

Power BI Desktop

Ribbon

File Home Insert Modeling View Help

Paste Cut Copy Format painter

Get data Excel workbook Data hub SQL Server Enter data Dataverse Recent sources

Transform data Refresh data

New visual Text box More visuals

New Quick measure measure

Sensitivity Sensitivity

Publish Share

Report view / Power View

Data view

Model view / Power Pivot

Build visuals with your data

Select or drag fields from the Fields pane onto the report canvas.



Canvas

Page

Filters

Visualizations

Fields

unix timestamp file

Filters on this page

Add data fields here

Filters on all pages

Add data fields here

Values

Add data fields here

Drill through

Cross-report Off

Keep all filters On

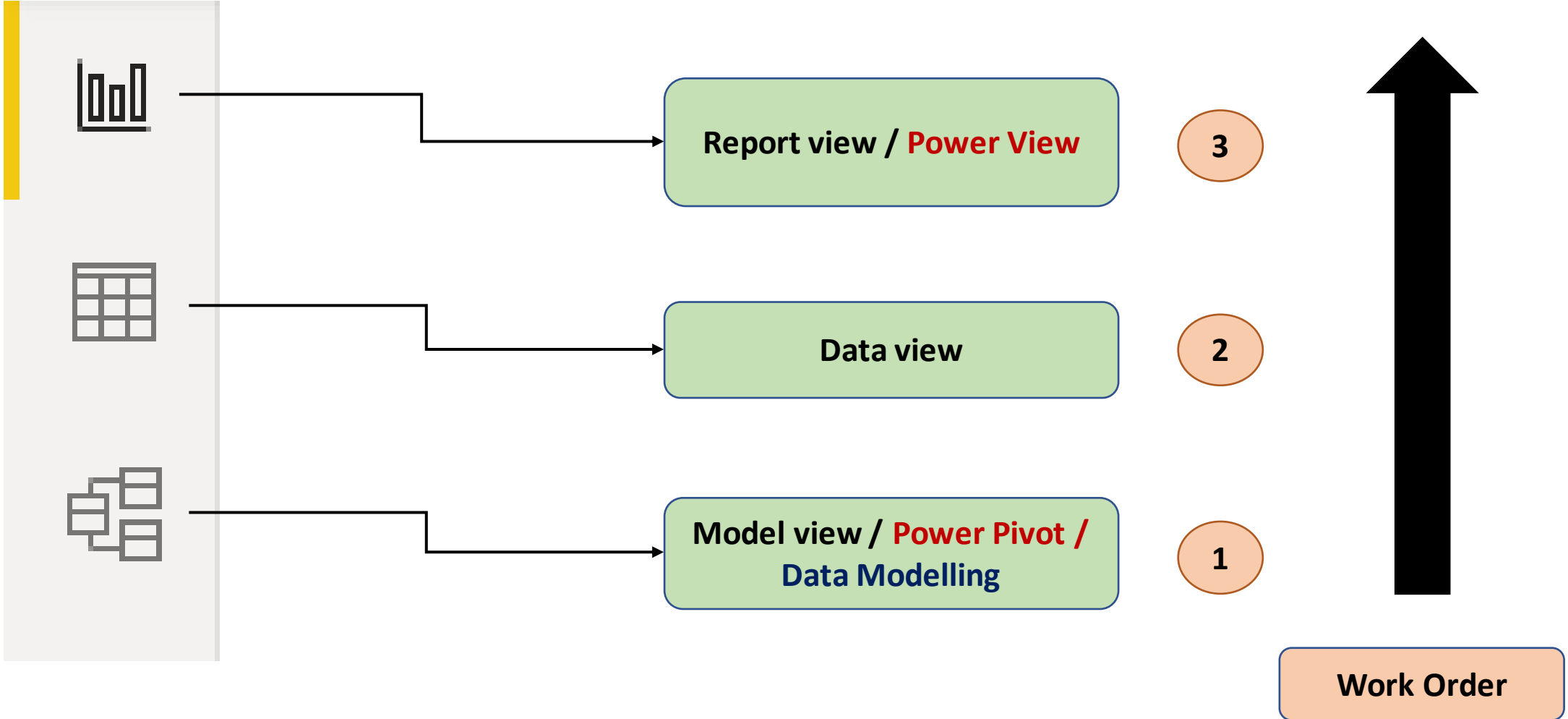
Add drill-through fields here

Datasets

Filters

Visuals

Fields



Data Modelling

Key Concepts

Relationship

Edit Relationship

Bi-Direction cross filtration

Cardinality

Relationship

A relationship is used to perform data filtration between two tables.

