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# HB 480 - Eliminating the <br> Motor Vehicle Property Tax: <br> Estimating Procedure, <br> Revenue Effects, and Distributional Implications 

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FRC Report No. 210
August 2010

OF POLICY STUDIES

HB 480 - ELIMINATING THE MOTOR VEHICLE PROPERTY TAX: ESTIMATING PROCEDURE, REVENUE EFFECTS, AND DISTRIBUTIONAL IMPLICATIONS

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## Acknowledgments

The author would like to thank Ken Heaghney and Dave Sjoquist for their very helpful suggestions and support in preparing this analysis.

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## HB 480 - Eliminating the Motor Vehicle Property Tax: Estimating Procedure, Revenue Effects, and Distributional Implications

## Executive Summary

In 2009, legislation (HB 480) was introduced to change how motor vehicles are taxed. While this legislation was defeated in the 2010 session of the General Assembly, it is possible that the legislation or variants of it could be introduced in the future. Thus, it is of interest to consider the effects of HB 480.

In general, HB 480 involved a tax swap in which two existing taxes, the onetime sales tax and the annual property tax were replaced by a title fee due when the vehicle changed title. The major components of the bill were the:

- Elimination of the property tax on all motor vehicles purchased after 1/1/2011;
- Elimination of the sales tax on all motor vehicles purchased after 1/1/2011;
- Imposition of a 6.75 percent title fee on the value of all motor vehicles net of trade-in value titled after $1 / 1 / 2011$ with the value determined by the Georgia Department of Revenue.

In addition, several special provisions were included, such as the:

- Continuation of all current exemptions from the sales and property tax for the title fee system, except the exemption for casual sales;
- Imposition of a reduced title fee for rental car fleets based on the size of their fleet; a combined state and local fee equal to $\$ 350$ for large fleets and $\$ 250$ for small fleets;
- Imposition of a $\$ 20$ combined state and local title fee on salvage titles;
- Allowance for individuals moving into the state to pay the title fee in two equal installments over a 12 month period;
- Allowance for vehicles purchased in 2010 to opt-into the title fee system in 2011 by paying the difference between their 2010 sales and property tax liabilities and the 2011 title fee liability, if any.

While the legislation was not in its final form at the time this report was written, these were the provisions common to the various versions that had been considered by members of the General Assembly. It is important to note that the legislation eliminated the sales tax on motor vehicles but not the use tax currently

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imposed on leased and rental vehicles. Therefore, under the title fee system, the use tax, that is currently paid on a monthly basis as part of the lease payment or as part of a rental car expense, would continue to be levied. In addition, some versions of the legislation imposed a cap on the maximum title fee liability per vehicle, such as a maximum combined state and local title fee cap of $\$ 2,000$ or $\$ 1,500$. Another option that was suggested imposed the title fee on 80 percent or 90 percent of the vehicle value; this would have the same effect as lowering the title fee rate.

Shown below are the revenue estimates for two of the more common versions of the legislation. The first imposes a 6.75 percent title fee net of trade-in values (see Table A for the revenue estimates). The second option assumes the same title fee but also imposes a $\$ 720$ state and $\$ 780$ local title fee cap (see Table B for the revenue estimates). As specified in the legislation, the title fee schedule for the state declines at a fixed rate per year while the local title fee revenue rate increases annually by the same margin until 2016 (see Table A). ${ }^{\text {A }}$ The state title fee cap imposed in the second option decreases by $\$ 30$ each year, while the local cap increases by $\$ 30$ per year until 2016.

The upper panel of Table A refers to the revenue effect to the state, while the lower panel reflects the effects to local government revenues. The first two lines of each panel refer to the loss in property and sales tax revenue that would have accrued to the respective governments under current law. The third line provides the revenue gain expected to accrue to the governments under the proposed title fee system. In the case of the state, the title fee gains additional revenue each year through 2013 and then gains less revenue in the subsequent years. This pattern is due to the interaction of the title fee schedule, which declines each year for the state, and the forecast of titles for the 2011-2015 period, which increases each year. Although the state title fee schedule decreases each year, the forecast of additional titles over the previous year is enough to maintain positive growth in the title fee estimate for years 20112013. By 2014 and onward, the decline in the title fee schedule for the state outweighs the annual increase in anticipated titles, leading to a positive revenue

[^0]Table A. Revenue Estimate 1-6.75\% Title Fee with No Cap

|  | 2011 | 2012 | 2013 | 2014 | 2015 | Total 2011-2015 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| STATE REVENUE EFFECT |  |  |  |  |  |  |
| Eliminate Property Tax (Loss) | -\$1 | -\$2 | -\$4 | -\$5 | -\$6 | -\$17 |
| Eliminate Sales Tax (Loss) | -\$212 | -\$452 | -\$487 | -\$500 | -\$513 | -\$2,163 |
| Impose Title Fee with no maximum cap (Gain) | \$274 | \$574 | \$594 | \$577 | \$558 | \$2,577 |
| Increase in Income Tax due to lower |  |  |  |  |  |  |
| Property Tax Deductions (Gain) | \$2 | \$5 | \$7 | \$10 | \$12 | \$35 |
| Net Effect to State | \$63 | \$124 | \$110 | \$82 | \$52 | \$432 |
| LOCAL REVENUE EFFECT |  |  |  |  |  |  |
| Eliminate Property Tax (Loss) | -\$89 | -\$253 | -\$398 | -\$532 | -\$651 | -\$1,923 |
| Eliminate Sales Tax (Loss) | -\$148 | -\$316 | -\$340 | -\$349 | -\$358 | -\$1,510 |
| Impose Title Fee with no maximum cap (Gain) | \$364 | \$672 | \$746 | \$782 | \$817 | \$3,381 |
| Net Effect to Locals | \$127 | \$103 | \$8 | -\$98 | -\$192 | -\$52 |
| Title Fee Schedule - State | 3.24\% | 3.11\% | 2.97\% | 2.84\% | 2.70\% |  |
| Title Fee Schedule - Local | 3.51\% | 3.65\% | 3.78\% | 3.92\% | 4.05\% |  |

NOTE: Assumes legislation is effective 1/1/2011.

Table B. Revenue Estimate 2 - 6.75\% Title Fee with \$1,500 Maximum Cap

|  | 2011 | 2012 | 2013 | 2014 | 2015 | Total 2011-2015 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| STATE REVENUE EFFECT |  |  |  |  |  |  |
| Eliminate Property Tax (Loss) | -\$1 | -\$2 | -\$4 | -\$5 | -\$6 | -\$17 |
| Eliminate Sales Tax (Loss) | -\$212 | -\$452 | -\$487 | -\$500 | -\$513 | -\$2,163 |
| Impose Title Fee with no maximum cap (Gain) | \$257 | \$537 | \$554 | \$537 | \$517 | \$2,402 |
| Increase in Income Tax due to lower |  |  |  |  |  |  |
| Property Tax Deductions (Gain) | \$2 | \$5 | \$7 | \$10 | \$12 | \$35 |
| Net Effect to State | \$46 | \$88 | \$70 | \$42 | \$11 | \$256 |
| LOCAL REVENUE EFFECT |  |  |  |  |  |  |
| Eliminate Property Tax (Loss) | -\$89 | -\$253 | -\$398 | -\$532 | -\$651 | -\$1,923 |
| Eliminate Sales Tax (Loss) | -\$148 | -\$316 | -\$340 | -\$349 | -\$358 | -\$1,510 |
| Impose Title Fee with |  |  |  |  |  |  |
| \$1,500 maximum cap (Gain) | \$346 | \$630 | \$696 | \$727 | \$757 | \$3,155 |
| Net Effect to Locals | \$108 | \$61 | -\$42 | -\$153 | -\$252 | -\$278 |
| Title Fee Schedule - State | 3.24\% | 3.11\% | 2.97\% | 2.84\% | 2.70\% |  |
| Title Fee Schedule - Local | 3.51\% | 3.65\% | 3.78\% | 3.92\% | 4.05\% |  |
| Cap Schedule - State | \$720 | \$690 | \$660 | \$630 | \$600 |  |
| Cap Schedule - Local | \$780 | \$810 | \$840 | \$870 | \$900 |  |

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estimate in title fee revenue but one that is smaller than the previous year. Long term analysis of this proposal indicates that the revenue effect to the state will remain positive after 2016 when the title fee rate for both the state and local governments remains constant.

