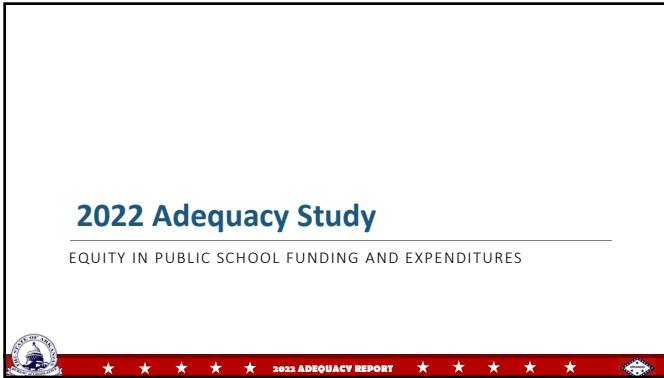
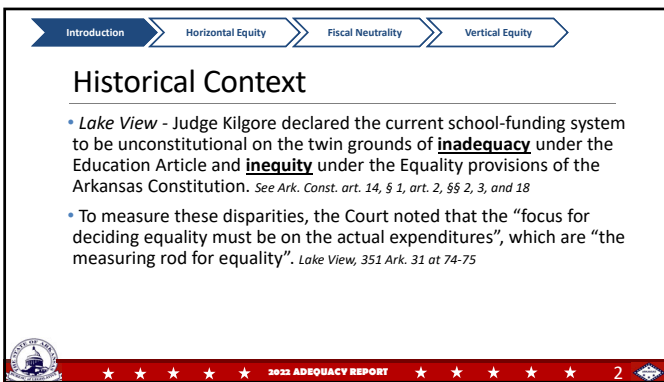


Handout D1



2022 Adequacy Study
EQUITY IN PUBLIC SCHOOL FUNDING AND EXPENDITURES

2022 ADEQUACY REPORT

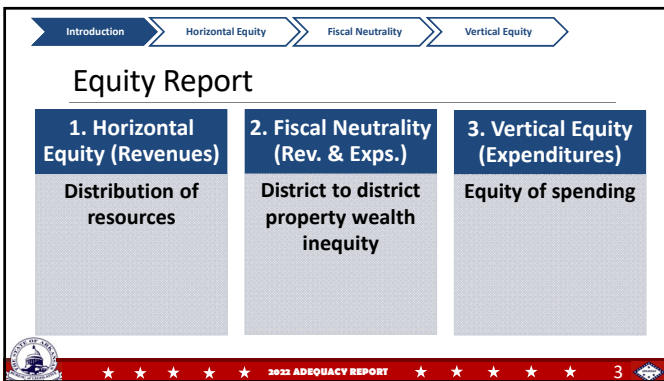


Introduction Horizontal Equity Fiscal Neutrality Vertical Equity

Historical Context

- *Lake View* - Judge Kilgore declared the current school-funding system to be unconstitutional on the twin grounds of **inadequacy** under the Education Article and **inequity** under the Equality provisions of the Arkansas Constitution. See Ark. Const. art. 14, § 1, art. 2, §§ 2, 3, and 18
- To measure these disparities, the Court noted that the “focus for deciding equality must be on the actual expenditures”, which are “the measuring rod for equality”. *Lake View*, 351 Ark. 31 at 74-75

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Introduction Horizontal Equity Fiscal Neutrality Vertical Equity

Equity Report

1. Horizontal Equity (Revenues) Distribution of resources	2. Fiscal Neutrality (Rev. & Exps.) District to district property wealth inequity	3. Vertical Equity (Expenditures) Equity of spending
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Introduction Horizontal Equity Fiscal Neutrality Vertical Equity

Revenue Types

<p>1. Foundation Funding and Property Taxes Per-Student</p> <ul style="list-style-type: none"> • Foundation Funding • Net Property Taxes • 98% of Uniform Rate of Tax (URT) • Miscellaneous Funds 	<p>2. Foundation Funding, Property Taxes and Other Funding</p> <ul style="list-style-type: none"> • Revenue Type #1; and • Categorical Funds (English Language Learner; Alternative Learning Environment, Enhanced Student Achievement (ESA), and Professional Development); and • Supplemental Funds (Isolated/Special Needs Isolated, Growth, Declining, Special Education High-Cost Occurrences, ESA Matching, Enhanced Transportation)
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Horizontal Equity

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Horizontal Equity

- Measures of Central Tendency
 - Measures of Dispersion
- McLoone Index
 - Gini Coefficient

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Horizontal Equity

Measures of Central Tendency
Represents the center point or typical value

Measures of Dispersion
Represents how much the funding values vary across districts

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Horizontal Equity – Measures of Central Tendency

<p>Mean (Average) Arithmetic average of the data and usually characterizes the "typical" or "expected" funding value</p>	<p>Median Middle funding value if all values were arranged from the lowest to the highest values (or vice versa)</p>
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Horizontal Equity – Measures of Dispersion

Restricted Range

The difference between the 5th and 95th percentiles.