If there is no relationship between the tables, the values will be same in the visual graphs. (It will show aggregated value for all visuals)

This also key indication in visual that there is no relationship

Two types of Relationships

Active

Inactive

unix time stamp Task - Power BI Desktop

Search

Sign in

File Home Help

Paste Cut Copy

Get data Excel workbook Data hub SQL Server Enter data Dataverse Recent sources

Clipboard

Data

Transform data Refresh data

Queries

Relationships

Manage relationships

Calculations

New measure New column New table

Security

Manage roles View as

Q&A setup

Language Linguistic schema

Q&A

Sensitivity

Share

Properties

Fields

Search

DimOrganization

CurrencyKey

OrganizationKey

DimScenario

ScenarioKey

ScenarioName

FactFinance

OrganizationKey

ScenarioKey

DimAccount

AccountCodeAlternateKey

AccountDescription

DimDepartmentGroup

DepartmentGroupKey

DepartmentGroupName

ParentDepartmentGroupKey

DimDate

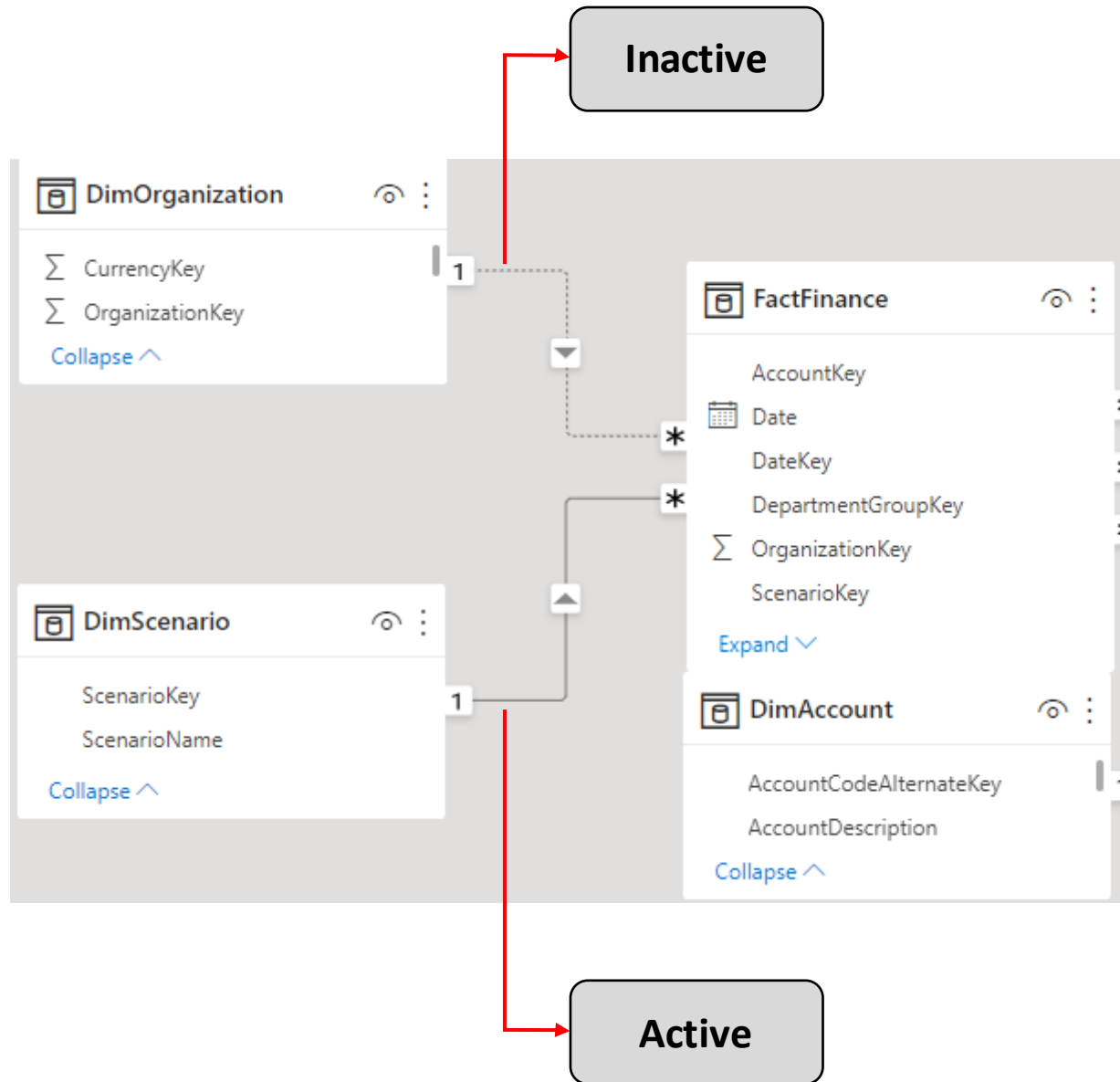
CalendarQuarter

CalendarSemester

Relationship

```
graph TD; DimOrganization[DimOrganization] -- 1 to * --> FactFinance[FactFinance]; DimScenario[DimScenario] -- 1 to * --> FactFinance; DimAccount[DimAccount] -- 1 to * --> FactFinance; DimDepartmentGroup[DimDepartmentGroup] -- 1 to * --> FactFinance; DimDate[DimDate] -- 1 to * --> FactFinance;
```

We cannot perform Data Filtration



We can perform Data Filtration

Edit relationship

Select tables and columns that are related.

FactFinance

