction revenues were low, or how the PFM plan for Pennsylvania would avoid similar problems.

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[15] Tax delinquency rates are not readily published by most states, making it is difficult to arrive at an estimate for Pennsylvania. The 5% estimate was provided by the Pennsylvania Department of Revenue, and is mentioned in PFM, *Liquor Privatization Analysis*, page 86.
[16] PFM, *Liquor Privatization Analysis*, page 242.
[17] No sufficient bids were received for some regions. PFM, *Liquor Privatization Analysis*, page 235.

West Virginia auctions the retail sales of spirits every 10 years. The most recent auction in 2010 generated $26.5 million. Taking the 2010 auction in West Virginia, and adjusting for population, state-level consumption rates and wine sales, we arrive at a retail auction price of $428 million for Pennsylvania. This is 41% below PFM's $732 million average using three methods of estimating retail license auction values. (See Appendix B for more explanation of how we adjusted the West Virginia auction based on population and spirit consumption.)

There are important differences in the West Virginia auction and the auction proposed by PFM. High on the list is that West Virginia licenses are good for 10 years, whereas the proposal for Pennsylvania is to auction license rights in perpetuity—which makes them more valuable. There are, on the other hand, differences between the two states that would make the Pennsylvania licenses less valuable. We turn to two of those now: (1) the annual license fee structure and (2) sales taxes.

Annual Fees

It is clear that the annual license and regulatory fees charged to the retail and wholesale firms in PFM's proposal far exceed what is charged in neighboring states. Fees would be eight to 13 times as high as annual fees in West Virginia, and more than 20 times the annual fee charged to retailers in other neighboring states. Exorbitant annual fees will reduce the upfront amount that Pennsylvania can expect from a retail auction.

Annual fees charged to wholesale operators, according to the PFM model, are even greater. Pennsylvania wholesalers will have annual fees exceeding 30 times what New Jersey and New York wholesalers pay. While it may be possible to attract retailers and wholesalers to an auction with these annual fees, such high fees will drive down auction values.

The PFM valuation analysis, however, lacks any discussion of the relationship between the annual license fees and the upfront auction amounts. PFM does recognize in passing that "[p]otential licensees are likely willing to pay in one of two ways: upfront or ongoing – but not both" (p.142). Yet PFM's recommended privatization plan requires both. And it does not appear that PFM's valuation model takes into account ongoing annual fees.

Under a privatized system, annual fees are one factor that determines whether Pennsylvania private retailers and wholesalers can price their products low enough to "repatriate" sales currently lost when Pennsylvanians purchase wine and spirits outside the Commonwealth. Low annual fees also make these ventures less risky and more profitable, which is necessary for achieving high license auction amounts.

Tables 2 and 3 compare annual fees proposed by PFM against fees charged by neighboring license states. (Since PFM recommends "Option 3", this will be our focus.)

Table 2. Proposed Annual Fees for Pennsylvania Retail and Wholesale Establishments

	Option 3	
	Retail	Wholesale
Number of establishments	1,500	10-30
Annual fee (regular)	$10,000	$50,000
Annual fee (optional, Sunday)	$10,000	
Regulatory assessment	0.8% COGS	0.9% COGS

Source. Based on PFM, *Liquor Privatization Analysis*, p. 217-222.

Annual costs, including the fee and regulatory assessment on cost of goods sold, will average $17,218 for retailers that do not operate on Sunday, and $27,218 for retailers that do. The total cost for all 1,500 retailers (not counting those that opt for Sunday sales licenses) is $26 million.