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Horizontal Equity – Measures of Dispersion

Federal Range Ratio

- Divides the restricted range by the 5th percentile;
- Higher the federal range ratio, the more data are spread → Suggests less equity
- Rule of thumb = preferred value is ≤ 0.25



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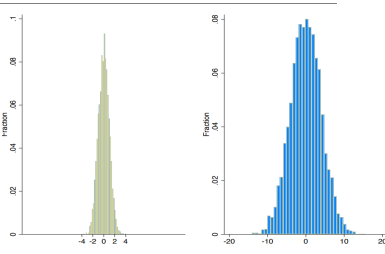

Horizontal Equity – Measures of Dispersion

Standard Deviation

The extent to which the funding values deviate from the expected or typical value (mean).

Coefficient of Variation

The extent of variation in the funding values with respect to the mean.


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Horizontal Equity by Revenue Type

1. Foundation Funding and Property Taxes Per Student

Horizontal Equity Statistic	2019	2020	2021
Mean	\$ 7,559.49	\$ 7,786.38	\$ 8,145.26
Median	\$ 7,440.89	\$ 7,605.50	\$ 7,987.77
Restricted Range	\$ 2,118.35	\$ 2,319.66	\$ 2,897.74
Federal Range Ratio	0.32	0.34	0.42
Standard Deviation	\$ 934.93	\$ 927.44	\$ 1,223.09
Coefficient of Variation	0.12	0.12	0.15



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Horizontal Equity by Revenue Type

2. Foundation Funding, Property Taxes and Other Funding

Horizontal Equity Statistic	2019	2020	2021
Mean	\$ 8,465.59	\$ 8,724.62	\$ 9,141.65
Median	\$ 8,269.65	\$ 8,500.62	\$ 8,950.38
Restricted Range	\$ 2,956.68	\$ 3,314.48	\$ 3,781.47
Federal Range Ratio	0.41	0.45	0.50
Standard Deviation	\$1,076.58	\$ 1,075.14	\$ 1,304.59
Coefficient of Variation	0.13	0.12	0.14

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Revenue Types


McLoone Index

- Looks at lower half of distribution
- Ranges from 0 to 1
- Values closer to 1 indicate more equality

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Revenue Types



How does the sum of the revenue values in the bottom half of districts compare to a hypothetical world where each district in the bottom half were to have funding equal to the district at the median?

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Revenue Types

Hypothetical World

Median District \$1,000

District Z \$1,000

District Y \$1,000

District X \$1,000

50 \$1,000 \$2,000

How does the sum of the revenue values in the bottom half of districts compare to a hypothetical world where each district in the bottom half were to have funding equal to the district at the median?

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Revenue Types

1. Foundation Funding and Property Taxes

Horizontal Equity	2019	2020	2021
McLoone Index	0.941	0.947	0.929

2. Foundation, Property Taxes and Other Funding

Horizontal Equity	2019	2020	2021
McLoone Index	0.940	0.941	0.929

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Revenue Types

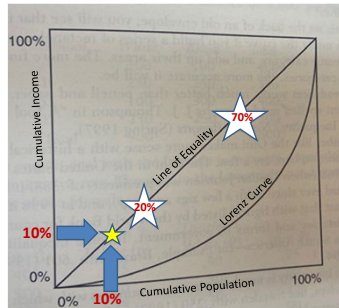
Gini Coefficient of Inequality

- Measures cumulative dollars vs cumulative population
- Ranges from 0 to 1
- Values closer to 0 indicate more equality

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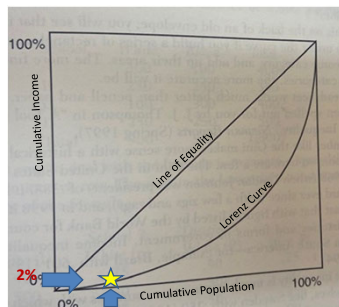
The Lorenz Curve

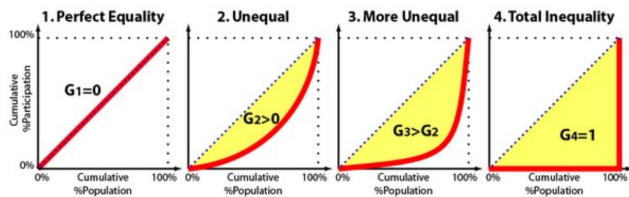
- Graphic illustration of the distribution represented by the Gini Coefficient of Inequality.
- Often used to measure income inequality.
- Straight line means everyone makes the same income.