FinanceKey	DateKey	OrganizationKey	DepartmentGroupKey	ScenarioKey	AccountKey	Amount	
850	20050701	7	6	1	52	782	0:
853	20050701	7	6	1	53	782	0:
854	20050701	7	6	1	56	28863	0:

DimOrganization

OrganizationKey	ParentOrganizationKey	PercentageOfOwnership	OrganizationName	CurrencyKey
1	null	1	AdventureWorks Cycle	100
2	1	1	North America Operations	100
3	14	1	Northeast Division	100

Cardinality

Many to one (*:1)

Cross filter direction

Single

Make this relationship active

Apply security filter in both directions

Assume referential integrity

OK

Cancel

Click on "Relationship" line and right click > Select properties.

The "Edit relationship" window will open, there you can see the "Make this relationship active"

Edit relationship

Select tables and columns that are related.

FactFinance

FinanceKey	DateKey	OrganizationKey	DepartmentGroupKey	ScenarioKey	AccountKey	Amount	
850	20050701	7	6	1	52	782	0:
853	20050701	7	6	1	53	782	0:
854	20050701	7	6	1	56	28863	0:

DimOrganization

OrganizationKey	ParentOrganizationKey	PercentageOfOwnership	OrganizationName	CurrencyKey
1	null	1	AdventureWorks Cycle	100
2	1	1	North America Operations	100
3	14	1	Northeast Division	100

Cardinality

Many to one (*:1)

Cross filter direction

Single

Make this relationship active

Apply security filter in both directions

Assume referential integrity

OK

Cancel

Active/Inactive Relationship

The way of Data Filtering

Cross Filter Direction

It will define the way of data filtration between the two tables

Cardinality

Many to one (*:1)