Overall the revenue impact of the title fee legislation results in an initial gain for both the state and local governments, as shown in the last line of both the state and local estimates. Over the 2011-2015 period the state government gains revenue under the title fee system relative to the existing system, but each year after 2013 the state gains less revenue than the previous year. The local governments gain revenue through 2013 but then lose revenue relative to the existing system. Although the local title fee rate increases annually, this increase is unable to make up for the revenue loss attributable to the anticipated property and sales tax losses.

The revenue estimate for the system with caps (Table B) follows the same layout as the first. This estimate also applies a 6.75 percent title fee but caps the maximum liability at a combined amount of $\$ 1,500$ ( $\$ 720$ state and $\$ 780$ local cap) for 2011. Although the maximum $\$ 1,500$ cap remains for each year thereafter, the value of the local cap rises by $\$ 30$ per year while the value of the state cap declines by $\$ 30$ per year. The capped version of the proposal raises less revenue via the title fee than the uncapped version because vehicles with a net of trade-in value of $\$ 22,222$ or greater have a reduced title fee liability compared to the non-capped option. ${ }^{B}$

Under the proposal, the new sources of revenue for the local governments are from the inclusion of casual and OOS vehicles in the tax base. These vehicles are not currently subject to sales tax but do contribute to the property tax base. The seven counties that levy a 2 percent sales tax will experience a larger increase in revenue over the existing sales tax relative to the other counties as the local title fee increases over time from 3.51 percent to 4.05 percent. The state government experiences the same expansion of the tax base with the inclusion of casual sales and OOS vehicles.

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On the other hand, the state title fee rate decreases from 3.24 percent to 2.70 percent, which counteracts the effect of the base expansion to some extent. The main difference in the revenue consequences between the state and local governments is the presence of the property tax revenue loss. At the state level, the property tax loss is inconsequential compared to that of the local governments. In addition, the state receives a small amount of revenue from the decrease in the value of itemized deductions. Because this later effect works through the income tax, there is no corresponding local effect.

HB 480 proposed the elimination of the sales and property tax currently imposed on motor vehicles and replaced it with a title fee system levied on the net of trade-in value of the motor vehicle. The initial impact of the legislation on state and local governments is to increase revenues because the title fee is levied on two classes of vehicles not currently subject to the sales tax under the current system. Under the title fee system, casual sale vehicles incur a tax liability when titled, as do out of state vehicles (OOS). In addition, the local title fee rate is higher than the current sales tax rate. These factors serve to initially increase revenues under title fee system relative to the existing sales and property tax system. On the other hand, the revenue loss associated with the property tax increases significantly over time. Because the local governments receive a larger amount of property tax revenue relative to the state, this increase in the property tax revenue loss affects each government differently. On a statewide basis, the state gains revenue each year from the switch to the title fee system. Due to its larger reliance on property taxes, the local governments gain revenue initially but by 2014 are estimated to lose revenue because of the reform efforts. In addition, some counties are expected to lose more than others. The net fiscal impact on any given county is dependent on several factors, including the number of casual sale and OOS vehicles, the property tax millage rates and local option sales tax rate, and the mix of new, used, and OOS vehicles titled in the county. It is difficult to foresee which counties will be less harmed by the reform without a thorough analysis because of the interplay between all the different factors affecting the result.

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## Introduction

Under current law, Georgia imposes a tax on the sale of most vehicles as well as an annual property tax based on the assessed value of the registered vehicle. These taxes are levied as a part of the existing state and local sales and property tax. The current sales and property tax applies to all non-tax exempt vehicles purchased through a registered dealer, both private and commercial vehicles, new, used, and leased vehicles. Because of this, the taxes affect almost all Georgians and modifications to these taxes will have potentially widespread and diverse impacts.

In 2009, legislation (HB 480) was introduced to change how motor vehicles are taxed. While this legislation was defeated in the 2010 session of the General Assembly, it is possible that the legislation or variants of it could be introduced in the future. Thus, it is of interest to consider the effects of HB 480.

This report considers the revenue and distributional repercussions of the proposed modifications to the existing sales and property tax on motor vehicles. The report begins with some background of the existing tax on motor vehicles and a description of the legislation. This is followed by a detailed description of the methodology used to estimate the revenue effects of the proposed modifications and of several of the variations to the basic proposal that have been put forth. The report also includes an analysis of the distributional implications of these proposed changes for state and local governments and for Georgia taxpayers. Issues concerning the allocation of the title fee revenues between the various local governments are not addressed in this report.

## Motor Vehicle Taxes in Georgia

Currently, the sales tax on motor vehicles is levied only at the time of sale and is based on the market value of the transaction less any trade-in allowance. It is levied on transactions of new, used or leased vehicles, although there are some exemptions, such as sales to disabled veterans and government and non-profit organizations. In addition to these exemptions, casual sales of vehicles between individuals not normally in the business of selling vehicles, such as cars sold through classified ads, are not subject to sales tax. Furthermore, the sales tax does not apply

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to vehicles transferred into the state by individuals relocating to Georgia but does apply to vehicles purchased outside the state by Georgia residents. The state tax rate is 4 percent and the local rate is 3 percent in most counties. ${ }^{1}$

The motor vehicle property tax is paid annually by the consumer in one yearly payment and is due on the owner's birthday. The annual market value of a vehicle is determined by the Georgia Department of Revenue. This value is equal to the average of the current fair market value and the wholesale value for a particular vehicle, as determined by the Black Book vehicle valuation guide. ${ }^{2}$ These values are continually updated and maintained by the Department of Revenue's division of motor vehicles. The taxpayer's property tax liability is equal to the assessed value of the vehicle, which is 40 percent of market value, multiplied by the combined state and appropriate local government millage rate. The state millage rate is 0.25 mills but local government millage rates, including counties, schools, municipal and special service districts vary substantially. For example, the 2009 combined millage rate for a resident of unincorporated Gwinnett County was 32.28 mills compared to 17.326 mills for a resident of unincorporated Rabun County. ${ }^{3}$

As of CY2007 there were 8.6 million vehicles registered in Georgia, approximately 0.9 vehicles per capita. ${ }^{4} 2.1$ million vehicles were sold in CY2007 and 1.9 million in $2008 .{ }^{5}$ Estimated gross state and local motor vehicle sales tax collections were $\$ 826$ million in CY2008 and were $\$ 679$ million in CY2009. ${ }^{6}$ Property tax revenue for CY2007 was $\$ 686$ million and was $\$ 729$ million in CY2008. ${ }^{7} 99$ percent of property tax revenues accrued to the local governments in 2007 and of that amount, 63 percent accrued to school districts. The sales tax revenues are split between the state and local governments, with about 60 percent

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going to the state government. Based on CY2007 information, total gross sales tax and property tax revenue associated with motor vehicles represented about 3 percent of the state government own-source tax revenues and 7 percent of local government own-source tax revenues, including county, school, and municipal governments. ${ }^{8}$

## House Bill 480

In general, HB 480 involved a tax swap in which two existing taxes, the onetime sales tax and the annual property tax were replaced by a title fee due when the vehicle changed title. The major components of the bill were the:

- Elimination of the property tax on all motor vehicles purchased after 1/1/2011;
- Elimination of the sales tax on all motor vehicles purchased after 1/1/2011;
- Imposition of a 6.75 percent title fee on the value of all motor vehicles net of trade-in value titled after $1 / 1 / 2011$ with the value determined by the Georgia Department of Revenue.

In addition, several special provisions were included, such as the:

- Continuation of all current exemptions from the sales and property tax for the title fee system, except the exemption for casual sales;
- Imposition of a reduced title fee for rental car fleets based on the size of their fleet; a combined state and local fee equal to $\$ 350$ for large fleets and $\$ 250$ for small fleets;
- Imposition of a $\$ 20$ combined state and local title fee on salvage titles;
- Allowance for individuals moving into the state to pay the title fee in two equal installments over a 12 month period;
- Allowance for vehicles purchased in 2010 to opt-into the title fee system in 2011 by paying the difference between their 2010 sales and property tax liabilities and the 2011 title fee liability, if any.

[^4]
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While the legislation was not in its final form at the time this report was written, these were the provisions common to the various versions that had been considered by members of the General Assembly. It is important to note that the legislation eliminated the sales tax on motor vehicles but not the use tax currently imposed on leased and rental vehicles. Therefore, under the title fee system, the use tax, that is currently paid on a monthly basis as part of the lease payment or as part of a rental car expense, would continue to be levied. In addition, some versions of the legislation imposed a cap on the maximum title fee liability per vehicle, such as a maximum combined state and local title fee cap of $\$ 2,000$ or $\$ 1,500$. Another option that was suggested imposed the title fee on 80 percent or 90 percent of the vehicle value; this would have the same effect as lowering the title fee rate.

