

# Proposal A and Pupil Equity

by Dr. Hank Prince

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## INTRODUCTION

After 12 failed ballot proposals and many efforts to improve equity through various appropriation measures, the Michigan Legislature made national headlines in July 1993 when it eliminated local property taxes as a revenue source for school operations. In the space of the nine months between July 1993 and March 1994, state legislators and Michigan voters acted to both change the tax structure and address funding equity for public schools.

In October 1993 Governor John Engler had issued a finance-reform, revenue-restoration plan in a document entitled *Our Kids Deserve Better*. The proposal included (a) a new state property tax, (b) an increase in the state sales tax rate from 4 to 6 percent, (c) redirection of about \$400 million in state funds from non-educational to K-12 spending, (d) a large increase in the state cigarette tax, and (e) several other revenue measures. The plan also dedicated all K-12 revenue to the state School Aid Fund (SAF) and eliminated the annual General Fund/General Purpose (GF/GP) transfer to support state aid to schools.

The Governor's expenditure plan involved a foundation allowance program that eliminated many categoricals, included state contributions to teacher retirement in a district's base revenue, and incorporated local operating mills and district power equalizing (DPE) allocations.<sup>1</sup> After a comprehensive three-month review of various revenue options, the Legislature in December 1993 approved two competing replacement revenue plans, both of which included greater state financial support for K-12 education and partial restoration of property taxes for school operations.<sup>2</sup>

The first replacement revenue proposal -- known as the Ballot Plan -- required voter approval<sup>3</sup> to increase the state sales-tax rate from 4% to 6%. While the state already deposited 60% of the original sales tax into the School Aid Fund, all of the additional 2% sales tax would be dedicated to that fund. The alternative plan, which was a statutory plan that did not require voter approval, would have raised the state income tax rate from 4.6% to 6.0%. In March 1994, voters took decisive action in approving the constitutional amendment by a two-to-one margin, and the new sales tax collection began in May 1994.

**TABLE 1**  
**Michigan Property Taxes for School Operations:**  
**Immediately Before and After Finance Reform**  
**(\$ in millions)**

<b>Operational Property Taxes</b>	<b>Fiscal Year 1994: Before Reform</b>	<b>Fiscal Year 1997: After Reform</b>
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Local District Taxes	\$5,687	\$1,546
Intermediate District Taxes	\$490	\$510
State Property Taxes	n/a	\$1,064
<b>TOTAL</b>	<b>\$6,177</b>	<b>\$3,120</b>
NOTE: Local district taxes for Fiscal Year 1994 include specific-tax revenue collected and retained locally in lieu of local property taxes.		

Table 1 shows that Michigan did achieve its major goal of reducing property taxes as a revenue source for school operations. Of the \$1.5 billion in local district taxes in the first year after reform, approximately \$225 million was "hold harmless" property tax levied by districts with foundation allowances greater than \$6,500. The state did not equalize these "hold harmless" operational mills.

In the first year of finance reform, local district taxes in aggregate were only 27% of the amount levied and retained locally in the year before finance reform. Finance reform did not reduce intermediate district taxes; these show a slight increase linked to the property value growth from fiscal year 1994 to fiscal year 1995. The newly imposed state property tax raised more than \$1 billion in fiscal year 1995, and that revenue was available for statewide distribution through the School Aid Act.

Michigan's finance reform cut operational property taxes in aggregate by nearly 50%. Reduction in property taxes was the major goal of the tax-structure aspect of Michigan's finance reform, and the Legislature achieved that objective.

### **PUPIL EQUITY**

A second important goal of Michigan's finance reform was a reduction in the disparities in fiscal inputs among districts. Most legislators understood this objective to mean narrowing the range of base revenue funding per pupil.<sup>4</sup> In 1973, Michigan had moved from a modified foundation grant approach for funding schools to a DPE approach. However, in the next two decades the state did not allocate sufficient funds to the DPE formula to bring the vast majority of districts into "in formula" status. A result was that the revenue disparity between high and low revenue districts expanded due to faster property value growth in wealthier communities and slower growth in less-wealthy areas.

In the late 1980s and early 1990s the Legislature tried two different means to re-allocate state K-12 funds to support the DPE formula. The first program, called "recapture," redirected some state categorical support from property-rich to property-poor districts. However, the limited funds "recaptured" and redirected to the DPE formula did not substantially narrow the funding gap.