By comparison, the annual fees for wine and liquor retailers in neighboring states are much lower:

Table 3. Annual Wine and Liquor Retail Fees, Off-Premise Locations

State[1]	Wine		Liquor	
	Fee	Duration	Fee	Duration
Delaware[2]	$1,000	1 year	$1,000	1 year
New York[3]	$640 to $145	1 year	$4,098 to $1,536	3 years
Ohio	$376 per location	1 year	N/A	
West Virginia	$150	1 year	$2,000	1 year

Notes. (1) Maryland fees vary by county. New Jersey licenses are owned by retailers, and must be purchased at market price. (2) Delaware has a fixed fee for wine, liquor, or both. (3) The higher values are for the counties of New York, Kings, Bronx and Queens.

Source. Various state websites.

In addition to far exceeding the amounts charged in neighboring states, the PFM annual retail fee structure is inconsistent with Pennsylvania's current license fees for bars, restaurants, and other establishments that serve alcohol. Those fees averaged less than $1,000 annually for 2010-11.[18]

Clearly, such high fees will make prospective retailers less competitive and reduce the chance that a privatized system will repatriate $101 million in sales from neighboring states for FY 2012-13, as PFM projects.[19]

Wholesalers pay even more in annual costs. Including the annual fee and regulatory assessment on cost of goods sold, wholesalers would have paid $388,300 (in 2010-11 dollars).

Table 4 details the annual wholesale fees charged by neighboring states:

[18] The approximate 15,300 on-premise licenses generated annual revenue of $11.7 million in FY 2010-11, for an average of about $760 each. The PFM report fails to discuss how the comparatively low annual fees for on-premise locations can be harmonized with the suggested fees for off-premise locations.

[19] See: PFM, *Liquor Privatization Analysis*, page 220.

Table 4. Annual Wine and Liquor Wholesale Fees				
State	Wine		Liquor	
	Fee	Duration	Fee	Duration
New Jersey	$3,750	1 year	$8,750[(1)]	1 year
New York	$1,520	1 year	$27,280[(1)]	3 years
Ohio	$500 per warehouse plus $0.10 for each 50 gallon barrel over 1250 barrels	1 year	N/A	
Notes. (1) For a plenary license that includes spirits and wine *Source*. Various state websites				

High annual fees for wholesalers and retailers will be reflected in both higher product prices and the lower upfront auction amounts.

Sales Taxes

Just as with the fee structure, the PFM model relies on alcohol sales taxes in Pennsylvania that exceed neighboring states. In general, higher sales taxes mean less profits earned on product sales. The PFM proposal calls for a fixed dollar amount per gallon of beverage with variation based on alcohol levels. In industry parlance, this is known as a gallonage tax. To maintain current revenue with a privatized system, Pennsylvania would have to impose a gallonage tax that is higher than neighboring states, estimated at $6.38 per gallon of wine and $9.37 per gallon of liquor.[20]

For wine, Pennsylvania's sales tax under the PFM proposal would be the highest in the region — from six times the rate in West Virginia to 21 times in New York. For liquor, Pennsylvania's sales tax would be comparable to Ohio's rate but higher than all remaining states, up to five times as high as West Virginia's rate.

Under a high fee and high tax structure, retailers will have little choice but to raise prices, putting them at a competitive disadvantage with stores in neighboring states and exacerbating the problem of "border bleed," which occurs when Pennsylvanians travel into neighboring states to purchase alcohol products.

Expected Earnings

High annual license and regulatory fees, coupled with high sales taxes, will depress anticipated earnings for retailers and wholesalers. To compensate for these costs and potentially lower sales, retailers and wholesalers could be expected to mark up liquor prices substantially over the amount that they pay for the product they sell. PFM, however, assumes the opposite: that wholesalers and retailers will use product mark up rates that are low by industry standards.

Low product mark ups typically translate into low earnings. To get around the problem of low earnings, PFM if forced to assume that operating costs for the new private wholesalers and

[20] PFM Liquor Privatization Analysis, page 222.

retailers will also be low by industry standards. This combination of assumptions preserves earnings levels, at least on paper, which is then used by PFM to justify their auction valuations. (See Appendix C for more detail and data to support the argument in this section.)

