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AMF DECISIONS ANALYSIS

AUTORITÉ
DES MARCHÉS FINANCIERS
AMF

| 2024

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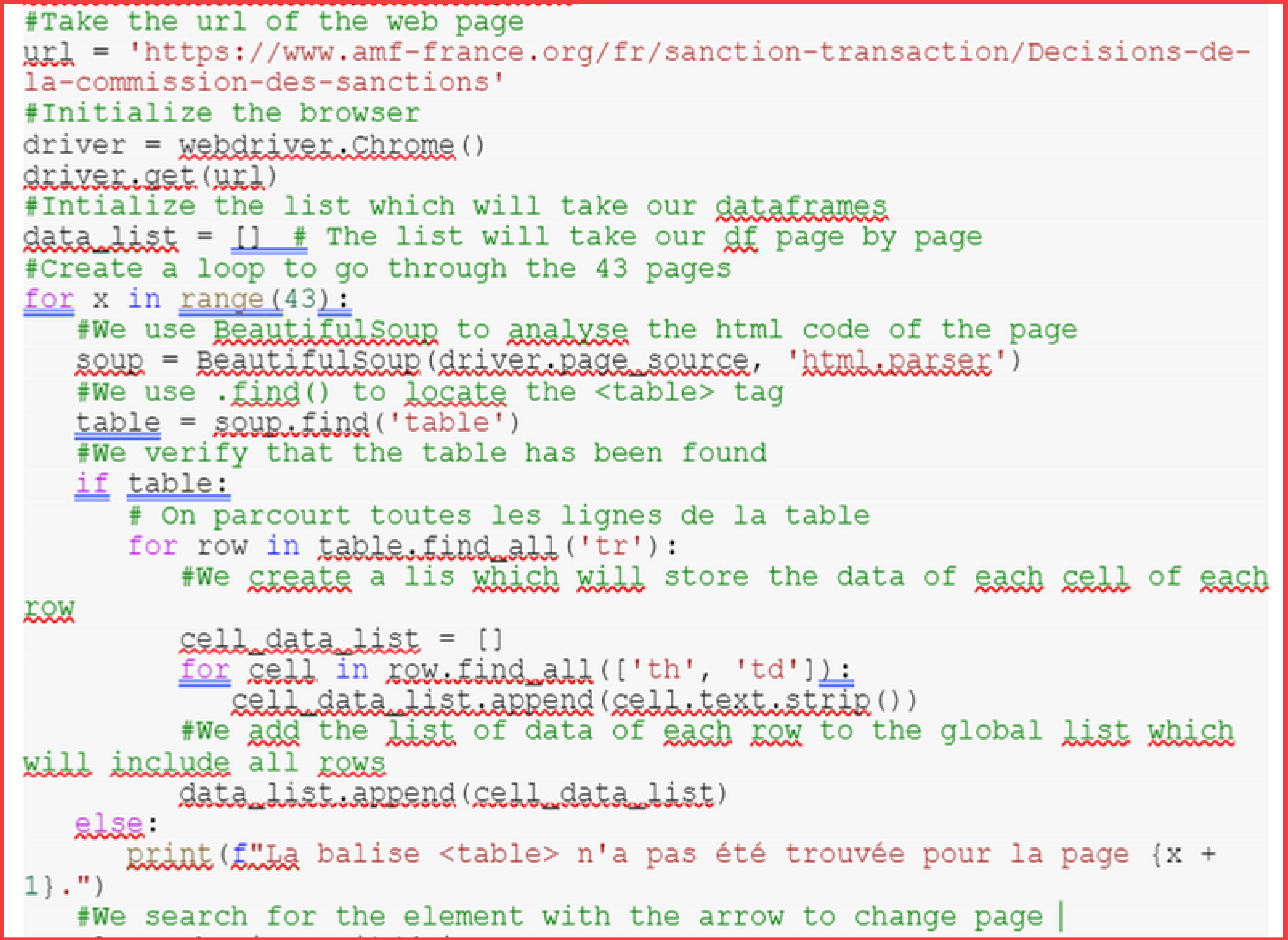
OUR PURPOSE

- Analyse the AMF's decisions, in particular the amounts of penalties for each topic, in the hope of identifying trends.