The second program set up a regional tax base sharing plan for fiscal year 1993. One-half of the annual increase in business property tax revenues of districts experiencing high business property growth would be redirected on a per pupil basis to districts that had low business property growth. Several high commercial growth districts immediately sued the state to prevent the use of tax base sharing; the lawsuits led to the eventual legislative

repeal (as part of the 1993 finance reform legislation) of this effort to address per pupil funding inequities.

As part of its 1993-94 school finance reform, Michigan adopted a foundation grant program and discarded its former DPE program. The state calculated a base revenue per pupil for each district for fiscal year 1994, and the reform plan included an annual increase in revenue per pupil. Lower revenue districts received larger dollar and larger percentage increases, while higher revenue districts received flat dollar increases.

Besides the base revenue per pupil that each district receives, categorical aid in support of special need populations is available to eligible districts.<sup>5</sup> For example, "at risk" pupil support involves the allocation of an additional 11.5% of a district's foundation allowance for each pupil eligible for a free lunch subsidy under the National School Lunch Act. Districts required to levy "hold harmless" mills to achieve their authorized foundation allowance are ineligible to receive any of this allocation targeted to "at risk" pupils in lower-revenue districts.

This study examined foundation allowance revenue for K-12 districts in Michigan immediately before and two years after finance reform. Some of these districts did have additional local and state revenue that may have affected the horizontal pupil equity goal of the foundation approach, but that revenue was not included in the calculations for the following reasons.

The first revenue source excluded was categorical support for special need students. Approximately 90% of categorical aid available for allocation to K-12 districts (an aggregate amount of nearly \$380 million in fiscal year 1997) was allocated to such pupils. For example, Michigan allocated \$230 million for "at risk" pupils based on eligibility for a free lunch subsidy under the National School Lunch Act. While the foundation allowance is intended to provide resources for horizontal equity or the "equal education for equals," such categorical aid for special need students in lower-revenue districts is directed toward vertical equity, or the "unequal treatment of unequals."

The second source of additional operational revenue was unequalized property tax revenue. Local "enhancement" millage of up to three mills on homestead and nonhomestead property was a permissible local levy, with voter approval, for the first three years of the new school finance program. Only sixty-two of the 524 K-12 districts had secured voter approval for such "enhancement" millage for fiscal year 1996 (fiscal year 1997 levies have not yet been reported), and only seven of these 62 districts needed local "hold harmless" millage to achieve their authorized foundation allowance. "Enhancement" millage has been an additional revenue source primarily for districts with pupils in the lower half of the per-pupil foundation allowance distribution.

Michigan's categorical aid program is intended to address vertical equity and thus was not included in this examination of horizontal pupil equity. Unequalized "enhancement" millage levied and retained by a local district was created as a temporary measure and ceases to be a local-district option after fiscal year 1997. Therefore, this revenue was also excluded from the calculations of horizontal pupil equity.

## **KEY QUESTIONS**

This analysis of foundation allowances examined two questions: Were there differential effects of Michigan's school finance reform in terms of per-pupil foundation allowance levels,

district wealth, and district enrollment? Did the new state aid allocation plan advance horizontal pupil equity?

To probe the first two questions, district fiscal input data from fiscal years 1994 and 1997 were grouped into distinct inflation-adjusted,<sup>6</sup> foundation allowance data sets. These three sets contained data from K-12 districts<sup>7</sup> only and were individually rank-ordered based on the following equity objects: (a) level of foundation allowance, (b) per-pupil property wealth, and (c) district enrollment.

This portion of the study analyzed the foundation allowance data with the pupil as the unit of analysis. The 1.6 million pupils were rank-ordered on the basis of the foundation allowance of the district of membership. This process contrasts with the alternative approach of using the district as the unit of analysis and ranking the 524 districts. The pupil data in the sample were separated into equal-size quintiles, and mean (average) values for the fiscal years 1994 and 1997 were calculated for each quintile. The analysis sought to determine if patterns changed over time across the five quintiles for the three equity objects examined.