In examining the plausibility of PFM's "mark-up" assumptions, Appendix C uses the accounting term "gross margin" to measure mark-ups. Technically, gross margins equal sales minus the price paid for merchandise as a percentage of sales. PFM assumes gross margins of 16.1% for retailers and 20.0% for wholesalers. Yet, taking the firms listed in the PFM report, including Walmart, Costco, CVS Caremark and several others, we found that in most cases gross margins exceeded these levels substantially. For example, seven of nine retailers listed in Table 5 of Appendix C have a gross margin over 20% and five of them have a gross margin of at least 24.8%. Five of eight wholesale liquor distributors have a gross margin of more than 35% (Table 6, Appendix C). In other words, if retailers and wholesalers were constrained to accept a 16.1% and 20% mark-up, most would experience negative earnings, which does not bode well for auction prices. (Appendix C also compares PFM's low operating expense assumptions with data on actual operating costs.)

PFM explains its low gross margin and operating cost assumptions by saying that the work involved in adding wine and spirits products to store shelves would be largely absorbed by existing personnel. However, retailers generally do not have excess shelf space waiting to be filled with wine and spirits. Rather, retailers will have to adjust their product mix by removing other retail offerings to make room for wine and spirits. Thus, the addition of wine and spirits should have an operating expense allocation like all other products, and therefore modeled using percentages that reflect current operations.

One other consideration ignored by PFM is the loss of efficiencies within the current system. Currently, the PLCB has three wholesale operations and more than 600 retail outlets. The privatization model recommended by PFM is for 10 to 30 wholesalers and 1,500 retailers. Increasing the number of wholesalers and retailers will come with an increase in the number of over-the-road deliveries across the state, usually with smaller loads per delivery. Some entity in the new system, i.e. the wholesalers, retailers or consumers, will have to incur the added cost of moving product across the state. The PFM report is silent on this additional cost.

Connecting Revenue Neutrality and the Auction Valuation

This section ties together the threads from the previous sections in order to summarize the problems with the PFM economic analysis.