## Underlying Title and Value Forecast

The forecast of the number of vehicle titles issued by the state and their values for 2010 and subsequent years forms the foundation for each of the three main estimates involved in evaluating the revenue effect of this proposal. For instance, the estimate for the revenue generated from the title fee is based on the value of the stock of titles forecasted in any given year. The revenue effect for the repeal of the sales tax is dependent on the anticipated value of the non-casual sales predicted for that year. The property tax estimate also uses the forecast of the value of titles of new and used vehicles to estimate the revenue loss from the repeal of the property tax. Using this common foundation for all three of the major provisions allows the estimates to move in coordinated fashion. This is important since the title fee provision raises revenue while the property and sales tax provisions reduce revenue. Therefore, to be consistent between the estimates, a common baseline is preferred.

To construct the underlying forecast of the number of new, used, and out-ofstate (OOS) titles anticipated in Georgia between 2011 and 2020, we rely on historical title data from the Georgia Department of Revenue, private vehicle registration data from the U.S. Department of Transportation, the state population forecast provided by the U.S. Census department, and the Moody's new vehicle registration forecast for Georgia and the nation. We use the number of new titles

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issued in Georgia for 2009, provided by the Georgia Department of Revenue, division of motor vehicles, as a starting point and apply an annual growth rate to forecast the number of new titles issued annually in Georgia between 2011 and 2020. ${ }^{9}$ The growth rate in new titles for years 2010-2020 is based on the national forecast of new vehicle titles produced by Moody's and published in January of 2010. ${ }^{10}$ Specifically, for years 2010-2012 we use the yearly growth rate. For years 20132020 we use the same growth rate each year, i.e. 0.37 percent, which is equal to the average of the forecasted annual growth rates produced by Moody's for 2013-2020. This produces a smoother forecast over this time period than would have been generated with a forecast using the individual annual rates.

Forecasting the number of used and OOS titles presents additional difficulties, as no professional forecasts exists for these subsectors of the vehicle market. In constructing our forecast of all vehicles, it is important, for reasons that will be apparent later, to be mindful of the mix of new, used, and OOS vehicles, in addition to their absolute number. Therefore, in constructing our forecast for used and OOS vehicles, we benchmark our results to the historic values for the ratio of used titles to new titles, and the ratio of OOS titles to new titles. Because 2009 was such an aberration in terms of vehicle sales, we use the average ratios over the 20042009 period. Just as 2009 was a poor year for vehicle sales, 2005 and 2006 were uncommonly good years. Thus, by using an average that spans both periods we capture both ends of the spectrum. We assume in the forecast that the 2009 mix of new, used, and OOS will adjust to their original equilibrium over a 3 year period, beginning in 2010 and stabilize to historic values by 2013.

Table 1 provides the historical and forecasted values for titles in Georgia. In 2009 the ratio of used cars titles to total titles was 59 percent, up from 52 percent in 2006. This rise in the amount of used cars titled is believed to reflect the current

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Table 1. Historical Title data and Title Forecast for Georgia (TITLES IN 000)

| Calendar <br> Years | Titles <br> (All) | New <br> Titles | Used <br> Titles | OOS <br> Titles | Titles/ <br> Person | Titles/ <br> Registrations |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| 2007 | 2,137 | 513 | 1,124 | 500 | 0.32 | 0.25 |
| 2008 | 1,921 | 391 | 1,073 | 457 | 0.28 | 0.22 |
| 2009 | 1657 | 291 | 973 | 393 | 0.24 | 0.19 |
| 2011 | 1,871 | 391 | 1,043 | 437 | 0.26 | 0.21 |
| 2012 | 2,022 | 451 | 1,101 | 469 | 0.28 | 0.22 |
| 2013 | 2,037 | 453 | 1,105 | 479 | 0.28 | 0.22 |

economic conditions as people purchase used cars over new cars. For our forecasted period of 2011-2020, we project that used car titles will be 54 percent of all titles, which is consistent with the 2004-2009 average.

To estimate the revenue effect of the proposals requires both an estimate of the number of titles and their value. Forecasting the price trend of new and used vehicles is challenging because the general trend for both new and used vehicles over the 1999-2009 period was negative, -0.64 percent for new cars and -0.46 percent for used cars. We do not believe this is a sustainable trend, especially until 2020. Instead, we assume an annual 1 percent increase in the price of new vehicles each year from 2011 to 2020 and a 0.50 percent increase in the price of used and OOS vehicles. The resulting value of titles is shown in Table 2 along with the historical data for 2008 and 2009.

Table 2. Value of Titles

|  | Value of Title Base (\$ in mill) |  | Average Value per Vehicle $\dagger$ |  |  |  |
| :--- | ---: | ---: | ---: | ---: | :---: | :---: |
| Calendar Years | New | Used | New | Used |  |  |
| 2008 | $\$ 9,447$ | $\$ 7,279$ | $\$ 24,160$ | $\$ 6,787$ |  |  |
| 2009 | $\$ 6,950$ | $\$ 6,573$ | $\$ 23,923$ | $\$ 6,752$ |  |  |
| 2011 | $\$ 9,542$ | $\$ 7,785$ | $\$ 24,404$ | $\$ 7,465$ |  |  |
| 2012 | $\$ 11,128$ | $\$ 8,263$ | $\$ 24,648$ | $\$ 7,502$ |  |  |
| 2013 | $\$ 11,281$ | $\$ 8,333$ | $\$ 24,895$ | $\$ 7,540$ |  |  |
| $\dagger$ The annual average value is calculated as the total value of new and used cars divided |  |  |  |  |  |  |
| by the total number of new and used cars titled in a year. |  |  |  |  |  |  |

Forecasting the number of titles and their value presents several difficulties. First, the new and used car market is in a significant transition so that the use of historical data to forecast the future is suspect. In this forecast, we assume that vehicle purchases begin to slowly rebound in 2010 and 2011 but that they are shifted

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toward the used car market more than was the case in the years leading up to the recent economic crisis. We also assume a pent-up demand for vehicles through 2012. For instance, title figures from DOR Georgia indicate that there were about 500,000 fewer titles issued in 2009 than there were in 2006. We assume that between 20102012 consumers will have purchased about 366,000 vehicles but that total titles issued in 2012 would still be below 2004 levels.

Another source of vulnerability of the forecast is the price trend for new and used vehicles. As stated earlier, the annual change in the national price index for new vehicles has been negative every year since 1999, except 2005. The annual change in the used vehicle index has varied since 1999, from a 1.9 percent gain in 1999 to a 6.6 percent drop in 2004. There seems to be a trend with car makers to produce smaller and less expensive vehicles than in the recent past. On the other hand, new hybrid vehicles usually cost more than their non-hybrid alternatives due to the technology costs. Furthermore, the used car market is driven by the supply and demand which can vary daily. Therefore, due to the uncertainty surrounding future price trends of the new and used car market we employ a conservative assumption regarding future price levels, especially in light of the fact that the Congressional Budget Office estimates the annual change in the general price index, CPI-U, will be 2 percent annually between 2012 and 2020.

A third critical area of the estimate concerns out of state titles. Out of state titles make up about 22 percent of the total titles issued in Georgia and consists of titles for individuals moving into the state, rental car vehicles, and other vehicles purchased out of state but registered in Georgia. The available data on titles was not useful in distinguishing rental vehicles from personal vehicles. Therefore, based on information from DOR and limited industry information we assume that approximately one-half of the OOS titles are rental vehicles registered in the state of Georgia. The remaining OOS titles are assumed to be personal or business use vehicles.

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## Sales Tax Estimate

The estimate of the repeal of the sales tax is fairly straightforward. We begin with the base of new and used motor vehicle sales, forecasted for each year. Two significant adjustments are made. First, we assume in 2011 that 18 percent of the new cars titled are leased vehicles. This is based in part on historical trend data from the Bureau of Transportation Statistics. While 18 percent is lower than the 20062008 average rate of 20 percent, it is believed that the current economic circumstances make leasing much less attractive. Under current law when a vehicle is sold to a leasing company no sales tax is applied since it is an intermediate transaction. Therefore, the elimination of the sales tax on the purchase of motor vehicles does not trigger a new revenue loss from the standpoint of the leasing activity. Furthermore, under current law the use tax, not the sales tax, is applied on a monthly basis as part of the lease payment. Because the proposed legislation would have continued to levy the use tax, no revenue loss is associated with either leased vehicles or rental vehicles due to the elimination of the sales tax.