Building on the foundation of previous equity studies,<sup>8</sup> this inquiry utilized a pupil unit of analysis and applied several standard measures<sup>9</sup> to analyze the fiscal input data for Michigan's K-12 districts. The foundation allowance data were used to calculate values for the following measures: (a) the range, (b) the restricted range, (c) the federal range ratio, and (d) the McLoone index.<sup>10</sup>

While the range is merely the difference between the lowest and highest value of the item being measured, the restricted range is the difference between the 5th and 95th percentile of the ranked data. This measure eliminates outliers at both the bottom and top of the data range. A third measure, the federal range ratio, determines the spread of the data after removal of outlier values. It is the restricted range divided by the value of the data at the 5th percentile. In this study, the restricted range is divided by the foundation allowance of pupils at the 5th percentile. A decline over time in these dispersion measures signals increased horizontal equity. A value of zero on each of these measures would represent strict horizontal equity, or "equal treatment of equals."

In addition, this study calculated the McLoone Index. Applied to foundation allowance data, this index compares the sum of the foundation allowances for all pupils below the median foundation level to the sum of foundation allowances if all the pupils below the median were at the median. An index value that moves closer to 1.0 over time shows that the spread of foundation allowances in the bottom half of the distribution is getting smaller. Hence, an increase in the McLoone index would be a sign of increasing horizontal equity. A level of 1.0 would represent strict horizontal equity for the pupils in the bottom half of the distribution.

What data did this study use for its pupil-equity calculations? The Michigan Department of Education (MDE) collects extensive data on pupils, foundation allowance, property wealth, property tax rates, and state aid payments for each of Michigan's local and intermediate school districts. MDE data sets are currently available for each year since fiscal year 1986. This study used fiscal year 1994 data, adjusted for inflation. In addition, the author employed consensus data that the Legislature used to calculate fiscal year 1997 allocations to school districts.

## **EQUITY FINDINGS**

Pupils were first rank-ordered by the foundation allowance of their district for fiscal year 1994 and 1997, respectively, and then arranged into quintiles, each with one-fifth of the total pupils in the sample. Table 2 compares the mean foundation allowance for each quintile and shows that, for four of the five quintiles of pupils, there has been an increase in the average foundation allowance between fiscal years 1994 and 1997.

Difference

<b>TABLE 2 Quintiles of Foundation Allowances: Rank Ordered by Foundation Allowance</b>			
<b>Quintile</b>	<b>Fiscal Year 1994:Mean</b>	<b>Fiscal Year 1997: Mean</b>	
1	\$4,536	\$5,004	\$468
2	\$5,063	\$5,304	\$241
3	\$5,605	\$5,684	\$79
4	\$5,929	\$5,967	\$38
5	\$7,528	\$7,426	(\$102)

NOTES: (1) Each quintile contains 316,910 pupils in Fiscal Year 1994, and 325,688 pupils in Fiscal Year 1997.  
 (2) Fiscal Year 1997E figures reflect the legislatively-enacted allocations for that year.  
 (3) Fiscal Year 1994 figures are in 1997 dollars.

While the increases become progressively smaller from quintile #1 to quintile #4, pupils in quintile #5 have had a real-dollar reduction in foundation-allowance support. The average foundation allowance in fiscal year 1994 for quintile #5 was 1.66 times the average of quintile #1, while in fiscal year 1997 that differential was 1.48. In its first three years of operation, Michigan's new funding plan has modestly improved equity in terms of fiscal inputs when one examines rank-ordered foundation allowances.

Table 3 reports data aggregated into quintiles of pupils based on district enrollment. Pupils were rank-ordered in terms of the foundation allowance of their district, and then grouped into five equal-size sets. The average foundation allowance is progressively larger in both fiscal years from quintile #1 through quintile #4, and then declines for quintile #5.

<b>TABLE 3 Quintiles of Foundation Allowances: Rank Ordered by District Size of Enrollment</b>			
<b>Quintile</b>	<b>Fiscal Year 1994:Mean</b>	<b>Fiscal Year 1997E:Mean</b>	<b>Difference</b>
1	\$5,025	\$5,320	\$295
2	\$5,405	\$5,638	\$233
3	\$5,722	\$5,836	\$114
4	\$6,499	\$6,520	\$21

5	\$6,012	\$6,073	\$61
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NOTES: (1) Each quintile contains 316,910 pupils in Fiscal Year 1994, and 325,688 pupils in Fiscal Year 1997.  
(2) Fiscal Year 1997E figures reflect the legislatively-enacted allocations for that year.  
(3) Fiscal Year 1994 figures are in 1997 dollars.