Make this relationship active

Assume referential integrity

Cross filter direction

Single

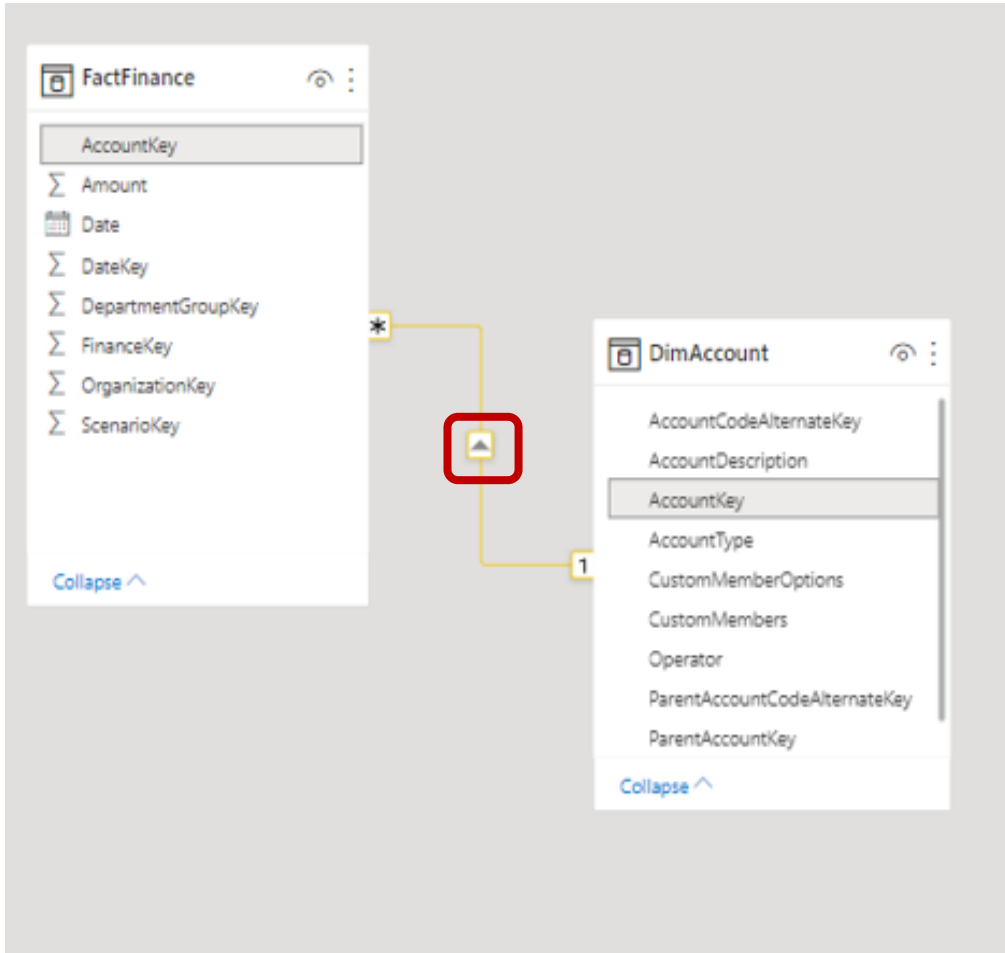
Single

Both

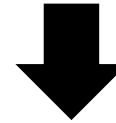
OK

Cancel

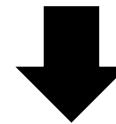
Example for Cross Filter Direction



DimAccount is connected to FactFinance with Account key



**DimAccount Can filter FactFinance
But
FactFinance Cannot filter DimAccount**



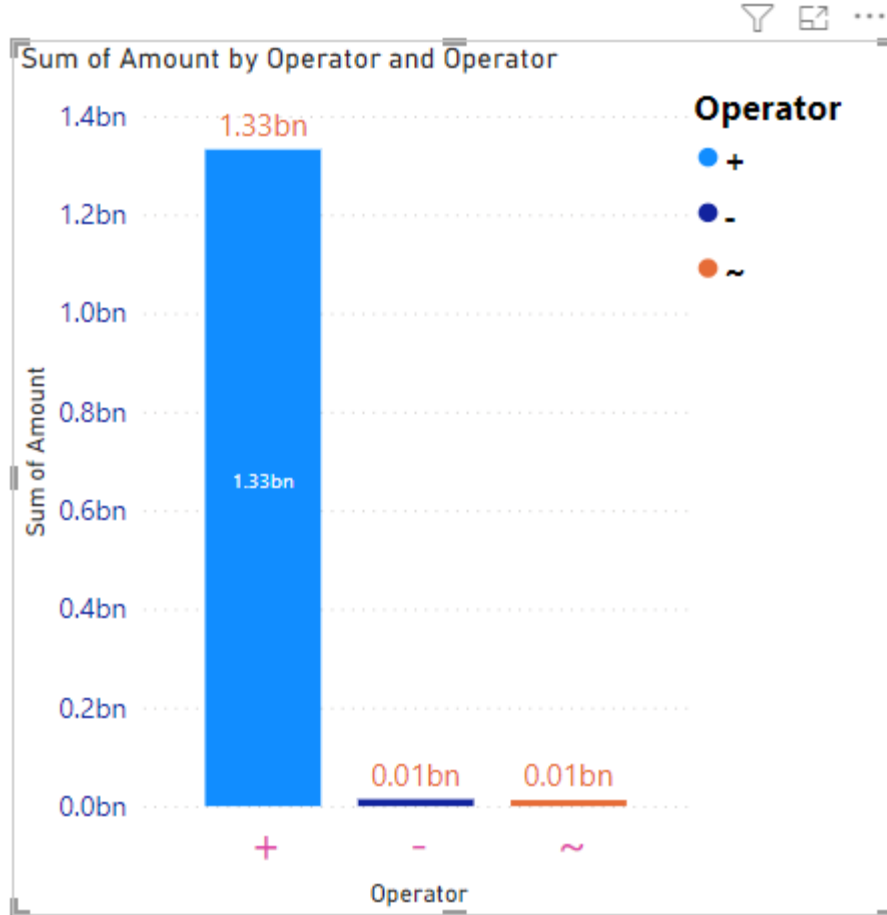
Cross filter Direction : Single

DimAccount > Operator Column
FactFinance > Amount Column

In this scenario,
X axis : Details (DimAccount)
Y axis : Values (FactFinance)

Now, we can see the filtration
