ADTA 5240 Project anlysis and visualization

For this project we are considering BEA's economic report on balance of Payments. In this analysis we are presenting trends in flow of money in and out United states in terms of exports, imports, investments and debt payments.

This analysis is targeted at general public to educate them on the combined sectors of United states economy, trends in world markets and investment trends in US markets.

- Export increase growth in percentage

```
1   SELECT
2     Line,
3     `Current account` AS Category,
4     SAFE_CAST(REPLACE(`2022`, ',', '') AS FLOAT64) AS Exports_2022,
5     SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) AS Exports_2023,
6     SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(`2022`, ',', '') AS FLOAT64) AS Yearly_Growth,
7     ((SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(`2022`, ',', '') AS FLOAT64)) / SAFE_CAST(REPLACE
    (`2022`, ',', '') AS FLOAT64)) * 100 AS Growth_Percentage
8   FROM
9     `akhilpanakanti5240-439217.Project_5240.exports`
10  WHERE
11    SAFE_CAST(REPLACE(`2022`, ',', '') AS FLOAT64) IS NOT NULL
12    AND SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) IS NOT NULL
13  ORDER BY
14    Growth_Percentage DESC;
15
```

Category	Exports_2022	Exports_2023	Growth_Percentage
Exports of goods and services and income receipts (credits)	4412523	4645183	5.272720391
Exports of goods and services	3039405	3071816	1.066360028
Goods	2090339	2045221	-2.158405885
General merchandise	2048474	2006057	-2.070663333
Foods, feeds, and beverages	179866	161887	-9.995774632
Industrial supplies and materials	810945	719559	-11.26907497
Capital goods except automotive	573183	602636	5.138498525
Automotive vehicles, parts, and engines	162978	180039	10.46828406
Consumer goods except food and automotive	244446	259027	5.964916587
Other general merchandise	77055	82910	7.598468626
Net exports of goods under merchanting	1116	1150	3.046594982
Nonmonetary gold	40749	38014	-6.711821149
Services	949065	1026596	8.169198106
Maintenance and repair services n.i.e.	14416	15948	10.62708102
Transport	92405	97779	5.815702613
Travel (for all purposes including education) Â¹	142909	189134	32.34575849
Construction	1948	1529	-21.50924025
Insurance services	23987	24985	4.160586985
Financial services	167445	175461	4.787243573
Charges for the use of intellectual property n.i.e.	137833	134442	-2.460223604
Telecommunications, computer, and information services	64717	70629	9.135157687
Other business services	246416	253190	2.749009805
Personal, cultural, and recreational services	27711	30732	10.90180795
Government goods and services n.i.e.	29279	32767	11.91297517
Primary income receipts	1184423	1376721	16.23558475
Investment income	1177016	1368986	16.30988874
Direct investment income	608090	629178	3.467907711
Portfolio investment income	460660	494728	7.395476056
Other investment income	106102	237362	123.7111459
Reserve asset income	2164	7719	256.7005545
Compensation of employees	7407	7735	4.428243553
Secondary income (current transfer) receipts Â²	188696	196646	4.213125874

```
1   -- Growth percentage and value of Current account exports
2   -- Akhil Panakanti
```
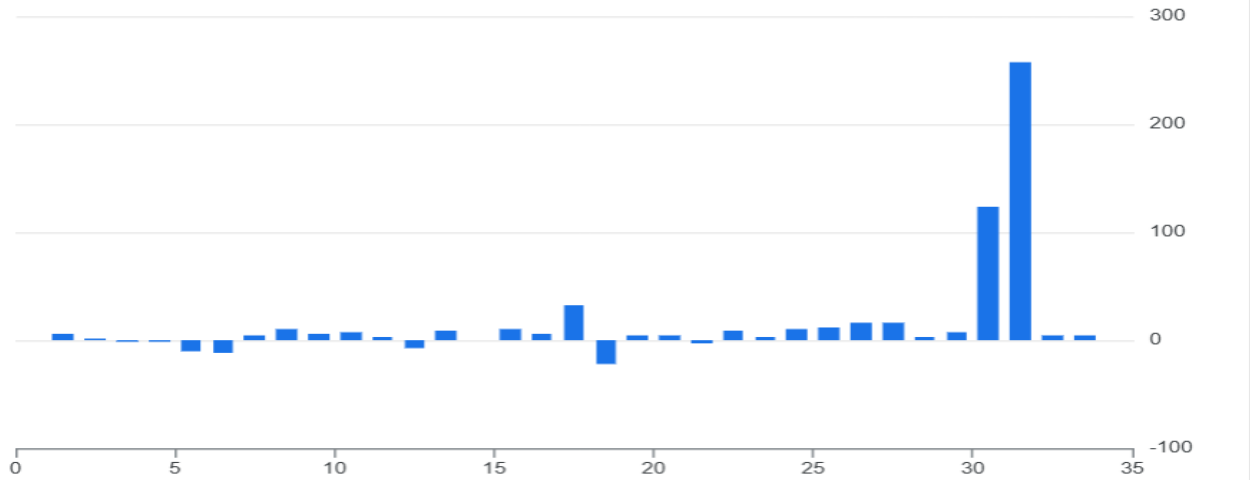
Query results