- Analyse the number of appeals by topic and try to make a link between this number and the amounts of penalties.

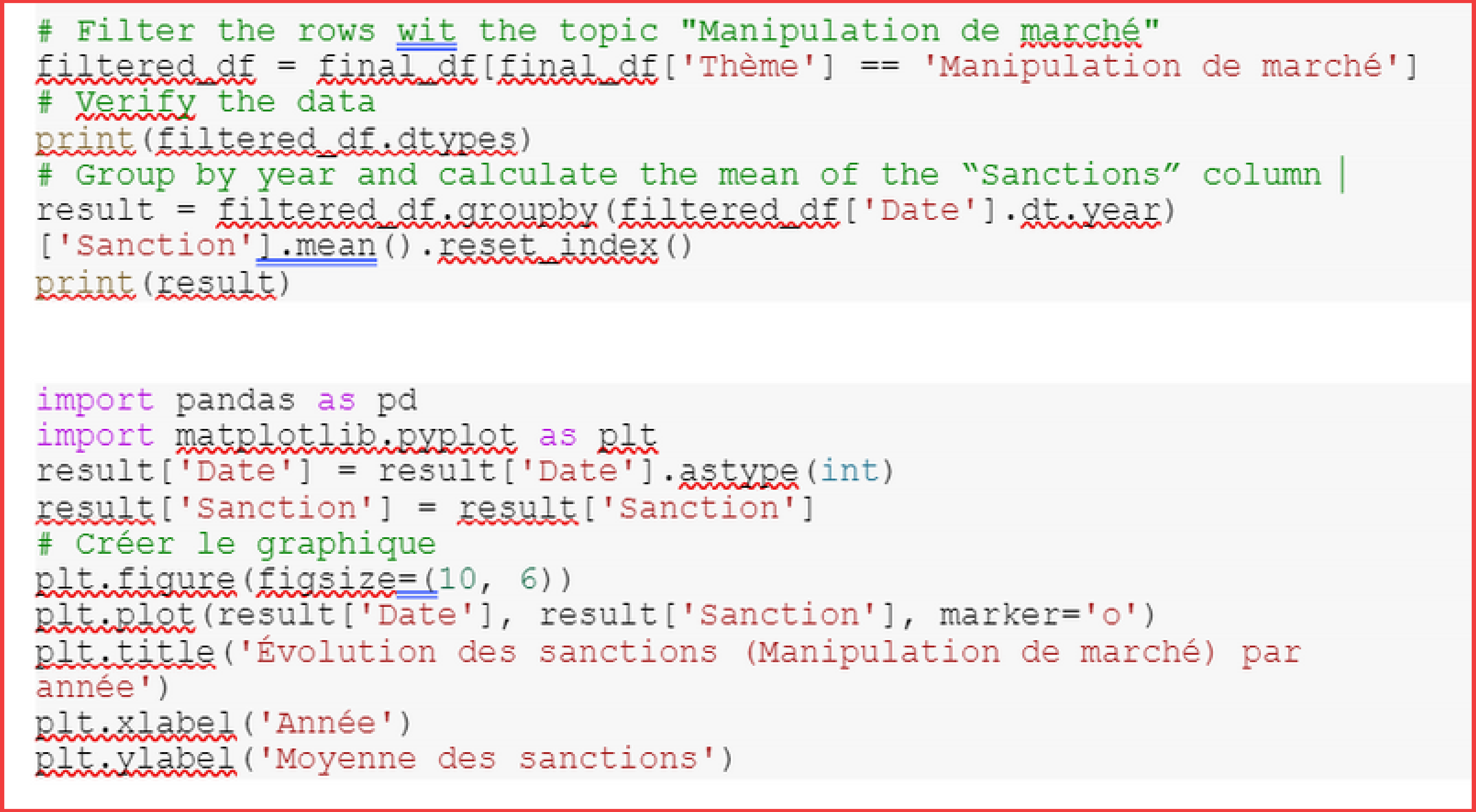
OUR CODE



```
#Take the url of the web page
url = 'https://www.amf-france.org/fr/sanction-transaction/Decisions-de-
la-commission-des-sanctions'
#Initialize the browser
driver = webdriver.Chrome()
driver.get(url)
#Intialize the list which will take our dataframes
data_list = []  # The list will take our df page by page
#Create a loop to go through the 43 pages
for x in range(43):
    #We use BeautifulSoup to analyse the html code of the page
    soup = BeautifulSoup(driver.page_source, 'html.parser')
    #We use .find() to locate the <table> tag
    table = soup.find('table')
    #We verify that the table has been found
    if table:
        # On parcourt toutes les lignes de la table
        for row in table.find_all('tr'):
            #We create a lis which will store the data of each cell of each
row
            cell_data_list = []
            for cell in row.find_all(['th', 'td']):
                cell_data_list.append(cell.text.strip())
            #We add the list of data of each row to the global list which
will include all rows
            data_list.append(cell_data_list)
    else:
        print(f"La balise <table> n'a pas été trouvée pour la page {x +
1}.")
    #We search for the element with the arrow to change page
```