The second adjustment is for the number of used cars that are sold through casual sales. Vehicles sold through casual sale transactions are not subject to sales tax under current law so that there is no revenue loss from the repeal of the sales tax associated with casual vehicle sales. Relatively little data exists on the number of casual sales. Nationally, this figure is estimated to be 30 percent of all used vehicle sales (Ward 2009, p.50). Based on data from the Georgia Department of Revenue approximately 62 percent of all used car transactions in 2009 had no seller tax id number, an indication that the vehicle was sold by a private individual. Therefore, we assume that this represents the percentage of used vehicle sales that are casual sale transactions and are not subject to the sales tax. It is likely that this figure is larger than normal due to the current economic conditions and that as the recession eases fewer used vehicle transactions will be through casual sales. To incorporate this assumption, we gradually decrease the percentage of used cars assumed to be purchased via casual sale transactions from 60 percent in 2009 to 52 percent in 2015.

In addition to the adjustments discussed above, we also adjust for the presence of rental cars in the title fee data for which we assume only a small portion

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Table 3. Combined State and Local Sales Tax Revenue

| Calendar Years | Tax Revenue <br> (\$ in mill) | Ave. Revenue <br> per Total Titles |
| :--- | :---: | :---: |
| 2007 | $\$ 861$ | $\$ 403$ |
| 2008 | $\$ 694$ | $\$ 361$ |
| 2009 | $\$ 570$ | $\$ 337$ |
| 2011 | $\$ 719$ | $\$ 384$ |
| 2012 | $\$ 817$ | $\$ 404$ |
| 2013 | $\$ 838$ | $\$ 411$ |

currently pay the sales tax and the exemption from sales tax for disabled veterans allowed under current law. The final resulting sales tax base is benchmarked against the current forecasted sales tax revenue as shown in Table 3. ${ }^{11}$

The sales tax estimate is dependent on several critical assumptions. First, as with all the estimates it is dependent on the title forecast discussed earlier. If the title forecast is inaccurate in terms of the number of vehicles sold, the mix of new and used vehicles, or the value of these vehicles, then the sales tax estimate will be inaccurate as well. In an attempt to mitigate these potential errors, we benchmark the results of the sales tax estimate to 2009 sales tax collections net of trade-in, exemptions, and other dealer-taxed transactions such as repairs. That is, we adjust the model so that the estimated 2009 sales tax revenue is equal to the estimated actual 2009 sales tax collections. ${ }^{12}$

Secondly, the sales tax elimination estimate is based on vehicle valuation data provided by the Department of Revenue. This data provides the number and average value of each vehicle by various categories for 2008 and 2009. The value data is not the sale price paid for the vehicle. It is a weighted average of the current market price of a vehicle and the wholesale price of a vehicle. Because this data includes wholesale prices, it understates the market price paid by consumers. On the other hand, this data does not include cash incentives, discounts, and trade-ins and may overstate the current market price paid for vehicles. In the title forecast, we assume that the annual change in the price index is 1 percent for new vehicles and 0.5 percent

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for used. These figures are applied to the values constructed from the DOR vehicle valuation data. If this data understates (overstates) the overall price of new and used vehicles, then the sales tax estimate will be too low (high).

Another critical assumption influencing the sales tax estimate is the size of the casual sale market for used vehicles. Local industry officials have attributed the larger volume of casual sale activity in Georgia to particularly loose titling regulations. While we have data to show that the level of casual sales is 62 percent in 2009, we believe that this is a reflection of the current economic conditions and that as the recovery continues, the level of casual sales will decline. This assumption is particularly important because unlike several of the others, this assumption only influences the cost of the sales tax elimination. That is, increases in casual sale activity and its value reduce the cost of the elimination of the sales tax but do not affect the estimate of the revenue associated with the title fee.

Lastly, because the sales tax is applied to vehicle values net of trade-in allowances, we estimated the size of trade-ins using the Bureau of Labor Statistics 2008 Consumer Expenditure Survey. These data provide information on the value of consumer purchases, including vehicle sales and trade-ins. Based on this information we found that the average trade-in value was approximately $\$ 5,700$ and that roughly 20 percent of vehicle purchases involved a trade-in. From this information we construct an effective trade-in adjustment factor for all vehicles of 6 percent.

## Property Tax Estimate

Under the proposed legislation, vehicles will continue to pay property taxes until the vehicle is sold, i.e., the title is transferred. The estimation of the revenue loss associated with the elimination of the property tax also stems from the forecasted baseline of titles and their values. To analyze this portion of the legislation, we estimate the anticipated property tax revenue attributable to the stock of vehicles titled in 2011 through 2020. The value of new vehicles forecasted to be purchased each year between 2011 and 2020 is depreciated over a 10 year period. We assume a first year depreciation rate of 18 percent which is considered to be an industry

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average for new vehicles. ${ }^{13}$ Actual values vary considerably based on the make and model of the vehicle. Depreciation rates based on the valuation method employed by the Georgia Department of Motor Vehicles range from 19 percent in the first year for a 2007 Ford Expedition to 12 percent for a 2007 Honda Accord. In addition, first year depreciation rates specified by the state can vary between years for the same vehicle. For example, a 2006 Ford Expedition had a first year depreciation rate of 34 percent. ${ }^{14}$ We assume an average depreciation value for the second through the fourth year of 10 percent, an 8 percent rate for years 5 through 7 and a 5 percent rate after that.

A similar procedure is used to compute the revenue loss for the stock of used and out-of-state transfer titles. In both of these cases, the first and second year depreciation rate is assumed to be 10 percent, 8 percent for years 3 through 5 , and 5 percent for the remaining years.

There is very little information on depreciation rates of the entire fleet of vehicles. In preparing this estimate we consulted the DOR motor vehicles annual publication, the U.S. Bureau of Economic Analysis, and various industry websites for guidance. The depreciation assumptions we have made may be low for some cars and high for others. If our depreciation rate is too high (low), then the estimate for the property tax elimination will be too low (high).

There are several necessary adjustments that are made to the property tax base. These include an adjustment for the exemption of vehicles owned by disabled veterans, an adjustment to account for salvage vehicles, individuals moving out of state, and vehicles sold out of state. Furthermore, the property tax base is adjusted to account for those vehicles expected to be purchased in 2010 that will choose to optinto the title fee system and will therefore not generate property tax revenue. To this base we apply the state millage rate of 0.25 and a weighted average millage rate for the local governments to compute the revenue loss attributable to the eventual elimination of the property tax on motor vehicles. Lastly, the property tax base is

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adjusted to account for vehicles purchased after the initiation of the title fee system and resold within the state in later years. In estimating the revenue loss, the elimination of the property tax is accounted for when the vehicle initially begins under the title fee system and is computed for the life of the vehicle. To prevent double counting of this revenue loss, we adjust the property tax base to account for vehicles that are assumed to be resold in later years within the state.

Table 4 provides a reference point for our estimates against historical data. Between 2007 and 2009 property tax revenue per registered vehicle was on average $\$ 83$ per registered vehicle. Based on our forecasts, this value increases to an average $\$ 92$ over the 2011-2013 period. This increase is expected for several reasons. First, due to the expected economic recovery, the model forecasts an increase in new and used vehicle purchases after 2009. Although, these are replacements for existing vehicles, they have a higher value which increases the value of the stock of vehicles registered in the state. Second, current consumption trends favor vehicles that have lower depreciation rates than those previously consumed. Third, our model includes an assumption of slightly increasing prices over the 2011-2013 period as compared to the 2007-2009 period which involved a period of decreasing vehicle prices.

Table 4. Property Tax Levy Per Vehicle REGISTRATION

| Calendar Years | Property Tax Levy/ <br> Vehicle Registration |
| :--- | :---: |
| 2007 | $\$ 82.96$ |
| 2008 | $\$ 85.37$ |
| 2009 | $\$ 79.47$ |
| 2011 | $\$ 84.29$ |
| 2012 | $\$ 91.76$ |
| 2013 | $\$ 99.09$ |

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## Title Fee Estimate

To estimate the revenue gain from the imposition of the title fee, we rely on 2008 and 2009 title data provided by the Georgia Department of Revenue (DOR). The database provided by the Georgia DOR contains information on the number of vehicles and their average value by county of title, body style, and title type, i.e. new, used, and out-of-state. The data contains information on all of the over 1.3 million title transactions for the state from January 1, 2009 through September 30, 2009 and all vehicle transactions for 2008.