In the fifth quintile are students educated in the largest-enrollment districts in the state, and most of these districts are urban. The average per-pupil foundation allowance in this quintile, while higher than for pupils in most rural districts in the state, was and remains less than the average foundation allowance for pupils in the wealthy suburban districts, which are concentrated in quintile #4 in both fiscal years.

While having the highest base revenues per pupil when Michigan switched from a DPE formula to a foundation allowance program, quintile #4 shows the smallest change in average foundation allowance. Higher property valuation per pupil and occasionally higher-than-average property tax effort before reform created the higher base level of funding. The relative fiscal advantage of the pupils in this quintile in the first three years of the new finance system has been maintained.

Table 3 also shows that the increases in the average foundation allowance over time become progressively smaller as one moves from quintile #1 to quintile #4 and then becomes larger for quintile #5. While students in the lower-enrollment districts received larger per-pupil foundation allowance increases, they continue to have smaller foundation allowances than the higher-enrollment districts. However, the relative base revenue advantage of students in the 40 highest-enrollment districts (quintiles #4 and #5) over pupils in lower-enrollment districts is shrinking.

Table 4 displays foundation-allowance data ranked by property wealth per pupil. This study defines pupil wealth as state equalized valuation (now known as Taxable Value) divided by pupil membership. Table 4 also shows that the property-wealth advantage of pupils in quintile #5 that was in effect before finance reform continued into fiscal year 1997.

<b>TABLE 4</b>			
<b>Quintiles of Foundation Allowances: Rank Ordered by Property Wealth per Pupil</b>			
<b>Quintile</b>	<b>Fiscal Year 1994:Mean</b>	<b>Fiscal Year 1997E:Mean</b>	<b>Difference</b>
1	\$5,568	\$5,726	\$158
2	\$4,957	\$5,345	\$388
3	\$5,203	\$5,355	\$152
4	\$5,583	\$5,757	\$174
5	\$7,263	\$7,204	(\$59)

NOTES: (1) Each quintile contains 316,910 pupils in Fiscal Year 1994, and 325,688 pupils in Fiscal Year 1997.

- (2) Fiscal Year 1997E figures reflect the legislatively-enacted allocations for that year.
- (3) Fiscal Year 1994 figures are in 1997 dollars.

However, the gap between quintiles #1 and #5 has narrowed slightly. While the ratio of the average foundation allowance in quintile #5 to that of quintile #1 in fiscal year 1994 was 1.30, by fiscal year 1997 it had been reduced to 1.26. Furthermore, on an inflation-adjusted basis, districts in quintile #5 experienced a reduction in base revenue per pupil. Rather than leveling down districts, the Michigan Legislature decided to restrain base revenue growth for the wealthiest districts, and Table 4 presents evidence of that phenomenon.

Under Michigan's current foundation allowance formula, the state allocates greater increases in base revenue per pupil, on a sliding scale, in support of pupils in the lowest-revenue districts than it apportions to support pupils in most districts. Once the lowest-revenue district in the state reaches a foundation allowance of \$5,800 per pupil (as a result of the formula contained in the School Aid Act), it will join all other districts in receiving fixed-dollar increases in future fiscal years.

At that time Michigan will have a \$1,500 range between the foundation allowance of the lowest-revenue district and the level of the maximum state guaranteed foundation allowance, ignoring the local "hold harmless" millage revenue for high-revenue districts. Because of this range-preserving <sup>11</sup> aspect of Michigan's finance reform, the quintile #5 average will be about 20% higher than the quintile #1 average.

Furthermore, quintile #1 in Table 4 contains pupils enrolled in the fewest number of districts of any of the quintiles. This quintile contains students in districts with low property wealth per pupil that are: (a) urban districts with large pupil enrollments, (b) districts of large geographical size and sparse population in Michigan's Upper Peninsula, and (c) districts in the Lower Peninsula with primarily agricultural property. For example, the Detroit school district, with approximately 10% of the pupil membership in the state, has a Taxable Value <sup>12</sup> per pupil of \$33,220, approximately one-third of the state average.