JOB INFORMATION	RESULTS	CHART	JSON	EXECUTION DETAILS

Growth_Percentage by Line

- Growth in value

```sql
SELECT
  Line,
  `Current account` AS Category,
  SAFE_CAST(REPLACE(`2022`, ',', '') AS FLOAT64) AS Exports_2022,
  SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) AS Exports_2023,
  SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(`2022`, ',', '') AS FLOAT64) AS Growth_Value, --
Growth in value
  ((SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(`2022`, ',', '') AS FLOAT64)) / SAFE_CAST(REPLACE
(`2022`, ',', '') AS FLOAT64)) * 100 AS Growth_Percentage -- Growth in percentage
FROM
  `akhilpanakanti5240-439217.Project_5240.exports`
WHERE
  SAFE_CAST(REPLACE(`2022`, ',', '') AS FLOAT64) IS NOT NULL
  AND SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) IS NOT NULL
ORDER BY
  Growth_Value DESC; -- Sorting by growth in value
```

Category	Exports_2022	Exports_2023	Growth_in_Value
Exports of goods and services and income receipts (credits)	4412523	4645183	232660
Exports of goods and services	3039405	3071816	32411
Goods	2090339	2045221	-45118
General merchandise	2048474	2006057	-42417
Foods, feeds, and beverages	179866	161887	-17979
Industrial supplies and materials	810945	719559	-91386
Capital goods except automotive	573183	602636	29453
Automotive vehicles, parts, and engines	162978	180039	17061
Consumer goods except food and automotive	244446	259027	14581
Other general merchandise	77055	82910	5855
Net exports of goods under merchanting	1116	1150	34
Nonmonetary gold	40749	38014	-2735
Services	949065	1026596	77531
Maintenance and repair services n.i.e.	14416	15948	1532
Transport	92405	97779	5374
Travel (for all purposes including education) Â[1]	142909	189134	46225
Construction	1948	1529	-419
Insurance services	23987	24985	998
Financial services	167445	175461	8016
Charges for the use of intellectual property n.i.e.	137833	134442	-3391
Telecommunications, computer, and information services	64717	70629	5912
Other business services	246416	253190	6774
Personal, cultural, and recreational services	27711	30732	3021
Government goods and services n.i.e.	29279	32767	3488
Primary income receipts	1184423	1376721	192298
Investment income	1177016	1368986	191970
Direct investment income	608090	629178	21088
Portfolio investment income	460660	494728	34068
Other investment income	106102	237362	131260
Reserve asset income	2164	7719	5555
Compensation of employees	7407	7735	328
Secondary income (current transfer) receipts Â[2]	188696	196646	7950

```
1    -- Growth in volume of Current account exports
2    -- Akhil Panakanti
3
```