from DimAccount to FactFinance.

Similarly, in X-axis we update
with FactFinance, in Y-axis we
update with DimAccount.



Visualizations

Build visual

Filters

X-axis: Operator

Y-axis: Sum of Amount

Legend: Operator

Small multiples

Add data fields here

Tooltips

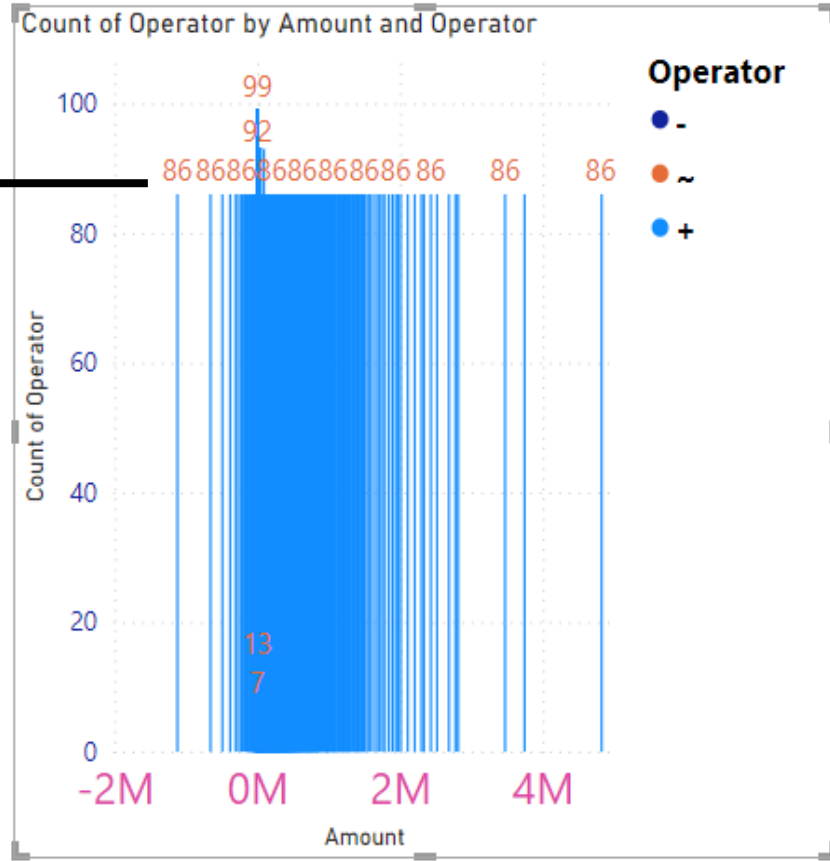
Add data fields here

DimAccount > Operator Column
FactFinance > Amount Column

In X-axis we update with FactFinance, in Y-axis we update with DimAccount.

The values are showing 86 for all, it is due to **single** direction from DimAccount to FactFinance.

If we update with Both direction, the filtration will take place from FactFinance to DimAccount.