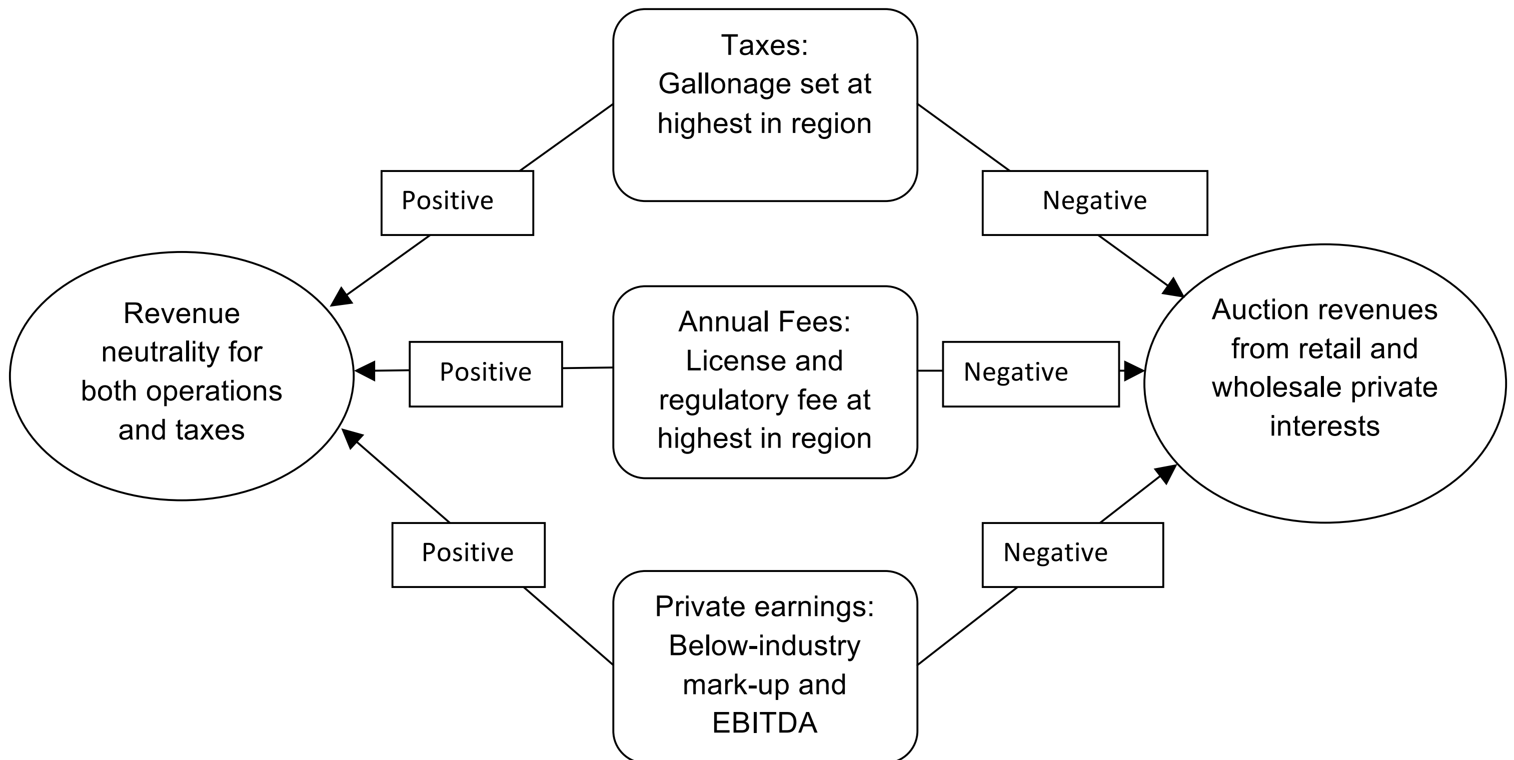
PFM begins by setting up a classic "straw man" contest by failing to evaluate the PLCB as a restructured operation and by developing projections for the PLCB based on an anomalously weak FY 2009-10 performance. A pessimistic forecast for the PLCB was needed to arrive at revenue neutrality. PFM projects that PLCB cost growth will exceed revenue growth through 2015. Painting the PLCB as a failing operation well into the future makes the task of "knocking down the straw man" with privatization easier.

The problem is the PLCB's performance recovered in FY 2010-11, extending the decade-long upward trend in income. To test PFM's revenue neutrality model, we imputed PFMs model assumptions into the actual FY 2010-11 PLCB results, finding a $96 million loss in income to the state under the PFM privatization model. Adding a conservative estimate for revenue loss due to tax non-compliance, the negative financial effect of privatization could have easily exceeded $113 million for FY 2010-11 alone. Hence, the revenue neutrality test fails.

However, the biggest challenge underlying the PFM analysis is the tension between the objective of showing revenue neutrality and the objective of predicting impressive revenues through an auction of licenses. High taxes, high annual fees, and low earnings need to be assumed in order to come close to revenue neutrality, but low taxes, low annual fees, and high earnings are necessary to achieve a highly successful auction.

PFM attempts to show revenue neutrality by proposing a privatized liquor system with the highest taxes and annual license renewal and regulatory fees in the region, if not the nation, and then by modeling a retail and wholesale private sector willing to accept below-average industry earnings. These constraints, should they hold, will predictably lower auction revenues. The diagram below maps the relationships between taxes, annual fees and earnings, and the two objectives of achieving revenue neutrality and high auction values.

Figure 2. Two Objectives and Three Factors



The two outer ovals of Diagram 1 are the main objectives. The three rectangles in the center are the major factors in the PFM model that affect the objectives, and the assumptions for these factors in the PFM model.