Query results

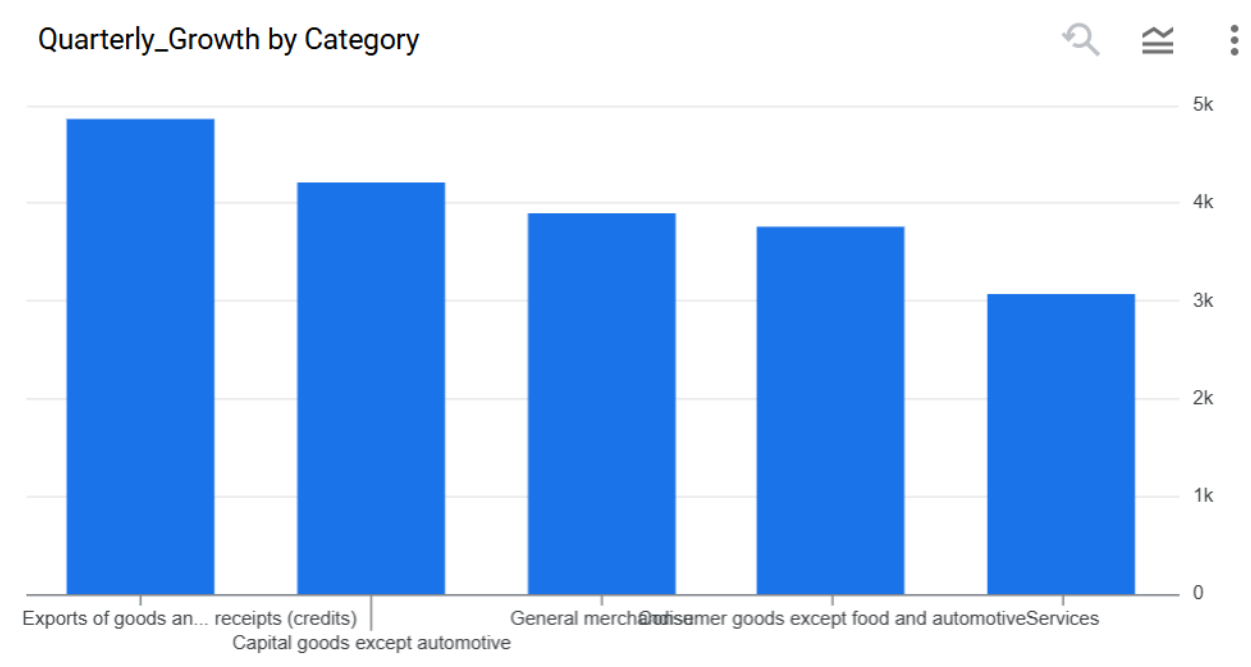JOB INFORMATION   RESULTS   CHART   JSON   EXECUTION DETAILS

Growth by Line

Highest contributors in US Exports, quarterly growth

```
1  SELECT
2    `Current account` AS Category,
3    SAFE_CAST(REPLACE(`Q2 p 2024`, ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(`Q1 r 2024`, ',
   ', '') AS FLOAT64) AS Quarterly_Growth
4  FROM
5    `akhilpanakanti5240-439217.Project_5240.exports`
6  WHERE
7    SAFE_CAST(REPLACE(`Q1 r 2024`, ',', '') AS FLOAT64) IS NOT NULL
8    AND SAFE_CAST(REPLACE(`Q2 p 2024`, ',', '') AS FLOAT64) IS NOT NULL
9  ORDER BY
0    Quarterly_Growth DESC
1  LIMIT 5;
2
```

*Values in million dollars [USD]

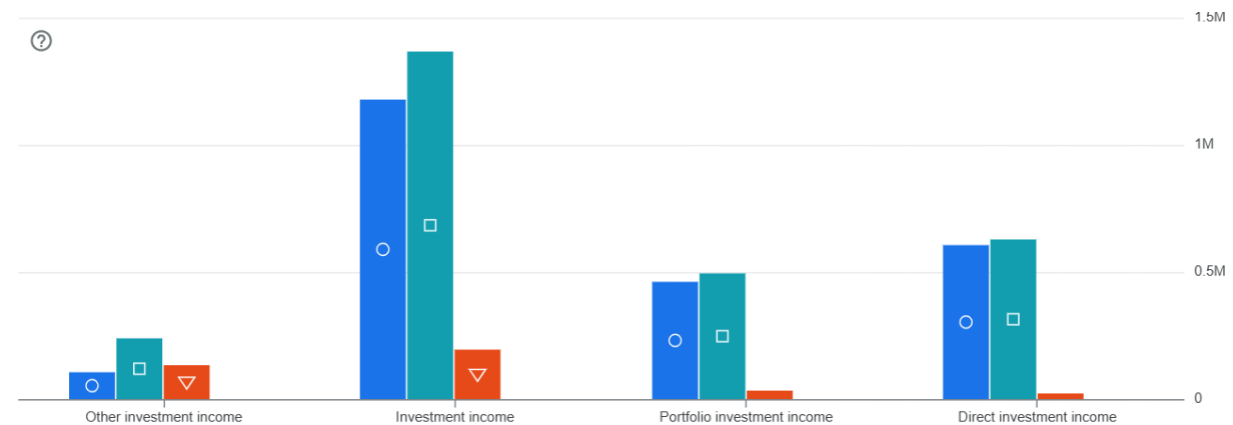| Row	Category	Quarterly_Growth
1	Exports of goods and services …	4854.0
2	Capital goods except automotive	4216.0
3	General merchandise	3901.0
4	Consumer goods except food a…	3763.0
5	Services	3072.0