The DOR database is used to construct a distribution of vehicle values. The 2008 and partial 2009 distributions are combined to form one distribution. It is believed that the consumer choices reflected in the 2009 data are not representative of the post-recession consumer behavior and would be a poor choice for a value distribution for future years. For example, consumers purchased many more used vehicles relative to new vehicles in 2009 than in previous years. It is not believed that this trend will continue in the same magnitude after the recession ends. On the other hand, the 2008 data may not accurately reflect future consumer behavior either, as it may be too robust. As an alternative, we combine both the 2008 and 2009 data to create a single distribution of vehicle values.

To this combined distribution of vehicle values we apply the forecasted base of titles and their values. From this constructed dataset, we estimate the value of the revenue associated with various title fee options for each year. After the initial base is computed several adjustments and amendments are necessary to reach the final title fee revenue estimate. Since the title fee is imposed net of trade-in value, the tax base generated by the model needs to be reduced. We estimated the number and value of trade-ins using the Bureau of Labor Statistics 2008 Consumer Expenditure Survey. This data provides information on the value of consumer purchases, including vehicle sales and trade-ins for 2007. Based on this information we found that the average trade-in value was approximately $\$ 5,700$ and that roughly 20 percent of vehicle purchases involved a trade-in. From this information, we construct an effective tradein adjustment and reduce the original base of all vehicles by 6 percent. In addition, we add to the base the title fee revenue from salvage vehicles which pay a $\$ 10$ state

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and $\$ 10$ local title fee and adjust for the title fee exemption allowed for vehicle purchases by disabled veterans.

An adjustment is also made to the tax base associated with out-of-state vehicles. In 2008, about 500,000 vehicles were titled as out-of-state transfers. This category includes several types of transactions which are not separately identified, such as personal vehicles purchased in another state but registered in Georgia; transfers or purchases of rental or business vehicles from another state to Georgia; and individuals moving into Georgia from another state. We do not want to use the entire out-of-state pool of titles because under the legislation, rental vehicles are subject to special title fee rates and need to be handled in a separate calculation. For instance, the legislation specified that rental vehicles would be subject a $\$ 140$ state title fee and a $\$ 210$ local title fee if they were part of a rental fleet of more than 50 vehicles. If the rental vehicles were part of a fleet that is 50 vehicles or fewer, then the state title fee would be $\$ 100$ per vehicle and the local title fee would be $\$ 150$ per vehicle.

A modification is also made because the legislation allowed individuals purchasing vehicles in 2010 to opt-into the title fee system and out of the property tax system. This provision was included so that individuals would not shift their 2010 purchases into 2011 in response to this legislation. It is presumed in the estimate that 100 percent of new vehicle purchases opt into the system since these vehicles will have been purchased through a dealer and paid sales tax at the time of purchase. In addition, it is expected that 50 percent of these vehicles will have been purchased before the taxpayer's birthday and also paid property tax on the vehicle. ${ }^{15}$ Therefore, these consumers are anticpated to opt into the title fee system and not incur any additional fees to do so. We assume that only 15 percent of out-of-state titles in 2010 opt-into the title fee system. This factor is much lower because none of the 2010 out of state vehicles will have paid sales tax and only half are assumed to have paid property tax on their vehicle. It is estimated that the average title fee liability for an out of state vehicle is $\$ 754$ based on an average vehicle value of $\$ 12,425$. Thus, it is

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reasonable to expect that relatively few vehicle owners will find an upfront fee of $\$ 754$ an attractive financial arrangement. The same argument holds for used vehicles. In this case we assume that 49 percent of all used vehicles opt into the title fee system. Those vehicles that were purchased through a dealer are assumed to opt into the new system with no additional charges. Casual sale vehicles are expected to opt into the system in smaller numbers for an average additional charge of about $\$ 451$. Because there is a substantial upfront cost associated with opting into the title fee system for the used and OOS vehicles, we anticipate a much smaller number of these vehicles would do so. As specified in the legislation, all of the revenue associated with 2010 vehicles opting-into the title fee system accrues to the local governments.

One last adjustment is made to the title fee base. To compensate the county governments for the cost of collecting and administering the title fee, some versions of the legislation specified that up to 1 percent of title fee revenue due to the state is retained by the county tax administration office.

Lastly, in some early versions of this proposal, a cap was imposed on the title fee so that the maximum state title fee was $\$ 720$ and the local title fee was $\$ 780$ in the first year. Later versions of this legislation eliminated the cap. Imposition of a cap served to limit the revenue from the title fee system and favored new vehicle purchases over used and OOS vehicles because the cap is not binding until the vehicle value exceeds $\$ 22,222 .{ }^{16}$

Table 5 shows the total title fee revenue for calendar years 2011-2013 and the average revenue per vehicle assuming a title fee of 6.75 percent. Note that while the combined state and local title fee rate is close in value to the existing state and local sales tax rate, the base of the title fee is larger than the base of the sales tax. That is because the title fee is imposed on casual sale vehicles and OOS vehicles. Neither of these groups is subject to the existing sales tax. Therefore, total revenue under the title fee system exceeds total revenue from the current law sales tax on motor vehicles. Furthermore, average revenue per titled vehicle under the title fee system is

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Table 5. Title Fee Revenue

| Calendar Years | Total Title Fee Revenue <br> (\$ in mill.) | Average Revenue <br> per Titled Vehicle |
| :--- | :---: | :---: |
| 2011 | $\$ 1,164$ | $\$ 622$ |
| 2012 | $\$ 1,328$ | $\$ 657$ |
| 2013 | $\$ 1,351$ | $\$ 663$ |

substantially higher than revenue per titled vehicle under the current law sales tax due to the inclusion of casual sales and OOS vehicles in the title fee system.

Many of the caveats discussed in association with the sales and property tax also apply here, most notably, the forecast of titles and their values. Because the title fee is applied to the value of the title fee base, underestimation of the value of the title fee base due to too few vehicles or too low a price index will cause the title fee revenue estimate to be too low.

## Loss of Property Tax Deduction

An artifact of this legislation is the elimination of a current deduction available to individuals who itemize their federal tax returns. Under current law, individuals are allowed to include as a deduction against their state and federal tax base, the property tax paid on their vehicles. Since this legislation eliminates the property tax, the deduction is also eliminated. While the sales and property tax are replaced by the title fee, fees are not usually included as an itemized deduction. The effect of the elimination of the deduction is to increase the taxes paid by individuals and business that currently itemize their taxes and include the property tax paid on motor vehicles as one of their deductions. This results in a small increase in revenues to the state and to the federal government.

## HB 480 Estimates

There have been several versions of the original legislation, as mentioned earlier. Shown below are the revenue estimates for two of these options. The first imposes a 6.75 percent title fee net of trade-in values (see Table 6 for the revenue

Table 6. Revenue Estimate 1 - 6.75 \% Title Fee with No Cap

|  | 2011 | 2012 | 2013 | 2014 | 2015 | Total 2011-2015 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| STATE REVENUE EFFECT |  |  |  |  |  |  |
| Eliminate Property Tax (Loss) | -\$1 | -\$2 | -\$4 | -\$5 | -\$6 | -\$17 |
| Eliminate Sales Tax (Loss) | -\$212 | -\$452 | -\$487 | -\$500 | -\$513 | -\$2,163 |
| Impose Title Fee with no maximum cap (Gain) | \$274 | \$574 | \$594 | \$577 | \$558 | \$2,577 |
| Increase in Income Tax due to lower Property Tax Deductions (Gain) | \$2 | \$5 | \$7 | \$10 | \$12 | \$35 |
| Net Effect to State | \$63 | \$124 | \$110 | \$82 | \$52 | \$432 |
| LOCAL REVENUE EFFECT |  |  |  |  |  |  |
| Eliminate Property Tax (Loss) | -\$89 | -\$253 | -\$398 | -\$532 | -\$651 | -\$1,923 |
| Eliminate Sales Tax (Loss) | -\$148 | -\$316 | -\$340 | -\$349 | -\$358 | -\$1,510 |
| Impose Title Fee with no maximum cap (Gain) | \$364 | \$672 | \$746 | \$782 | \$817 | \$3,381 |
| Net Effect to Locals | \$127 | \$103 | \$8 | -\$98 | -\$192 | -\$52 |
| Title Fee Schedule - State | 3.24\% | 3.11\% | 2.97\% | 2.84\% | 2.70\% |  |
| Title Fee Schedule - Local | 3.51\% | 3.65\% | 3.78\% | 3.92\% | 4.05\% |  |

NOTE: Assumes legislation is effective 1/1/2011.