A high gallonage tax is necessary to show that Pennsylvania will not suffer a reduction in tax revenues. The higher the tax, the better the PFM model conforms to revenue neutrality.

However, high sales taxes will raise prices, reduce retail and wholesale margins, or both, which will negatively affect auction revenues.

Similarly, annual license and regulatory fees are set high by PFM in order to model revenue neutrality. The high fees help offset from the revenue lost by forsaking product distribution and sales. However, high annual fees are a cost for private retailers and wholesalers that will reduce earnings, and thus, negatively affect auction bids.

Finally, very modest, below industry gross margins are assumed by PFM in order to squeeze both retail and wholesale interests into the sales projections and prevent price escalation. Had PFM used a 25% mark-up for retail and a 30% mark-up for wholesale - both closer to industry norms – the model would have required a significant increase in product price.[21] Yet presenting a scenario with low product inflation was necessary to argue that tax, regulatory and annual license fee revenues would offset the decline in revenue when the state gave up control of product sales. This is especially true in border areas where Pennsylvanians have out-of-state options when it comes to buying alcohol. Thus, a projection of low industry earnings - through low product mark up assumptions - is critical for modeling revenue neutrality. Unfortunately, low earnings will depress the up front auction value of the licenses.

In sum, the conditions used by PFM to model revenue neutrality contradict the conditions needed to produce high upfront auction revenues.

As we have shown, revenue neutrality already failed for FY 2010-11. Likewise, the optimistic forecast of auction revenues by PFM appears to be an outcome of a simulation built on dubious assumptions.

Recommendations for Improving PLCB

An alternative to privatization that does promise financial returns to the Commonwealth is to improve the existing PLCB system.

The PLCB has developed a list of ideas for improving the responsiveness of wine and liquor sales to customers and for increasing revenue. We encourage the Pennsylvania legislature to grant the PLCB the power to test several policies. Identified initiatives include:

1. Expanding the store-within-a-store model by negotiating for the lease of floor space within grocery stores. Alternatively, leasing space adjacent or near to grocery stores where these is high customer traffic.
2. Remove Sunday sales restrictions and extend Sunday sales hours.
3. Allow implementation of consumer relations marketing.
4. Permit direct shipping and delivery.
5. Allow the PLCB to retail Pennsylvania lottery tickets.
6. Increase fines for liquor violations.
7. Increase licensing fees.
8. Allow market-based pricing.

[21] To see this, review the price table in PFM Liquor Privatization Analysis, page 247.

9. Authorize the PLCB Board of Directors to explore a bailment warehouse system.[22]
10. Allow the PLCB to acquire goods and services outside of the Commonwealth's procurement code.

Each of these policy ideas deserve thoughtful deliberation and testing prior to implementation. We would urge the PLCB to consult with represented employee groups as they experiment with policies relating to customer service and product marketing.

[22] Under a bailment system, ownership of the product remains with the wine or liquor producer until the product is sold at retail. Unsold inventory may therefore be returned to the wine or liquor producer. The downside of the bailment system is that the purchaser is less able to negotiate quantity discounts.

Appendix A

Table 1 within this report provides a comparison of the income under the current public wine and spirits distribution and sales system and a privatized system. In FY 2010-11, the public system raised $104 million in income; divesting would have resulted in income of $8 million, for an estimated loss of $96 million.

The key assumptions in the privatized net income model are outlined below:

1. PLCB will not receive gross revenue from sales, i.e., sales net of taxes and cost of goods sold will be zeroed out to reflect the transfer of this income to private firms.

2. Staffing changes for the bureaus follow PFM's projections in appendix O of the PFM report.[23] Bureau costs are estimated as current costs times the share of staff that PFM projects will be retained (so a 50% cut in staff corresponds to a 50% savings).

3. Cost estimates for the privatization line item "Commonwealth provides services" are set equal to current costs times the proportion of state that PFM says will be retained.