- Scraping method: Selenium and BeautifulSoup

VERSION 2.0 | 2024



```
# Filter the rows wit the topic "Manipulation de marché"
filtered_df = final_df[final_df['Thème'] == 'Manipulation de marché']
# Verify the data
print(filtered_df.dtypes)
# Group by year and calculate the mean of the “Sanctions” column
result = filtered_df.groupby(filtered_df['Date'].dt.year)
['Sanction'].mean().reset_index()
print(result)
```

```
import pandas as pd
import matplotlib.pyplot as plt
result['Date'] = result['Date'].astype(int)
result['Sanction'] = result['Sanction']
# Créer le graphique
plt.figure(figsize=(10, 6))
plt.plot(result['Date'], result['Sanction'], marker='o')
plt.title('Évolution des sanctions (Manipulation de marché) par
année')
plt.xlabel('Année')
plt.ylabel('Moyenne des sanctions')
```

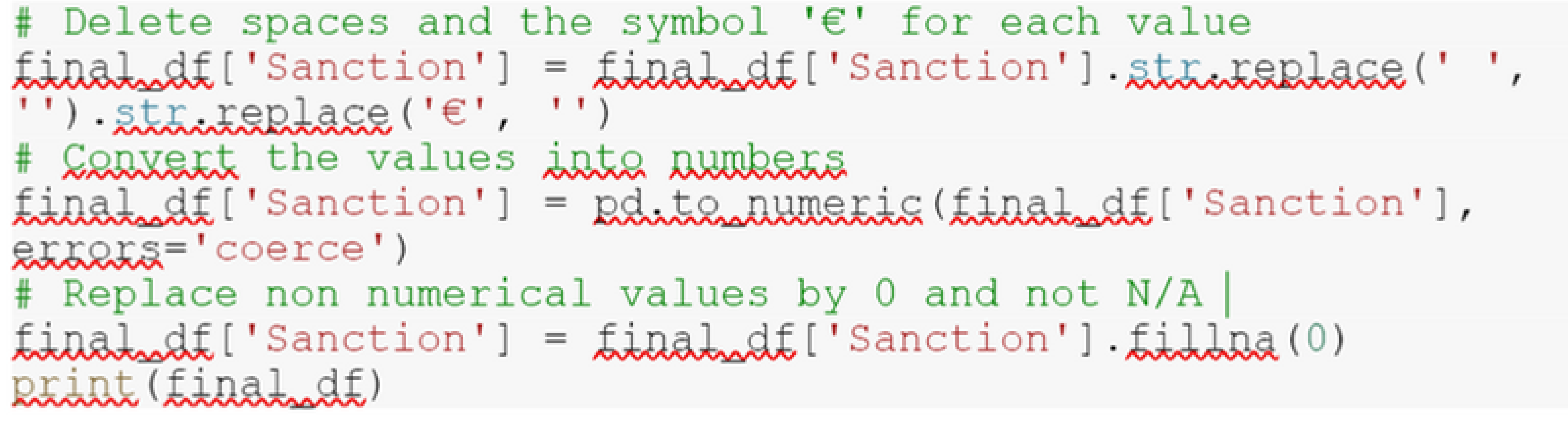
- Using pandas to get the graphs: here we take the example of “Manipulation de marché”

OUR DIFFICULTIES

- We could not scrap the first page because we could not find the table. We tried many things :
  - Changing the range of the loop
  - Adding a time sleep, thinking that the problem came from the page loading
  - Add a test in the loop to see if the table has been found.