Quarterly_Growth by Category

- Categories of money inflow into US as interest from foreign investmensts from US.

```sql
1  -- Finding categories of investment and growth rate--
2  SELECT
3    Line,
4    `Current account` AS Category,
5    SAFE_CAST(REPLACE(`2022`, ',', '') AS FLOAT64) AS Exports_2022,
6    SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) AS Exports_2023,
7    SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(`2022`, ',', '') AS
   FLOAT64) AS Yearly_Growth,
8    ((SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(`2022`, ',', '')
   AS FLOAT64)) / SAFE_CAST(REPLACE(`2022`, ',', '') AS FLOAT64)) * 100 AS Growth_Percentage
9  FROM
10   `akhilpanakanti5240-439217.Project_5240.exports`
11 WHERE
12   LOWER(`Current account`) LIKE '%investment%'
13   AND SAFE_CAST(REPLACE(`2022`, ',', '') AS FLOAT64) IS NOT NULL
14   AND SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) IS NOT NULL
15 ORDER BY
16   Growth_Percentage DESC;
17
```

Row	Line	Category	Exports_2022	Exports_2023	Yearly_Growth	Growth_Percentage
1	30	Other investment income	106102.0	237362.0	131260.0	123.7111458784...
2	27	Investment income	1177016.0	1368986.0	191970.0	16.30988873558...
3	29	Portfolio investment income	460660.0	494728.0	34068.0	7.395476056093...
4	28	Direct investment income	608090.0	629178.0	21088.0	3.467907711029...

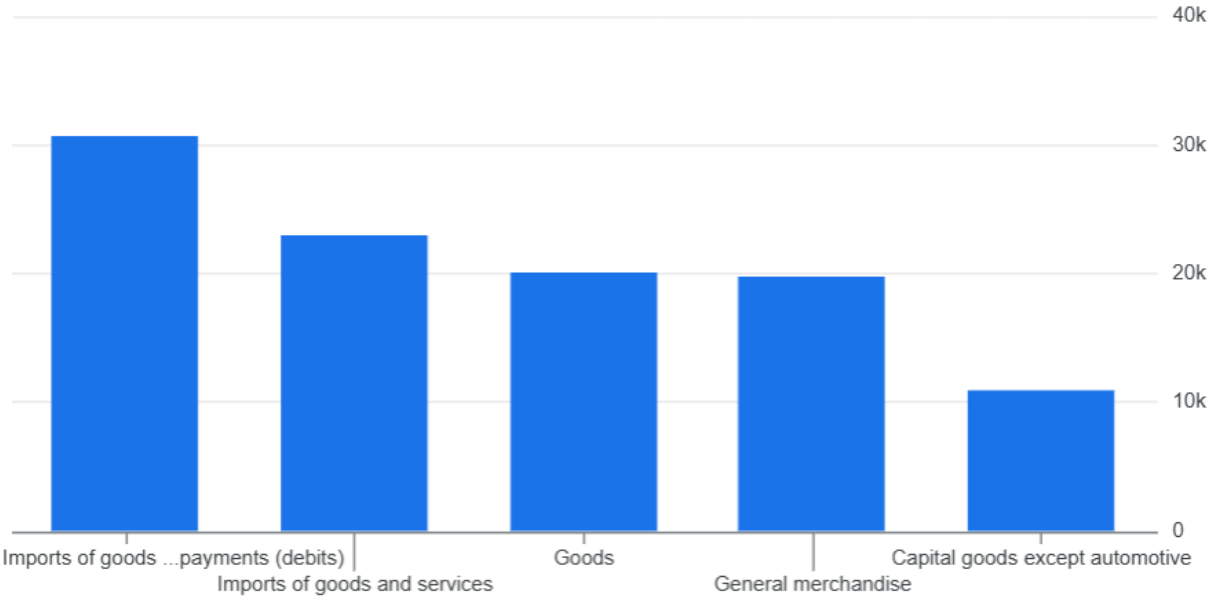- Top 5 contributors for US imports from q1 2024 to q2 2024.

```sql
SELECT
  `Current account` AS Category,
  SAFE_CAST(REPLACE(`Q2 p 2024`, ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(`Q1 r 2024`, ',', '') AS FLOAT64) AS
Quarterly_Growth
FROM
  `akhilpanakanti5240-439217.Datasquad_project.Imports_currentaccounts`
WHERE
  SAFE_CAST(REPLACE(`Q1 r 2024`, ',', '') AS FLOAT64) IS NOT NULL
  AND SAFE_CAST(REPLACE(`Q2 p 2024`, ',', '') AS FLOAT64) IS NOT NULL
ORDER BY
  Quarterly_Growth DESC
LIMIT 5;
```