4. We assume 1,500 retailers will be charged annual license fees of $10,000 plus an additional 0.8% of cost of goods sold.[24] PFM also propose a $10,000 fee for Sunday sales, which we did not include to be consistent with the restrictions currently on most PLCB stores.[25]

5. We assume 30 wholesalers[26] will be charged annual license fees of $50,000 plus an additional annual regulatory assessment of 0.9% of cost of goods sold.[27]

6. License fees for on-premise establishments would not change.

7. Enforcement fines are increased 10% based on the assumption that privatizing wholesale and retail establishments will lead to more fines in proportion to the number of new private establishments.

8. Interest income and miscellaneous income would be zero.[28]

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[23] PFM, *Liquor Privatization Analysis*, pp. 273-6.
[24] PFM's proposed regulatory assessment is 0.8% of retail cost of goods sold, page 222. The retail cost of goods sold was calculated by taking the actual 2010-11 sales and subtracting the 16.1% retail markup on page 222.
[25] This assumption simplifies the comparison. If we allowed the revenues for Sunday licenses, we would also have to estimate the additional gross revenue and operating costs if all the PLCB stores were hypothetically open on Sunday.
[26] Assuming 30 wholesalers is optimistic; PFM predicts 10 to 30 wholesalers and we use the top figure. See: PFM, *Liquor Privatization Analysis*, pages 220-2.
[27] PFM proposes a regulatory assessment of 0.9% of wholesale cost of goods sold on page 222. The wholesale Cost of goods sold was calculated by taking the estimated retail cost of goods sold (footnote13 above) and subtracting a 20.0% markup as per page 222.
[28] This assumption is made by PFM, *Liquor Privatization Analysis*, page 242.

Appendix B

As mentioned in the report, West Virginia auctions the retail sales of spirits every 10 years. The most recent auction was in 2010, generating $26.5 million.

In 2010, the adult (over 18 years) population in West Virginia was 1,465,718 versus 9,579,222 Pennsylvanians.[29] In 2007, West Virginia consumed 0.42 gallons of ethanol per adult from spirits versus 0.59 gallons for the average Pennsylvanian.[30]

The $26.5 million from the West Virginia auction equates with $18.08 per adult citizen in the mountain state. Adjusting the $18.08 average upward to account for the 40.5% higher spirits consumption rate in Pennsylvania gives us a per capita valuation estimate of $25.40.[31] Multiplying this figure by Pennsylvania's adult population produces an auction valuation of $243 million.

This estimate, however, is only for spirits, and the PFM proposal calls for the auction of the rights to distribute and sell wine as well. In 2009-2010, the PLCB dollar sales for wine constituted 43.2% of sales (total sales were 76.1% higher than sales of spirits alone).[32] Assuming this sales mix is reflective of what will happen in future years, a full auction valuation that includes wine and spirits can be arrived at by proportionately adjusting our estimate for spirits upward by 76.1%, to yield $428 million.[33]

Thus, by modeling from the recent West Virginia auction experience, we arrive at an estimate 41.5% less than what PFM predicts for a retail auction in Pennsylvania.[34]

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[29] U.S. Census Bureau. http://quickfacts.census.gov/qfd/index.html

[30] The 2007 per adult consumption rates for spirits are posted at the National Institute on Alcohol Abuse and Alcoholism. See: http://www.niaaa.nih.gov

[31] Income differentials provides an alternative method of adjusting the per adult valuation estimate. The 2009 median household income in West Virginia was $37,423 compared with $49,510 for Pennsylvania, a difference of 32.3 percent. We decided to use the consumption figure since it captures both income and non-income factors that determine preference.

[32] The FY 2009-10 sales of wine was $772,081,909; spirits was $1,017,090,306. Source: PLCB.

[33] This method also assumes that the profitability of the sale of wine is the same as for spirits. With the exception of high-end wines, generally profits are higher with spirits.