Table 7. Revenue Estimate 2-6.75\% Title Fee with \$1,500 Maximum Cap


NOTE: Assumes legislation is effective 1/1/2011.

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estimates). The second option assumes the same title fee but also imposes a $\$ 720$ state and $\$ 780$ local title fee cap (see Table 7 for the revenue estimates). As specified in the legislation, the title fee schedule for the state declines at a fixed rate per year while the local title fee revenue rate increases annually by the same margin until 2016 (see Table 6). ${ }^{17}$ The state title fee cap imposed in the second option decreases by $\$ 30$ each year, while the local cap increases by $\$ 30$ per year until 2016.

The upper panel of Table 6 refers to the revenue effect to the state, while the lower panel reflects the effects to local government revenues. The first two lines of each panel refer to the loss in property and sales tax revenue that would have accrued to the respective governments under current law. The third line provides the revenue gain expected to accrue to the governments under the proposed title fee system. In the case of the state, the title fee gains additional revenue each year through 2013 and then gains less revenue in the subsequent years. This pattern is due to the interaction of the title fee schedule, which declines each year for the state, and the forecast of titles for the 2011-2015 period, which increases each year. Although the state title fee schedule decreases each year, the forecast of additional titles over the previous year is enough to maintain positive growth in the title fee estimate for years 20112013. By 2014 and onward, the decline in the title fee schedule for the state outweighs the annual increase in anticipated titles, leading to a positive revenue estimate in title fee revenue but one that is smaller than the previous year. Long term analysis of this proposal indicates that the revenue effect to the state will remain positive after 2016 when the title fee rate for both the state and local governments remains constant.

Overall the revenue impact of the title fee legislation results in an initial gain for both the state and local governments, as shown in the last line of both the state and local estimates. Over the 2011-2015 period the state government gains revenue under the title fee system relative to the existing system, but each year after 2013 the state gains less revenue than the previous year. The local governments gain revenue through 2013 but then lose revenue relative to the existing system. Although the

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local title fee rate increases annually, this increase is unable to make up for the revenue loss attributable to the anticipated property and sales tax.

The revenue estimate for the system with caps (Table 7) follows the same layout as the first. This estimate also applies a 6.75 percent title fee but caps the maximum liability at a combined amount of $\$ 1,500$ ( $\$ 720$ state and $\$ 780$ local cap) for 2011. Although the maximum $\$ 1,500$ cap remains for each year thereafter, the value of the local cap rises by $\$ 30$ per year while the value of the state cap declines by $\$ 30$ per year. The capped version of the proposal raises less revenue via the title fee than the uncapped version because vehicles with a net of trade-in value of $\$ 22,222$ or greater have a reduced title fee liability compared to the non-capped option. ${ }^{18}$

Under the proposal, the new sources of revenue for the local governments are from the inclusion of casual and OOS vehicles in the tax base. These vehicles are not currently subject to sales tax but do contribute to the property tax base. The seven counties that levy a 2 percent sales tax will experience a larger increase in revenue over the existing sales tax relative to the other counties as the local title fee increases over time from 3.51 percent to 4.05 percent. The state government experiences the same expansion of the tax base with the inclusion of casual sales and OOS vehicles. On the other hand, the state title fee rate decreases from 3.24 percent to 2.70 percent, which counteracts the effect of the base expansion to some extent. The main difference in the revenue consequences between the state and local governments is the presence of the property tax revenue loss. At the state level, the property tax loss is inconsequential compared to that of the local governments. In addition, the state receives a small amount of revenue from the decrease in the value of itemized deductions. Because this later effect works through the income tax, there is no corresponding local effect.

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## Individual Vehicle Distributional Effects

The examples shown below illustrate several important aspects of this legislation and of current law. Consider the scenario shown in Table 8 in which a new vehicle is purchased from a dealer in a relatively high tax county and the same vehicle is purchased in a relatively low tax county. We assume the vehicle is held for 5 years before being sold. Based on sales tax rates and millage rates, inclusive of municipal, county, school, special district, and state rates, the high tax county consumer pays an additional $\$ 250$ in sales tax compared to the consumer in low tax county under current law. Furthermore, the high tax county owner pays an additional $\$ 597$ in property tax over the 5 -year period compared to the low tax county owner. Under the proposed title fee system, both individuals would pay the same title fee, $\$ 1,688$, assuming a title fee of 6.75 percent on vehicles net of trade-in value. The title fee revenue is paid in the year the vehicle is titled and no further tax is paid on this vehicle unless it is resold and retitled in Georgia.

The last lines of the example show the net fiscal impact associated with this hypothetical transaction. The current law treatment of new motor vehicles taxes them as part of the property and sales tax, but at this rate the title fee does not produce enough revenue to replace both the sales and property tax revenue. Therefore in both counties, new vehicle sales under the title fee system represent a revenue loss compared to existing law. Furthermore, the revenue loss will be greater for those counties that place a higher tax burden on motor vehicles under the existing system. For example, the high tax county receives $\$ 1,487$ less in revenue from this vehicle transaction than under the title fee system but low tax county receives $\$ 640$ less over the 5 -year period, making the low tax county relatively less harmed under the title fee system.

The disparity between county tax burdens highlights a less discussed aspect of this legislation. Because the title fee system establishes a state-wide rate, its implementation eliminates the county variation in tax burdens that exists under the current system with respect to the taxation of motor vehicles. As the example in Table 8 illustrates, the high tax county incurs a higher property and sales tax loss than the low tax county but each county receives the same title fee revenue. It is a widely

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Table 8. Tax Liability by High and Low Tax County - New Vehicle Transaction*

| 2011 Toyota Camry LE |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
| Sales Price | \$27,000 | \$0 | \$0 | \$0 | \$0 |  |
| Trade-in value | \$2,000 | \$0 | \$0 | \$0 | \$0 |  |
| CURRENT LAW TREATMENT |  |  |  |  |  |  |
| Place of Residence $=$ Unincorporated, Low-tax County |  |  |  |  |  |  |
| Property Tax liability ( 22.826 mills) | \$202 | \$182 | \$164 | \$147 | \$133 | \$828 |
| Sales Tax liability (6\% rate) | \$1,500 | \$0 | \$0 | \$0 | \$0 |  |
| Total | \$1,702 | \$182 | \$164 | \$147 | \$133 | \$2,328 |
| Place of Residence = Incorporated, High-tax County |  |  |  |  |  |  |
| Property Tax liability ( 39.291 mills) | \$348 | \$313 | \$282 | \$254 | \$228 | \$1,425 |
| Sales Tax liability (7\% rate) | \$1,750 | \$0 | \$0 | \$0 | \$0 |  |
| Total | \$2,098 | \$313 | \$282 | \$254 | \$228 | \$3,175 |
| Current Law Difference (High-Low) | \$396 | \$131 | \$118 | \$106 | \$96 | \$847 |
| Title Fee Liability (6.75\%) | \$1,688 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Title Fee less Current Law (Low-tax County) | -\$15 | -\$182 | -\$164 | -\$147 | -\$133 | -\$640 |
| Title Fee less Current Law (High-tax County) | -\$410 | -\$313 | -\$282 | -\$254 | -\$228 | -\$1,487 |

*Hypothetical example based on author's calculations.
held tenet of public economics that the property tax is a well-suited local tax because it strengthens the link between taxation and the provision of services, and it is the provision of services that gives value to the property in the taxing jurisdiction. While this argument has empirical support as it relates to housing, the argument has less merit in the case of motor vehicles, especially since relatively little of the property tax revenue generated from the taxation of motor vehicles is spent on local road construction and improvement. That is, it is difficult to successfully argue that a Toyota Camry in Cobb County would have a different value than the same vehicle in Jeff Davis County. Imposing a uniform fee eliminates the existing county variation in tax burdens on motor vehicles but as a result reduces revenue gained per vehicle more for higher tax counties than lower tax counties.

As a result of eliminating the county variation in the taxation of motor vehicles, there would be less incentive to register a vehicle in a low tax jurisdiction.