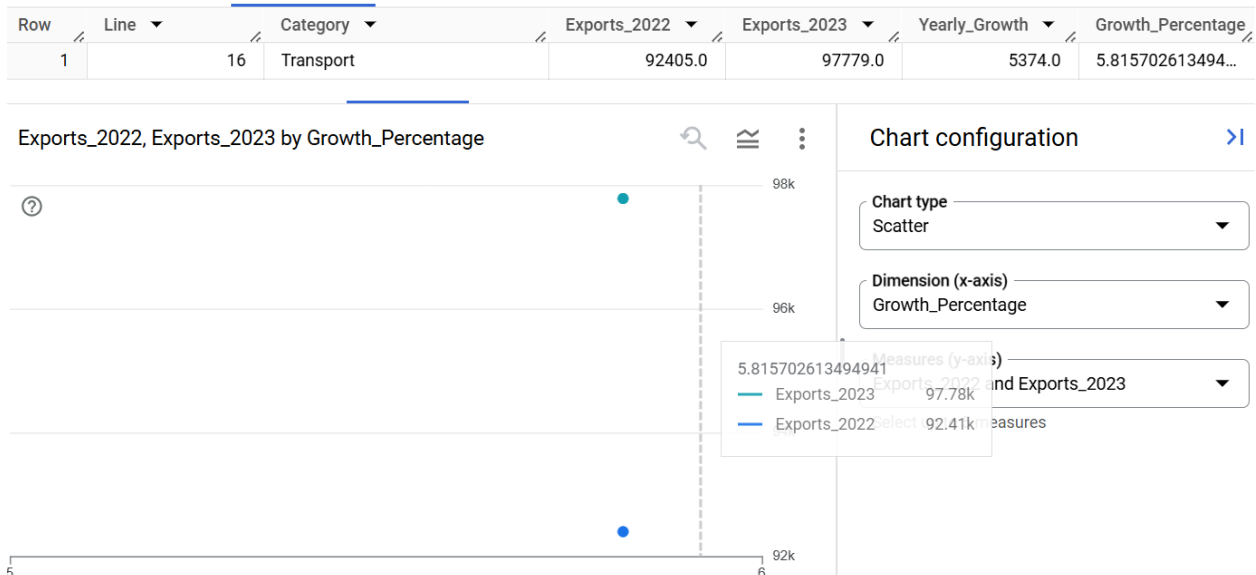| Row	Category	Quarterly_Growth
1	Imports of goods and services ...	30656.0
2	Imports of goods and services	23005.0
3	Goods	20147.0
4	General merchandise	19717.0
5	Capital goods except automotive	10894.0

Quarterly_Growth by Category

```sql
SELECT
  Line,
  `Current account` AS Category,
  SAFE_CAST(REPLACE(`2022`, ',', '') AS FLOAT64) AS Exports_2022,
  SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) AS Exports_2023,
  SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(`2022`, ',',
'') AS FLOAT64) AS Yearly_Growth,
  ((SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(`2022`, ',',
'') AS FLOAT64)) / SAFE_CAST(REPLACE(`2022`, ',', '') AS FLOAT64)) * 100 AS
Growth_Percentage
FROM
  `akhilpanakanti5240-439217.Project_5240.exports`
WHERE
  LOWER(`Current account`) IN ('transport', 'travel (for all purposes including
education)')
  AND SAFE_CAST(REPLACE(`2022`, ',', '') AS FLOAT64) IS NOT NULL
  AND SAFE_CAST(REPLACE(`2023`, ',', '') AS FLOAT64) IS NOT NULL
ORDER BY
  Growth_Percentage DESC;
```