Table 4 also discloses that quintile #4 had the second largest increase in average foundation allowance in this period. Pupils enrolled in two types of districts compose this quintile: (a) those enrolled in districts that had lower-than-average tax effort before reform and benefitted from the minimum-funding aspect of the new finance program, and (b) students in those districts, about 60% of this quintile, that were "out of formula" under district power equalizing but did not have the level of pupil wealth of quintile #5.

We now turn to the last question of the study to examine whether horizontal pupil equity has improved among Michigan's K-12 districts.<sup>13</sup> Table 5 displays the distribution of foundation allowances in 1997 dollars for fiscal years 1994 and 1997. Reflecting the additional resources allocated to elementary and secondary education during a period of increasing enrollment, both the median and the mean have increased slightly.

When one reviews the first three equity measures displayed in Table 5, the initial impact of Michigan's finance reform is discernible. First, after three years of state aid allocations under the new foundation grant program, Michigan has reduced the revenue range of the K-12 districts from \$7,495 to \$5,946. While that real-dollar differential is still large, nearly a 20% reduction has occurred. When one considers the range between the lowest-revenue district and the level of foundation-allowance revenue above which a district is entirely dependent on local "hold harmless" property taxes for the remainder of its base per-pupil revenue, the

range in fiscal year 1997 was \$1,992. The comparable figure for fiscal year 1994 in inflation-adjusted dollars would have been \$3,375.

The restricted range, which eliminates the extreme "outliers" of the distribution and compares only the 5th and 95th percentiles, has decreased from \$3,646 per pupil to \$2,974. Finally, the federal range ratio, which is the quotient of the restricted range divided by the per-pupil foundation allowance at the 5th percentile, has declined from 0.8343 to 0.6103.

All of these measures have moved in the direction of greater horizontal equity.

<b>TABLE 5 Measures of Horizontal Pupil Equity: Foundation Allowances per Pupil</b>		
<b>K-12 Districts</b>	<b>Fiscal Year 1994</b>	<b>Fiscal Year 1997E</b>
Lowest Foundation	\$3,694	\$4,816
Highest Foundation	\$11,189	\$10,762
5th Percentile	\$4,370	\$4,873
95th Percentile	\$8,016	\$7,847
Median	\$5,593	\$5,674
Mean	\$5,733	\$5,877
Range	\$7,495	\$5,946
Restricted Range	\$3,646	\$2,974
Federal Range Ratio	0.8343	0.6103
McLoone Index	0.8819	0.9226

NOTES: (1) Though the Foundation Allowance program began in Fiscal Year 1995, the Fiscal Year 1994 figures were calculated on the same basis.  
(2) Fiscal Year 1997E figures reflect the legislatively-enacted allocations for that year.  
(3) Fiscal Year 1994 figures are in 1997 dollars.

We now consider the McLoone Index, which measures the distribution or spread of the foundation allowances below the median foundation level for pupils enrolled in K-12 districts. While strict horizontal equity would result in a value of 1.0, the index has moved from 0.8819 in fiscal year 1994 to 0.9226 in fiscal year 1997. This is a large improvement in a short time span and indicates the legislature is achieving its goal of "bringing up the bottom" of the distribution.



All of these dispersion measures report that Michigan's school finance system has moved in the direction of greater horizontal pupil equity -- a key objective of the school-funding side of finance reform.

## SUMMARY

The major goal of Michigan's school finance reform was reduced reliance on the local property tax as the major source of funding school districts. Through finance reform, the state cut property taxes for school operations by nearly 50%. However, the percentage reduction was much less in high revenue districts, since those districts derive the remainder of their foundation allowance revenue above the maximum state guarantee level entirely from additional property taxes (called "hold harmless" mills) approved and levied locally.

When Michigan changed its tax structure to finance its public schools, it also revised its school funding plan from a district power equalizing approach to a foundation allowance program. One goal of the new finance system was increased per pupil equity.

The first three years of the new program have resulted in improved pupil equity. Pupils in the lowest-revenue K-12 district have received a 30% increase in real dollars in per-pupil base revenue. Meanwhile, students in the highest-revenue K-12 district have seen nearly a 4% decrease in inflation-adjusted, per-pupil base funding.