- We needed to convert the amounts into figures recognised by python, in particular by removing the "€" signs or additional penalties (for example: a blame).

- To observe their evolution over time, we also needed to express the dates in a python date object



```
# Delete spaces and the symbol '€' for each value
final_df['Sanction'] = final_df['Sanction'].str.replace(' ',
'').str.replace('€', '')
# Convert the values into numbers
final_df['Sanction'] = pd.to_numeric(final_df['Sanction'],
errors='coerce')
# Replace non numerical values by 0 and not N/A
final_df['Sanction'] = final_df['Sanction'].fillna(0)
print(final_df)
```

OUR ANALYSIS

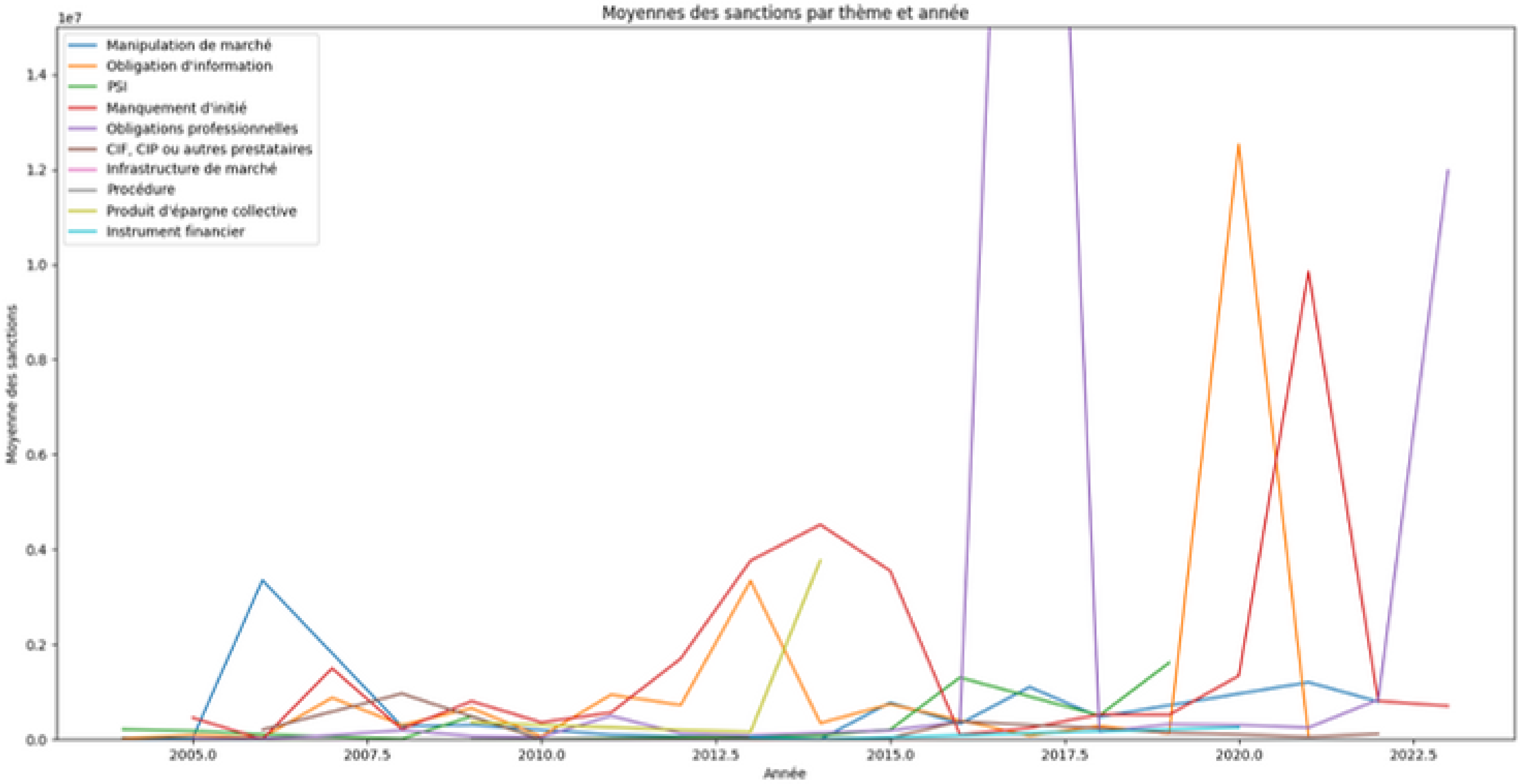
Common legal basis for all sanctions : Article L. 621-15 of the *Code monétaire et financier.*