Row	Line ▼	Category ▼	Exports_2022 ▼	Exports_2023 ▼	Yearly_Growth ▼	Growth_Percentage
1	16	Transport	92405.0	97779.0	5374.0	5.815702613494...

Exports_2022, Exports_2023 by Growth_Percentage

Chart configuration

Chart type
Scatter

Dimension (x-axis)
Growth_Percentage

5.815702613494941
— Exports_2023   97.78k
— Exports_2022   92.41k

Measures (y-axis)
Exports_2022 and Exports_2023

Select measures

- US investmensts in forigen markets

- From 2022 to 2023, we saw some interesting financial trends. Debt instruments grew significantly, showing that businesses are leaning more on borrowing. On the flip side, fresh equity investments dropped, hinting that investors are being cautious. U.S. acquisitions abroad increased, showing confidence in foreign markets despite global uncertainties.

- Looking at sectors, finance and holding companies performed well, likely due to strategic consolidations and evolving financial strategies. Manufacturing was more unpredictable, possibly due to supply chain issues and rising costs.

- These trends are important because they highlight where growth is happening and where challenges lie. Understanding this helps businesses, policymakers, and investors focus their efforts on areas with the most potential for success and tackle any hurdles effectively.

Explorer   + ADD

Search BigQuery resources

Viewing resources.
SHOW STARRED ONLY

5240Tutorial_assignment
Datasquad_project
Exports-imports
Imports_currentacco...

Untitled query   RUN   SAVE   DOWNLOAD   SHARE   SCHEDULE   OPEN IN   Query c...

```sql
1   SELECT
2     'Net U.S. Acquisition of Direct Investment Assets' AS Category,
3       SAFE_CAST(REPLACE(CAST(`In 2022` AS STRING), ',', '') AS FLOAT64) AS Value_2022,
4       SAFE_CAST(REPLACE(CAST(`In 2023` AS STRING), ',', '') AS FLOAT64) AS Value_2023,
5       SAFE_CAST(REPLACE(CAST(`In 2023` AS STRING), ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(CAST(`In 2022` AS STRING), ',', '') AS FLOAT64) AS Change_2022_to_2023
6   FROM
7       `akhilpanakanti5240-439217.Datasquad_project.investments_return`
8   WHERE
9       CAST(Line AS STRING) = '1';
10
```

Explorer   + ADD

Search BigQuery resources

Viewing resources.
SHOW STARRED ONLY

5240Tutorial_assignment
Datasquad_project
Exports-imports

Untitled query   RUN   SAVE   DOWNLOAD   SHARE   SCHEDULE   OPEN IN   Query c...

```sql
11  SELECT
12    'Debt Instruments' AS Category,
13      SAFE_CAST(REPLACE(CAST(`In 2022` AS STRING), ',', '') AS FLOAT64) AS Value_2022,
14      SAFE_CAST(REPLACE(CAST(`In 2023` AS STRING), ',', '') AS FLOAT64) AS Value_2023,
15      SAFE_CAST(REPLACE(CAST(`In 2023` AS STRING), ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(CAST(`In 2022` AS STRING), ',', '') AS FLOAT64) AS Change_2022_to_2023
16  FROM
17      `akhilpanakanti5240-439217.Datasquad_project.investments_return`
18  WHERE
19      CAST(Line AS STRING) = '5';
```

Explorer   + ADD

Search BigQuery resources

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Datasquad_project
Exports-imports
Imports_currentacco...