Michigan has allotted larger funding increases, as reported in Table 2, to pupils enrolled in districts in the lowest quintile of foundation allowances, while students enrolled in districts in the highest quintile have experienced a constant-dollar decrease in base fiscal support. Continuation of this allocation formula embedded in Michigan's state aid statute will narrow the gap between the lowest and highest-revenue districts. This formula will also restrict the highest-revenue districts to annual increases that are less than inflation.

Though not at levels of strict horizontal equity, the measures examined in this study indicate movement toward greater equity. Michigan has made progress in its effort to equalize per-pupil base funding. Nevertheless, it has not broken the strong connection between property wealth and district per-pupil base revenue that existed before implementation of Michigan's school finance reform.

The range preserving phenomenon of Michigan's foundation program will prevent pupils in all districts from having the same per-pupil foundation allowance. In a few years, the lowest foundation allowance will be \$5,800 per pupil, and all districts will be at or above that level. At that time, the difference in foundation allowance between the lowest and highest revenue, non-"hold harmless" district will be \$1,500 per pupil. Absent legislative revision of the current funding formula, that difference will remain fixed and continue into the future. For non-"hold harmless" districts, the ratio of highest-to-lowest foundation allowance will have shrunk from 1.9:1 in fiscal year 1994 to about 1.25:1 then.

## ENDNOTES

1. District power-equalizing (DPE) guarantees a fixed amount of combined state-and-local revenue linked to local tax effort, i.e., the millage rate levied in the district. For districts with lower property wealth, DPE provides additional state support to reach the guaranteed combined state-and-local revenue per pupil. [Back to text](#)

2. For an extended discussion of the events leading to and the components of Michigan's school finance reform plan, the reader is referred to Michael Addonizio, C. Philip Kearney, and Henry Prince, *Michigan's High Wire Act*, **Journal of Education Finance**, 20(Winter 1995): 235-269. [Back to text](#)
3. Both revenue plans included a number of other changes, but the perception of voters was that they were choosing between a sales tax increase, which required an amendment to the state constitution, and an income tax increase, which did not. [Back to text](#)
4. Pupil equity was interpreted to be equal base-revenue funding. Additional resources allocated through categoricals such as special education, "at risk" pupil support, and vocational education were not included in the definition of base revenue. [Back to text](#)
5. Michigan does not weight students in its pupil membership calculations. Extra funds are allocated through categoricals for special education, gifted and talented, and "at risk" pupils. [Back to text](#)
6. Fiscal year 1994 figures were adjusted to 1997 dollars using the Detroit Consumer Price Index. [Back to text](#)
7. There are 32 K-5, K-6, and K-8 districts among Michigan's 556 school districts, and they were excluded from this study. Public school academies, also known as charter schools, did not exist in fiscal year 1994 and thus were also excluded. [Back to text](#)
8. See Robert Berne and Leanna Stiefel, **The Measurement of Equity in School Finance** (Baltimore: Johns Hopkins University Press, 1984), 50-55, for an extensive explanation of the measurement of equity. [Back to text](#)
9. For an application of these measures to Michigan data for the 1980s, see C. Philip Kearney and David M. Anderson, **Equity Trends in Michigan School Finance: 1977-78 through 1988-89** (Ann Arbor: Bureau of Accreditation and School Improvement Studies, the University of Michigan, 1991). [Back to text](#)
10. See James W. Guthrie, Walter I. Garms, and Lawrence C. Pierce, **School Finance and Education Policy: Enhancing Educational Efficiency, Equality, and Choice** (Boston: Allyn and Bacon, 1988), 300-308, for a review of these measures. [Back to text](#)
11. See Addonizio, Kearney, and Prince, 257. [Back to text](#)
12. Prior to 1994 state equalized valuation (SEV) of property was equal to one-half of the true cash value. The constitutional amendment approved in March 1994 restricts growth in Taxable Value but not growth in SEV to the rate of inflation or 5%, whichever is less, until the property is transferred to another owner. [Back to text](#)
13. For a discussion of the measurement of horizontal and vertical equity of Michigan's school funding, see C. Philip Kearney and David M. Anderson, *Was Equity Served? A Preliminary Look at the Impact of Michigan's Restructuring of School Finance*, paper presented at the 1995 Annual Meeting of the American Education Finance Association. [Back to text](#)