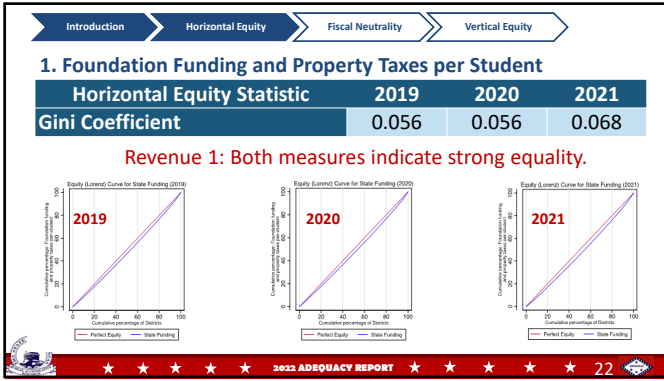


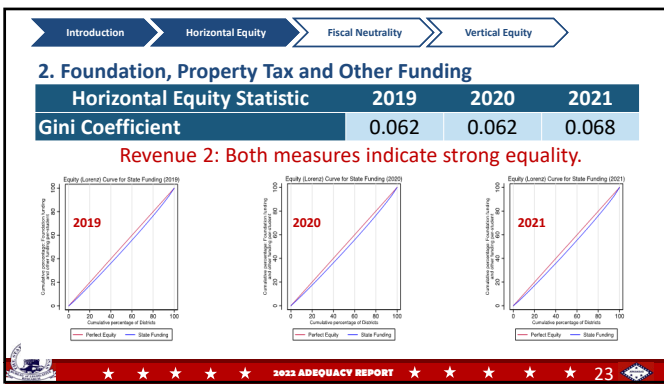
The Lorenz Curve

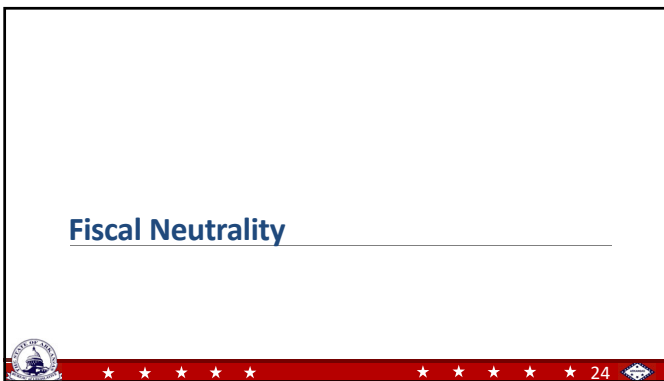
- Graphic illustration of the distribution represented by the Gini Coefficient of Inequality.
- Often used to measure income inequality.
- Straight line means everyone makes the same income.












Introduction Horizontal Equity Fiscal Neutrality Vertical Equity

Fiscal Neutrality

Wealth Neutrality Correlation

- How do property tax and per student funding amounts move together?
- Correlations range -1 to +1, with 0 = no relationship




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Fiscal Neutrality

Wealth Elasticity

- How much does one variable cause the other to move
- Large correlations between property wealth and funding are not relevant to policy when wealth elasticity coefficients are small



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Introduction Horizontal Equity Fiscal Neutrality Vertical Equity


Fiscal Neutrality by Revenue Type

1. Foundation Funding and Property Tax per Student

Fiscal Neutrality Statistic	2019	2020	2021
Wealth-Neutrality Correlation	0.835	0.838	0.801
Wealth Elasticity	0.165	0.176	0.179

2. Foundation Funding and Property Tax per Student – No URT

Fiscal Neutrality Statistic	2019	2020	2021
Wealth-Neutrality Correlation	0.687	0.709	0.584
Wealth Elasticity	0.127	0.140	0.122



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Fiscal Neutrality by Revenue Type

1. Foundation, Property Tax and Other Funding per Student

Fiscal Neutrality Statistic	2019	2020	2021
Wealth-Neutrality Correlation	0.765	0.788	0.762
Wealth Elasticity	0.165	0.180	0.180

2. Foundation, Property Tax and Other Funding per Student – No URT

Fiscal Neutrality Statistic	2019	2020	2021
Wealth-Neutrality Correlation	0.591	0.662	0.540
Wealth Elasticity	0.133	0.153	0.133

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Vertical Equity

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Introduction Horizontal Equity Fiscal Neutrality Vertical Equity

Vertical Equity

Consistent with previous Equity Reports, this report evaluates districts' and charters' per-student expenditures by the following district characteristics:

- School district size (Average Daily Membership or ADM)
- Percentage of students that are non-white
- Percentage of students eligible for free and reduced price lunches (FRPL)
- District property wealth



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Funding by District Characteristics

The data measuring these district characteristics are sometimes used to provide additional funding to address student needs, such as:

- Percent eligible for FRPL determines the allocations for Enhanced Student Achievement (ESA) funding, and
- ADM determines those districts receiving funding to address declining and growing enrollment.