[34] PFM gives a range of estimates based on their three methods. The average of the three estimates is $731,681,247. See PFM, *Liquor Privatization Analysis*, page 150.

Appendix C

As mentioned in our report, high annual license and regulatory fees, coupled with high sales taxes, will depress anticipated earnings for retailers and wholesalers, lowering the value a bidder will place on a license at auction.

An important metric for determining potential earnings is the ability for a retailer or wholesaler to mark-up the cost of products.[35] In accounting, one way to define mark-up is as the "gross margin," which equals sales minus the price paid for merchandise (also known as cost of goods sold), expressed as a percentage of sales. Another earnings metric is "earnings before interest, taxes, depreciation, and amortization," or EBITDA. This is the gross margin minus operating expenses, which again can be expressed as a percentage of sales.

Multiples for both of these metrics are used by PFM in its valuation analysis on pages 142-152. To arrive at a multiplier for retail operations, PFM examines a group of publicly traded firms that retail wine and spirits. Table 5 gives the most recent gross margins, operating expenses, and EBITDA for the firms listed in the PFM report:

Table 5. Financial Statistics for Retail Firms (percentage of sales)

Firm	Gross Margin	Operating Expenses	EBITDA
Wal-Mart(1)	24.8	18.9	6.9
Costco(1)	10.8	8.1	2.7
CVS-Caremark	21.0	14.6	6.4
Safeway	28.3	25.5	2.8
Delhaize	25.7	18.9	6.7
Kroger	22.2	17.6	4.6
Walgreen	28.4	22.7	5.7
Rite Aid	26.5	26.4	0.1
BJ's(1)	8.8	8.8	0.0

Note. (1) net of revenues from membership fees

Source. Public financial statements, most recent FY report

It would be incorrect to average the gross margins in Table 5 to arrive at an industry standard. First, the retail volumes of these firms vary greatly, with Wal-Mart leading in sales and Rite Aid at the bottom (about 6% of Wal-Mart). Second, these data do not include smaller retailers that will on average have higher gross margins.[36] Nonetheless, some of these major firms achieve gross margins in the 20% to 25% range. If we were to add smaller, privately held firms, the gross margins would probably be in the 25% to 30% range.

The PFM analysis assumes an average gross margin of 16.1% for the 1,500 retail firms that win the license auction. The rationale for the comparatively low mark-up is that membership and big box retailers would focus on selling the most popular (i.e. commodity) products.[37]

The trouble with this reasoning is that the above firms include membership and big box retailers. It seems illogical that a Wal-Mart, for instance, would be especially motivated to substitute items

[35] PFM Liquor Privatization Analysis, page 148.
[36] PFM Liquor Privatization Analysis, page 146.
[37] PFM Liquor Privatization Analysis, page 147.

having a gross mark-up of 25% with items having a gross mark-up of 16%. Of course, other factors, such as inventory turnover, matter. Still, the main point is that the price a firm will pay for the right to sell wine and spirits in Pennsylvania will be related to the expected income from wine and spirits. The PFM model assumes an earnings base that is below average for publicly traded firms, and significantly below average for smaller wine and liquor retailers.

Confounding matters, the EBITDA figures in Table 5 are at or below what PFM models for the retail industry.[38] One might ask: how does PFM start with lower-than-average gross margins, yet end up with higher-than-average EBITDA? The answer is that PFM underestimates retail operating expenses. For big box retailers and grocers, PFM assumes operating expenses that are 5% of sales. The recent actual figure for Wal-Mart was 18.9%, Costco 8.1%, Kroger 17.6%, Safeway 25.5%, and BJ's Wholesale 8.8%. Likewise, PFM built its model on an assumed drug store operating expense at 11.7% of sales. The actual recent financial percentage for CVS was 14.6%, Walgreen 22.7%, and Rite Aid 26.4%.