Untitled query   RUN   SAVE   DOWNLOAD   SHARE   SCHEDULE   OPEN IN   Query

```sql
21  SELECT
22    'Equity Other Than Reinvestment of Earnings' AS Category,
23      SAFE_CAST(REPLACE(CAST(`In 2022` AS STRING), ',', '') AS FLOAT64) AS Value_2022,
24      SAFE_CAST(REPLACE(CAST(`In 2023` AS STRING), ',', '') AS FLOAT64) AS Value_2023,
25      SAFE_CAST(REPLACE(CAST(`In 2023` AS STRING), ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(CAST(`In 2022` AS STRING), ',', '') AS FLOAT64) AS Change_2022_to_2023
26  FROM
27      `akhilpanakanti5240-439217.Datasquad_project.investments_return`
28  WHERE
29      CAST(Line AS STRING) = '3';
30
```

Explorer   + ADD

Search BigQuery resources

Viewing resources.
SHOW STARRED ONLY

5240Tutorial_assignment
Datasquad_project
Exports-imports
Imports_currentacco...
Testing
Testproject

Untitled query   RUN   SAVE   DOWNLOAD   SHARE   SCHEDULE   OPEN IN   Query

```sql
31  SELECT
32    Line,
33      Data AS Category,
34      SAFE_CAST(REPLACE(CAST(`In 2022` AS STRING), ',', '') AS FLOAT64) AS Value_2022,
35      SAFE_CAST(REPLACE(CAST(`In 2023` AS STRING), ',', '') AS FLOAT64) AS Value_2023,
36      SAFE_CAST(REPLACE(CAST(`In 2023` AS STRING), ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(CAST(`In 2022` AS STRING), ',', '') AS FLOAT64) AS Change_2022_to_2023
37  FROM
38      `akhilpanakanti5240-439217.Datasquad_project.investments_return`
39  WHERE
40      Data IN ('Manufacturing', 'Finance (including depository institutions) and insurance', 'Holding companies except bank holding companies', 'Other')
41  ORDER BY
42      Change_2022_to_2023 DESC;
43
```

```sql
44  SELECT
45      Line,
46      Data AS Category,
47      SAFE_CAST(REPLACE(CAST(`In 2022` AS STRING), ',', '') AS FLOAT64) AS Value_2022,
48      SAFE_CAST(REPLACE(CAST(`In 2023` AS STRING), ',', '') AS FLOAT64) AS Value_2023,
49      SAFE_CAST(REPLACE(CAST(`In 2023` AS STRING), ',', '') AS FLOAT64) - SAFE_CAST(REPLACE(CAST(`In 2022` AS STRING), ',', '') AS FLOAT64) AS Change_2022_to_2023
50  FROM
51      `akhilpanakanti5240-439217.Datasquad_project.investments_return`
52  ORDER BY
53      Change_2022_to_2023 DESC;
54
55
```

+ ADD |<

‹ ✕   ⊕ *Untitled query ▼ ✕   ⊕ *Untitled query ▼ ✕   ⊕ *Untitled query ▼ ✕   ⊕ *Untitled query ▼ ✕   ›   +

Query results   ⬇ SAVE RESULTS ▼   📊 EXPLORE

JOB INFORMATION   **RESULTS**   CHART   JSON   EXECUTION DETAILS   EXECUTION GRAPH

Row	Category ▼	Value_2022 ▼	Value_2023 ▼	Change_2022_to_202
1	Manufacturing	25069.0	5747.0	-19322.0
2	Other	47241.0	63685.0	16444.0
3	Other	-1960.0	-13898.0	-11938.0
4	Other	72256.0	12693.0	-59563.0
5	Manufacturing	42305.0	32803.0	-9502.0
6	Other	2344.0	8820.0	6476.0
7	Manufacturing	16270.0	7838.0	-8432.0
8	Manufacturing	13815.0	-11879.0	-25694.0
9	Manufacturing	84821.0	42021.0	-42800.0
10	Other	61824.0	45154.0	-16670.0
11	Other	44527.0	54577.0	10050.0
12	Other	107106.0	94940.0	-12166.0
13	Manufacturing	45937.0	48152.0	2215.0
14	Manufacturing	87448.0	76265.0	-11183.0
15	Other	119126.0	76091.0	-43035.0
16	Manufacturing	146023.0	116906.0	-29117.0

+ ADD |<

‹ ✕   ⊕ *Untitled query ▼ ✕   ⊕ *Untitled query ▼ ✕   ⊕ *Untitled query ▼ ✕   ⊕ *

Query results   ⬇ SAV

JOB INFORMATION   RESULTS   **CHART**   JSON   EXECUTION DETAILS

Value_2022, Value_2023, Change_2022_to_2023 by Category