 2022 ADEQUACY REPORT 

Introduction Horizontal Equity Fiscal Neutrality Vertical Equity

Two Expenditure Variables to be Examined

- Select state funding per-student expenditures
- Total all funding per-student expenditures

Note: Both select state funding and all funding expenditures do not include capital project, facilities acquisition/construction, or debt service expenses.



 2022 ADEQUACY REPORT 

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Select State Funds Expenditures

Includes expenditures from the following funding sources:

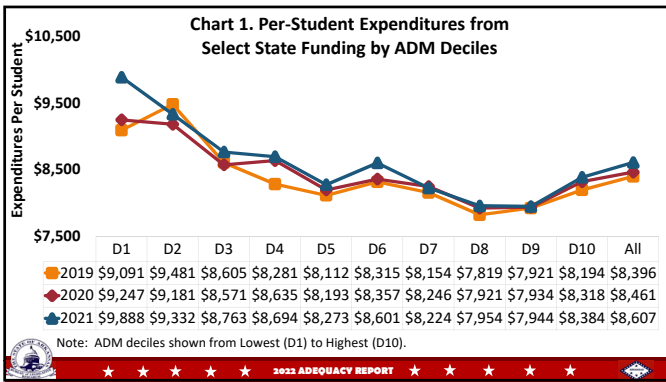
- Foundation Funding
- Property Taxes
- Other Adequacy-Related Funding, including:
 - Enhanced Student Achievement (ESA) state categorical funding
 - English Language Learner funding
 - Professional Development funding
 - Alternative Learning Environment funding
 - Student Growth funding
 - Declining Enrollment funding
 - Isolated and Special Needs Isolated funding
 - Special Education High-Cost Occurrences funding
 - ESA Matching Grant
 - Enhanced Transportation

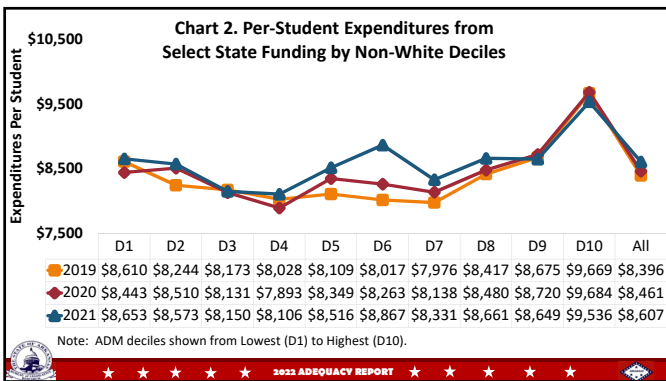
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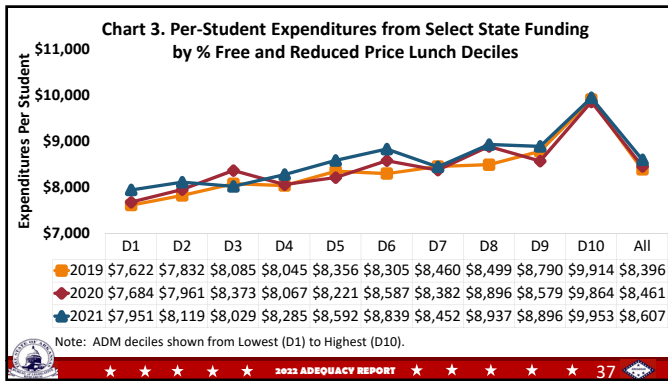
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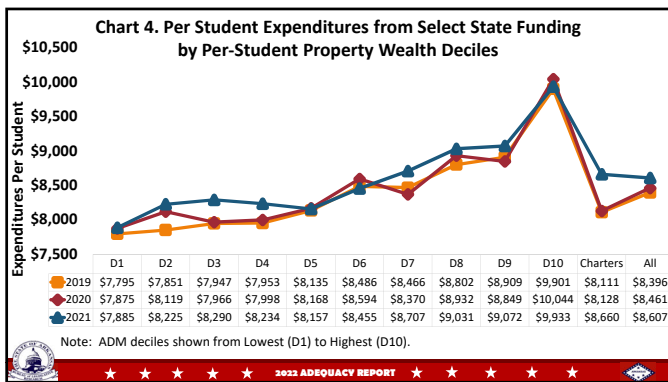
Total of Expenditures from All Fund Sources