To justify the low operating cost assumption, PFM contends that the work involved in adding wine and spirit products to store shelves would be largely absorbed by existing personnel, and that the operating cost increase would be marginal. However, retailers do not generally have excess shelf space waiting to be filled with wine and spirits. Rather, most retailers will have to adjust their product mix by removing other retail offerings to make room for wine and spirits. Hence, wine and spirits will be marketed under the existing cost structure and have an operating expense allocation like all other products. It therefore should be modeled using percentages that reflect current operations.

Instead of using industry standards, "PFM lowered operating costs to reflect an estimation of potential operating costs" (p.147). This buried adjustment produces exaggerated levels of EBITDA, and is necessary to show earnings when gross margins are below-average. Without an artificially low operating expense assumption, operating expense as a percentage of sales would exceed gross margins, making EBITDA negative.

Similarly, PFM's analysis of the wholesale sector underestimates both mark-ups and operating costs. Financial Statistics for the wholesalers used as benchmarks in the PFM analysis are listed in Table 6:

Table 6. Financial Statistics for Wholesale Firms, percentage of sales

Firm	Gross Margin	Operating Expenses	EBITDA
Diageo	58.1	31.8	26.3
Brown-Forman(1)	66.7	36.3	30.3
Constellation Brands(1)	35.7	20.0	15.7
Molson Coors	38.1	23.8	14.3
Core-Mark	5.5	4.5	1.0
Amcon	7.1	5.5	1.6
Sysco	18.2	13.7	4.9
Central European Distribution Corp.	46.1	29.8	16.3

Notes. (1) Producer of wine or spirits and distributor
Source. Public financial statements, most recent FY report

[38] PFM Liquor Privatization Analysis, page 146, table at top.

The varied financial statistics for these firms no doubt reflect varying commercial roles. Several of these firms produce alcohol products, which affects financial performance. Others specialize in higher priced spirits (e.g. Diageo), and others wine (e.g. Constellation Brands). Others still specialize in food as well as alcohol distribution (e.g. Amcon, Sysco, Core-Mark). This diversity in business type and financial data make it difficult to arrive at a gross margin standard.[39]

PFM assumes a 20% gross margin in its wholesale valuation model. Merchants of lower-end food and alcohol products, such as Core-Mark and Amcon, might meet or improve up this assumption because of high inventory turnover, but merchants of premium products will likely demand a greater return on sales to compensate for lower volumes. Firms that do operate based on higher gross margins may participate in the Pennsylvania auction in order to sustain regional market share, but the value placed on the license will reflect depressed earnings.

Once again, to show a positive EBITDA under conditions of low gross margin, PFM must use a questionable estimate for operating expenses. PFM assumes an operating expense that is 13% of sales which, as Table 6 indicates, has not been met by most of the wholesalers mentioned in the PFM analysis, and none that exclusively market alcohol products.[40]

Our core disagreement with the PFM methodology is that it begins with a set of assumptions on product mark-up for both retail and wholesale that is low by industry standards. Low mark-ups typically translate into low earnings. Then, to artificially inflate the earnings numbers, PFM applies unrealistic operating cost assumptions, far below industry standards. The exaggerated earnings are then used by PFM as a basis for their auction valuation.

The fundamental inconsistency is where PFM relies on the firms listed in Tables 5 and 6 above as a basis for developing EBITDA multiples,[41] yet deviates widely from the operational and financial histories of the same firms when developing EBITDA estimates. One cannot justify using the historic financial performance of a group of firms as a basis for an auction valuation, while simultaneously creating a hypothetical scenario where these same firms must accept earnings on a product that are lower than what they have historically enjoyed.

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[39] The inclusion of Molson Coors in this group is somewhat puzzling, given that Molson Coors specialize in beer, and the products we are analyzing are wine and spirits.
[40] The 13% figure was calculated from the table in the PFM Liquor Privatization Analysis, page 269.
[41] PFM Liquor Privatization Analysis, page 269-71.