Build visual

Filters

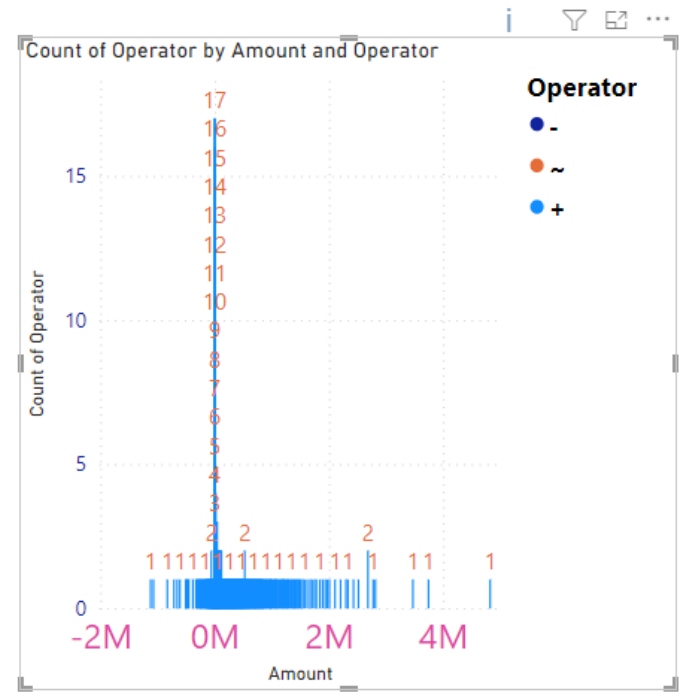
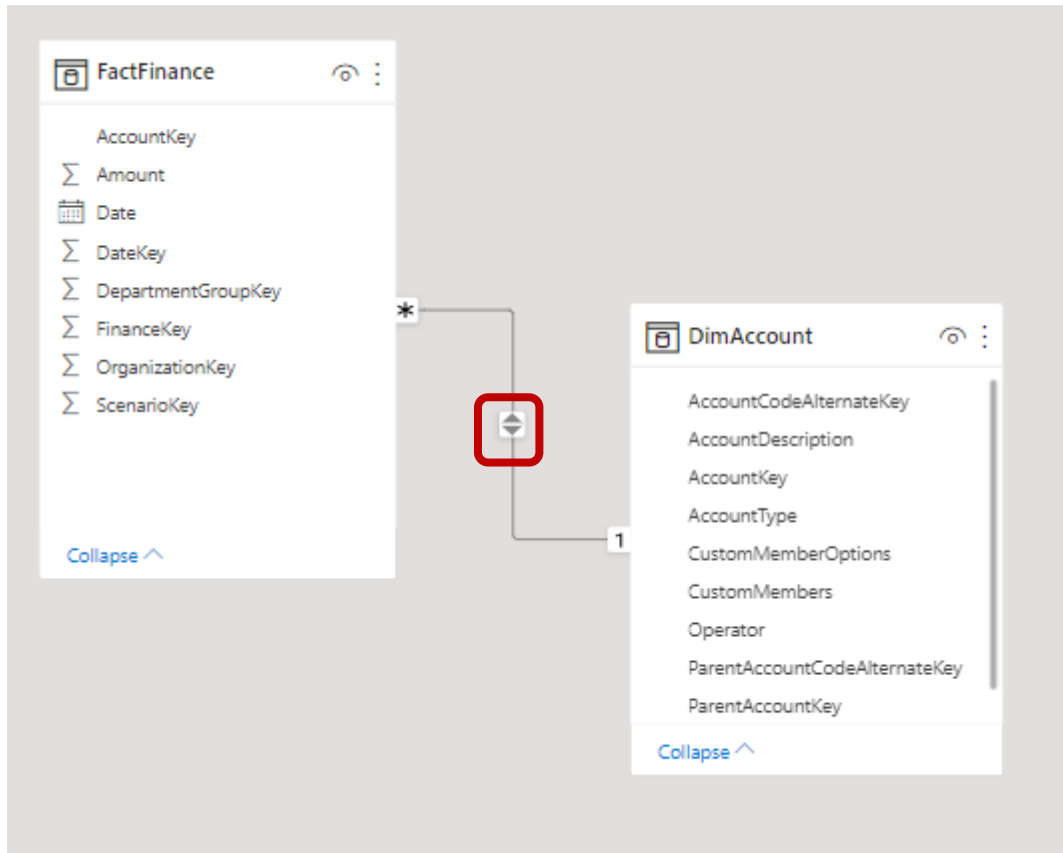
X-axis: Amount

Y-axis: Count of Operator

Legend: Operator

Small multiples: Add data fields here

Tooltips: Add data fields here



The 'Filters' pane shows the configuration for the visual. The X-axis is set to 'Amount' and the Y-axis is set to 'Count of Operator'. The legend is set to 'Operator'. The 'Add data fields here' sections are empty.

If we update with **Both** direction, the filtration is applied from FactFinance to DimAccount.