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Antidotal evidence suggests a situation in which some taxpayers register their vehicles in the lower tax jurisdictions where they may have second homes. The incentive for this tax evasion practice is eliminated with the title fee system because there is no inter-jurisdictional difference in tax liabilities.

In addition to swapping the tax on previously tax vehicles, the title fee system also adds previously untaxed vehicles to the tax base. In the example shown in Table 9 , the tax burden associated with a used vehicle purchased via a dealer transaction is compared to the tax burden for the same vehicle purchased via a casual sale transaction. Under current law, if the vehicle is purchased via a casual sale, no sales tax is levied on the transaction. This is unlike the current law treatment of used vehicles purchased via dealer transactions, which does result in a sales tax liability. Because of the current law sales tax exemption, casual sale vehicles have an advantage, all other things begin equal, over a vehicle purchased through a dealer. Under the title fee system, this advantage is eliminated as all vehicles are treated equally under the system.

This case is illustrated in Table 9 in which the dealer transaction results in sales tax liability of $\$ 1,260$. In both transactions, the property tax is levied so that the only difference in the tax burdens in the example stems from the sales tax liability. Contrary to current law, both the casual and dealer sale are subject to the same treatment under the title fee system, i.e. a title fee liability of $\$ 1,215$. Because the casual sale transaction represents new revenue, the county gains revenue in the year the vehicle is titled. In this case, the first year revenue gain is large enough to offset the future annual losses due to the absence of the property tax revenue. The dealer sale, on the other hand, represents a revenue loss each year because it is now taxed at a lower rate, 6.75 percent as compared to 7 percent and because of the loss of the property tax revenue.

On the grounds of economic policy, the title fee system is an improvement over the current situation. In general, any tax policy that removes distortions from the market, such as unequal tax treatment that favors one group or product over another, is an improvement on the grounds of economic efficiency. On the other hand, taxation of casual sale vehicles results in a redistribution of the tax burden from

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Table 9. Tax Liability by Dealer vs. Casual Sale Vehicle*

| 2008 Toyota Camry LE |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
| Sales Price | \$18,000 | \$0 | \$0 | \$0 | \$0 |  |
| Trade-in value | \$0 | \$0 | \$0 | \$0 | \$0 |  |
| CURRENT LAW TREATMENT |  |  |  |  |  |  |
| Casual Sale Transaction - |  |  |  |  |  |  |
| Place of Residence = Incorporated, High-tax County |  |  |  |  |  |  |
| Property Tax liability ( 39.291 mills) | \$232 | \$209 | \$188 | \$169 | \$152 |  |
| Sales Tax liability (7\% rate) | \$0 | \$0 | \$0 | \$0 | \$0 |  |
| Total | \$232 | \$209 | \$188 | \$169 | \$152 | \$950 |
| Dealer Sale Transaction - |  |  |  |  |  |  |
| Place of Residence = Incorporated, High-tax County |  |  |  |  |  |  |
| Property Tax liability ( 39.291 mills) | \$232 | \$209 | \$188 | \$169 | \$152 |  |
| Sales Tax liability (7\% rate) | \$1,260 | \$0 | \$0 | \$0 | \$0 |  |
| Total | \$1,492 | \$209 | \$188 | \$169 | \$152 | \$2,210 |
| Current Law Difference (Dealer -Casual) | \$1,260 | \$0 | \$0 | \$0 | \$0 | \$1,260 |
| Title Fee Liability | \$1,215 | \$0 | \$0 | \$0 | \$0 | \$1,215 |
| Title Fee less Current Law (Casual Sale) | \$916 | -\$209 | -\$188 | -\$169 | -\$152 | \$265 |
| Title Fee less Current Law (Dealer Sale) | -\$277 | -\$209 | -\$188 | -\$169 | -\$152 | -\$995 |

[^12]individuals currently buying used vehicles from licensed used car dealers to those selling vehicles via casual sales. It is likely that casual vehicle sellers will need to reduce prices to absorb the tax, especially given the general increase in supply of used vehicles that is expected over the next several years.

Another source of new revenue is due to the inclusion of out of state vehicles titled in Georgia. These are not currently subject to the sales tax but are subject to the property tax and would be subject to the title fee. The revenue implications for this type of title transaction for the counties are similar to that shown in Table 9.

Leased vehicles also experience special treatment that results in significant revenue consequences to the counties. Under the proposed legislation, the monthly use tax paid as part of the leasing payment is not eliminated and would, therefore, continue to be levied. In addition, the title fee would also be imposed at the time of the lease signing. This treatment subjects the leased vehicles to taxation from both

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the use tax and the title fee. Due to this treatment, leased vehicles would be subject to higher rates of taxation than non-leased vehicles. It is likely that this treatment would reduce leasing activity under the title fee system.

In addition to the distributional effects discussed above, some versions of the legislation imposed a title fee liability cap of $\$ 1,500$. In this case, there is a distributional effect between income groups. In the case of a $\$ 1,500$ cap and a 6.75 percent title fee, the cap becomes binding for vehicles priced above $\$ 22,222$. Thus, only individuals purchasing vehicles in excess of this amount are affected. Based on motor vehicle purchasing data from the 2008 Consumer Expenditure Survey, approximately 10 percent of vehicles purchased in 2007 had a value in excess of $\$ 22,222$. On average, these vehicles had a value of $\$ 30,958$ so that the savings from the title fee cap would be $\$ 590$ per vehicle. ${ }^{19}$

## Aggregate Distributional Effects

The previous section outlined the distributional impacts of this legislation on a per vehicle basis. In this section, we consider the impact of the combined effects. The net fiscal impact to the county is dependent on the combination of new, dealer purchased used, casual sale, and out of state vehicles titled in the county, in addition to the existing levels of county sales and property tax rates. Because there are so many factors influencing the net fiscal impact, it is difficult to determine relative winning and losing counties without careful analysis. Examples of these distributional effects are shown in Table 10 with dollar values in thousands. Table 10 provides estimates for three counties, Cobb, Forsyth, and Bacon, of the impact of HB 480 on county revenues. ${ }^{20}$ Bacon County is representative of small rural counties. Forsyth is representative of wealthier counties. Cobb County is representative of larger urban counties and is also included because it levies a 2 percent sales tax at the local level.

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Table 10. Local Government Revenue Effect for Selected Counties

|  | -------------------------Calendar Years (\$ in 000)-------------------------- |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
| COBB COUNTY |  |  |  |  |  |  |
| Property Tax Revenue Loss | \$13,994 | \$24,744 | \$35,035 | \$44,239 | \$52,435 | \$170,446 |
| Sales Tax Revenue Loss | \$20,886 | \$23,720 | \$24,172 | \$24,675 | \$25,185 | \$118,638 |
| Title Fee Revenue Gain | \$46,441 | \$55,615 | \$58,511 | \$61,337 | \$64,188 | \$286,092 |
| Net Effect | \$11,561 | \$7,152 | -\$696 | -\$7,577 | -\$13,432 | -\$2,992 |
| BACON COUNTY |  |  |  |  |  |  |
| Property Tax Revenue Loss | \$134 | \$242 | \$340 | \$424 | \$492 | \$1,632 |
| Sales Tax Revenue Loss | \$197 | \$219 | \$233 | \$243 | \$257 | \$1,148 |
| Title Fee Revenue Gain | \$590 | \$594 | \$622 | \$649 | \$675 | \$3,130 |
| Net Effect | \$260 | \$133 | \$49 | -\$18 | -\$74 | \$350 |
| FORSYTH COUNTY |  |  |  |  |  |  |
| Property Tax Revenue Loss | \$2,344 | \$4,110 | \$5,801 | \$7,314 | \$8,664 | \$28,233 |
| Sales Tax Revenue Loss | \$7,500 | \$8,533 | \$8,723 | \$8,899 | \$9,076 | \$42,731 |
| Title Fee Revenue Gain | \$13,006 | \$14,459 | \$15,182 | \$15,878 | \$16,580 | \$75,105 |
| Net Effect | \$3,162 | \$1,817 | \$658 | -\$335 | -\$1,161 | \$4,140 |

Consider first the revenue estimates for Cobb County, shown in the top panel of Table 10. Because the local option sales tax rate in Cobb County is 2 percent, the sales tax revenue loss is less than the title fee gain. Initially, the county gains additional revenue largely because the title fee rate is higher than the existing sales tax rate. But by 2013 property tax losses have increased in value such that the title fee revenue is no longer able to cover the combined sales and property tax losses.