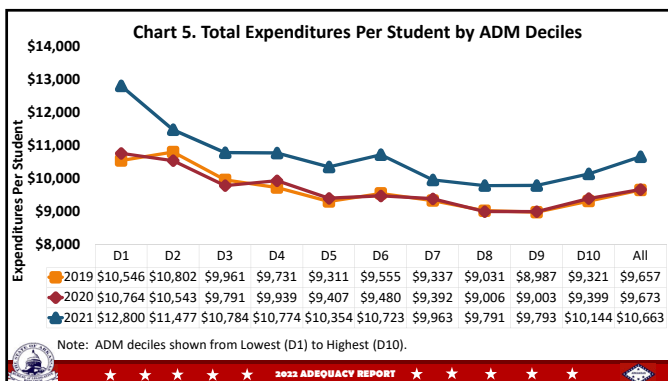
Includes district and charter school expenditures from all funding sources available to districts and charters including federal funds.

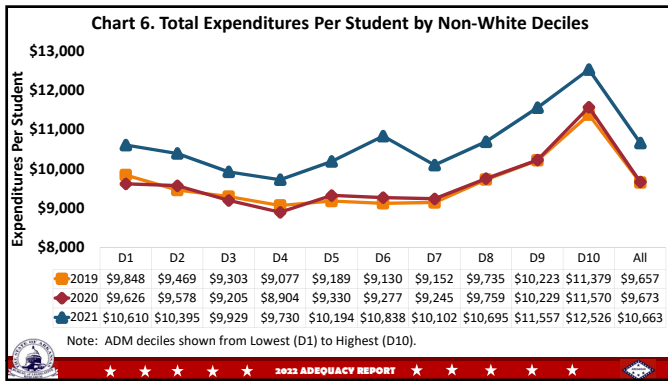


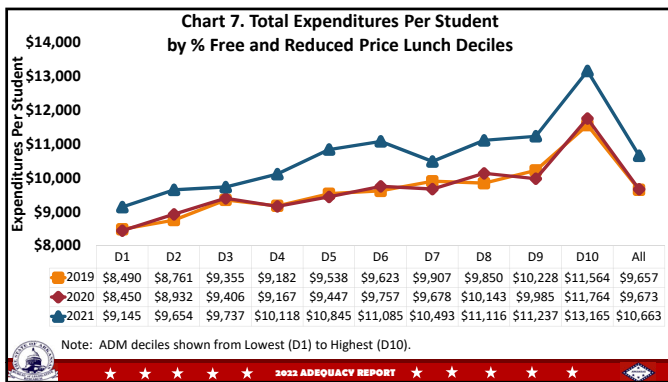


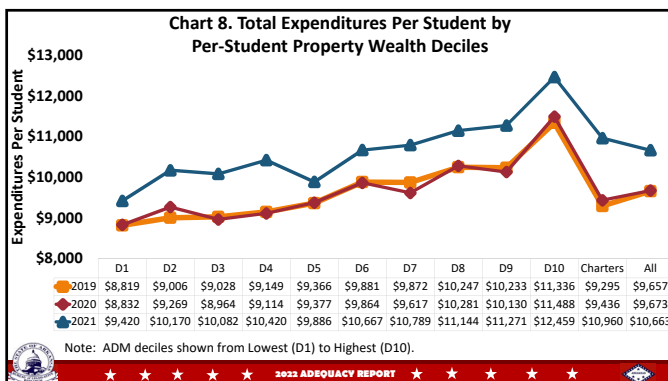














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Federal Range Ratio


Funding Source	2019 Federal Range Ratio	2020 Federal Range Ratio	2021 Federal Range Ratio
Per-Student Select State Funding Expenditures	0.56	0.48	0.50
Per-Student Total Expenditures from All Fund Sources	0.57	0.53	0.66

The federal range ratio declined for both expenditures from select state funding and from all fund sources in 2020, but increased in 2021. The 2021 increase could be due to the infusion of federal dollars to address districts'/charters' COVID-19 pandemic-related needs.

 2021 ADEQUACY REPORT 

Questions

EQUITY IN PUBLIC SCHOOL FUNDING AND EXPENDITURES

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