In the Bacon County calculation, the sales tax loss is also low relative to the title fee gain. In this case, it is due to the high level of casual sales occurring in the county. ${ }^{21}$ Because these vehicles are taxed under the title fee system, the title fee revenue is high relative to the sales tax loss. The strong revenue raising ability of the title fee relative to the current law sales tax enables Bacon County to remain in a positive revenue position until 2014.

Contrary to Bacon and Cobb, the gap between the sales tax loss and title fee gain for Forsyth County is much narrower. This is because the local sales tax rate for Forsyth County is 3 percent and it has a relatively low level of casual sales, both

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acting to increase sales tax revenues under the existing system. While not obvious from Table 10, Forsyth County is estimated to have relatively large share of OOS titles. ${ }^{22}$ Under the title fee system, these OOS titles represent new revenue. The presence of these vehicles serves to increase the revenue raised from the title fee and keep the annual net fiscal impact on Forsyth County positive until 2014 and the cumulative effect positive over the 2011-2015 window. This is in contrast to Cobb County which is estimated to have lower share of OOS vehicles and for which the annual net fiscal impact is negative by 2013 and the cumulative effect is negative over the 2011-2015 period.

Table 11 provides the county per capita revenue effects for the current system, the title fee system, and the net effect of switching from the current system to the title fee system for calendar year 2015.

## Table 11. Local Government Revenue per Person

|  | --------- -Calendar Year 2015---------- |  |  |
| :--- | :---: | :---: | :---: |
|  |  <br> Property $\dagger$ | Title | Net Effect |
| Cobb | $\$ 99.11$ | $\$ 81.96$ | $-\$ 17.15$ |
| Bacon | $\$ 69.71$ | $\$ 62.82$ | $-\$ 6.89$ |
| Forsyth | $\$ 78.41$ | $\$ 73.28$ | $-\$ 5.13$ |

$\dagger$ Computed using 2009 millage rates.

Although, none of these taxes are levied on a per person basis, this is a useful measure to compute as these taxes are used to provide government services. Under the existing system, Cobb County governments are estimated to receive the most revenue per person of the three counties in 2015 as shown in Table 11. Although the Cobb County sales tax rate is only 2 percent as compared to 3 percent for Bacon and Forsyth, Cobb has higher millage rates compared to Forsyth County and Bacon and a significantly lower level of casual sales compared to Bacon County. ${ }^{23}$ Higher millage rates result in additional property tax revenue, while a lower level of casual sales results in higher sales tax revenue. Under the title fee system, Cobb County continues to receive more revenue per person than the other two counties but receives

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less than it did under the existing system. In addition, the disparity between the counties in terms of revenues per person is reduced. The last column of Table 11 provides the net effect on per capita revenues for each of the three counties. In all cases, the per capita revenue loss estimated for 2015 is negative. Forsyth County is forecasted to experience a relatively small reduction in revenues per capita compared to Bacon County and especially Cobb County. This is due to a larger number of OOS vehicles which provides title fee revenue but no sales tax revenue loss. Furthermore, the low property tax millage rates in Forsyth reduce the property tax revenue loss experienced by the county relative to other counties with higher millage rates.

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## Conclusion

HB 480 proposed the elimination of the sales and property tax currently imposed on motor vehicles and replaced it with a title fee system levied on the net of trade-in value of the motor vehicle. The initial impact of the legislation on state and local governments is to increase revenues because the title fee is levied on two classes of vehicles not currently subject to the sales tax under the current system. Under the title fee system, casual sale vehicles incur a tax liability when titled, as do out of state vehicles (OOS). In addition, the local title fee rate is higher than the current sales tax rate. These factors serve to initially increase revenues under title fee system relative to the existing sales and property tax system. On the other hand, the revenue loss associated with the property tax increases significantly over time. Because the local governments receive a larger amount of property tax revenue relative to the state, this increase in the property tax revenue loss affects each government differently. On a statewide basis, the state gains revenue each year from the switch to the title fee system. Due to its larger reliance on property taxes, the local governments gain revenue initially but by 2014 are estimated to lose revenue because of the reform efforts. In addition, some counties are expected to lose more than others. The net fiscal impact on any given county is dependent on several factors, including the number of casual sale and OOS vehicles, the property tax millage rates and local option sales tax rate, and the mix of new, used, and OOS vehicles titled in the county. It is difficult to foresee which counties will be less harmed by the reform without a thorough analysis because of the interplay between all the different factors affecting the result.

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#### Abstract

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[^0]:    ${ }^{\text {A }}$ While the split in the rate between the state and local governments is $45 / 55$ percent in 2011 , the revenues are split at a slightly lower percentage due to the title fee on rental vehicles which is split between the state and local government at a $40 / 60$ percent rate.

[^1]:    NOTE: Assumes legislation is effective 1/1/2011.

[^2]:    ${ }^{B}$ The $\$ 22,222$ is the breakeven price point for a 6.75 percent title fee, i.e. $\$ 1,500=$ (breakeven price/0.0675).

[^3]:    ${ }^{1}$ As of January 1, 2010, Bibb, Burke, Cherokee, Cobb, Douglas, Gwinnett, and Wheeler impose a 2 percent local sales tax rates.
    ${ }^{2}$ www.BlackbookUSA.com.
    ${ }^{3}$ Millage rates for maintenance and operations only. Computed by author from Department of Revenue data.
    ${ }^{4}$ Department of Transportation, Federal Highway Administration, Highway Statistics Publications for 2007. Includes private vehicles and motorcycles and US Census data. Author's calculation.
    ${ }^{5}$ Georgia Department of Revenue, Division of Motor Vehicles.
    ${ }^{6}$ These collection figures also include sales tax collected on parts sold through dealer repair and maintenance shops.
    ${ }^{7}$ Georgia Department of Revenue.

[^4]:    ${ }^{8}$ Based on data from the Georgia Department of Revenue and the U.S. Census Bureau Annual Survey of Governments.

[^5]:    ${ }^{9}$ Moody's forecast is for new vehicle registrations which is not a perfect match for new vehicle titles. For this reason we used the historic DOR data for new vehicle titles from 2009 and to this applied the growth rate computed from the Moody's forecast to produce the 2010 forecast for new vehicle titles.
    ${ }^{10}$ Earlier estimates of this legislation used a title forecast based on annual growth rate projections for Georgia specifically, but it was later felt that these earlier forecasts were too optimistic and the change was made to the slightly lower forecast. This is the forecast that has been used since.

[^6]:    ${ }^{11}$ The tax base is benchmarked against sales tax collections for motor vehicles net of sales tax on motor vehicle parts.
    ${ }^{12}$ We do not know the actual sales tax revenue from the sale of new vehicles, but can obtain what is believed to be a reliable estimate using data on sales tax revenue reported by car dealerships.

[^7]:    ${ }^{13}$ BuyingAdvice.com, "Most Car Buyers Unaware of Vehicle Depreciation Rate", March 7, 2009.
    ${ }^{14}$ These depreciation rates are based on data provided by the Georgia Department of Motor Vehicles website for a 2 wheel drive Ford Expendition for tax years 2006-2008 and for a 2007 Honda Accord LX for tax years 2007 and 2008.

[^8]:    ${ }^{15}$ Vehicles titled after the purchaser's birthday are not usually subject to the property tax until the following year.

[^9]:    ${ }^{16}$ Assuming a title fee of 6.75 percent.

[^10]:    ${ }^{17}$ While the split in the rate between the state and local governments is $45 / 55$ percent in 2011 , the revenues are split at a slightly lower percentage due to the title fee on rental vehicles which is split between the state and local government at a $40 / 60$ percent rate.

[^11]:    ${ }^{18}$ The $\$ 22,222$ is the breakeven price point for a 6.75 percent title fee, i.e. $\$ 1,500=$ (breakeven price/0.0675).

[^12]:    *Hypothetical example based on author's calculations.

[^13]:    ${ }^{19}$ Author's calculations using the 2008 Consumer Expenditure Survey.
    ${ }^{20}$ The local revenue estimates shown in Table 10 include the aggregate effect to all local governments which have jurisdiction in the county, such as the school, county government, and all sub-county governments.

[^14]:    ${ }^{21}$ Based on DOR estimates, casual sales in Bacon County were 74 percent of all used car sales in 2009.

[^15]:    ${ }^{22}$ This estimate is based on historical data.
    ${ }^{23}$ The 2015 property tax revenue estimate is based on 2009 millage rates.