- **Financial penalties imposed by the AMF are capped at the highest of the following amounts**:
  - **100m€** for legal entity / **15m€** for individuals
  - **tenfold of the benefit derived from the breach** (if determinable)
  - **15% of total sales** (for insider dealing, disclosure requirements and market manipulation)

- **Principle of publicizing sanction decisions**:

The Sanction Commission's decision is published in the publications, newspapers or media it designates, in a format commensurate with the offence committed and the sanction imposed.

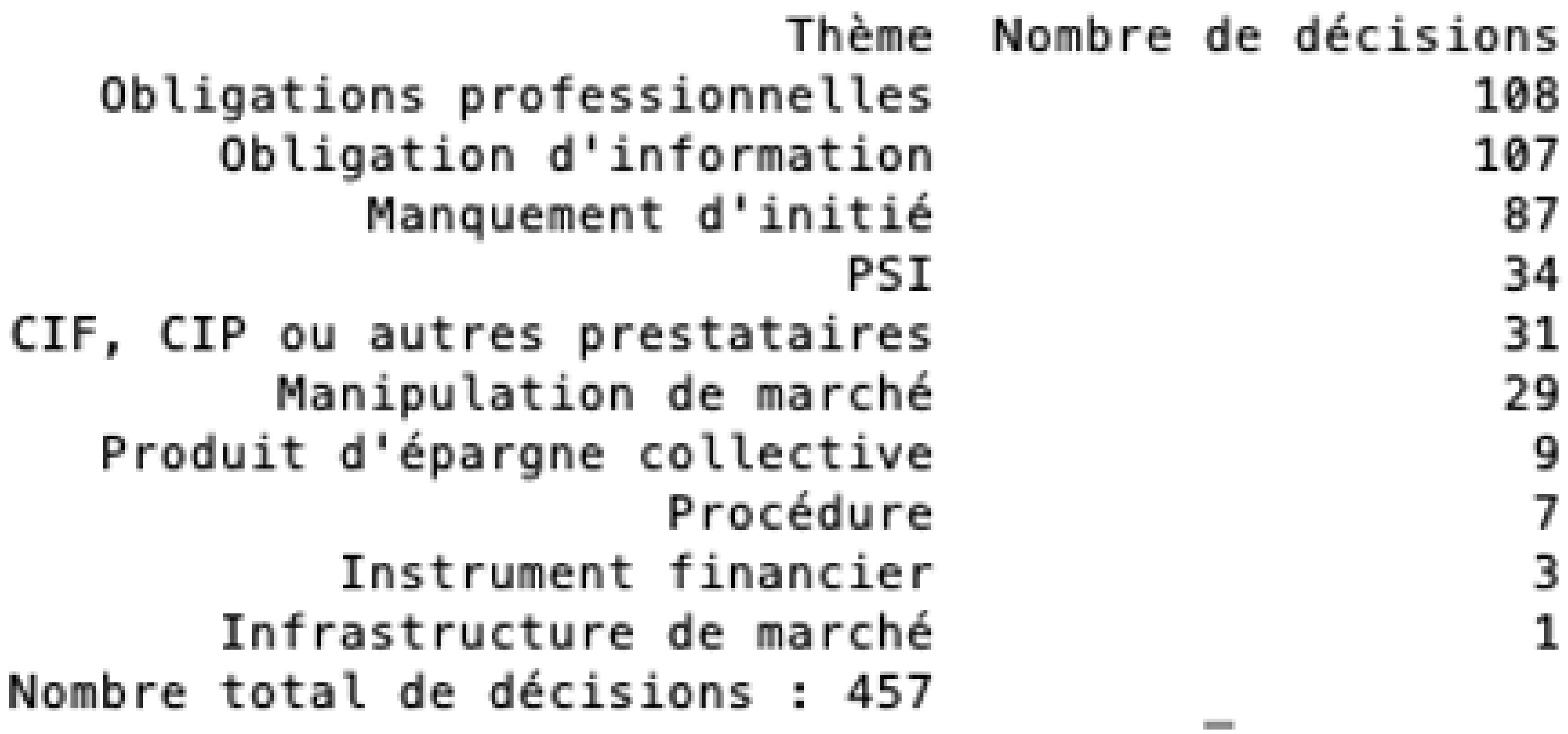
Step 1: Display the whole data



Lack of readability

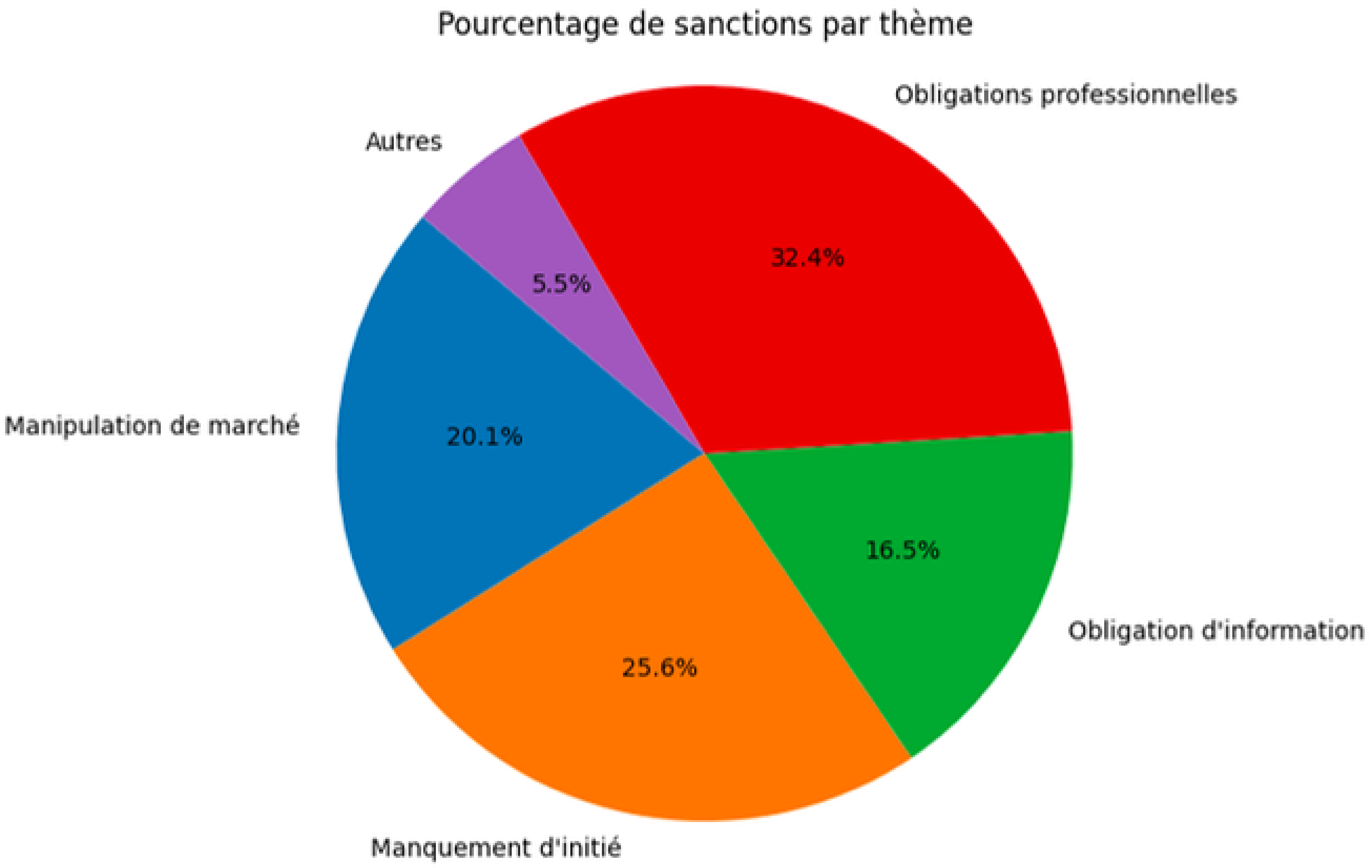
A few curves equal to abcissa

Step 2: Refine data selection

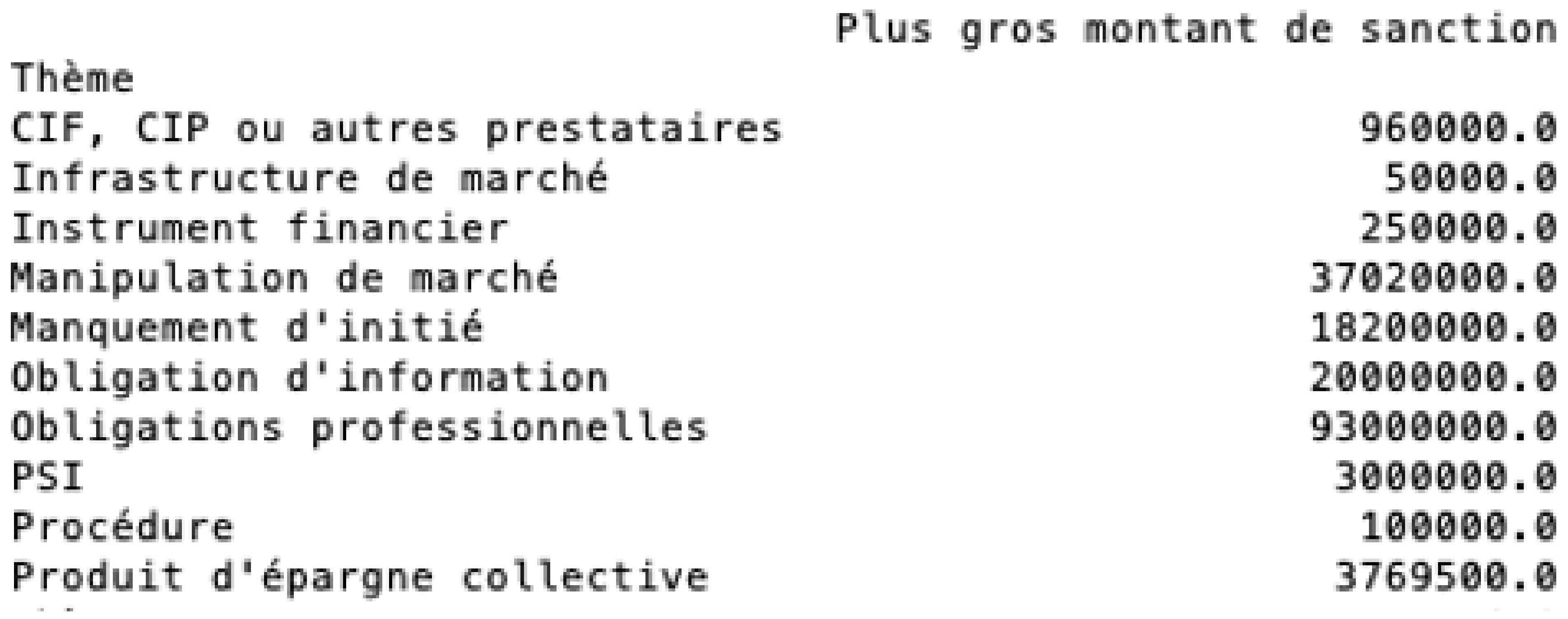


```
                              Thème  Nombre de décisions
        Obligations professionnelles                  108
            Obligation d'information                  107
                 Manquement d'initié                   87
                                 PSI                   34
       CIF, CIP ou autres prestataires                 31
              Manipulation de marché                   29
        Produit d'épargne collective                    9
                           Procédure                    7
                Instrument financier                    3
             Infrastructure de marché                   1
Nombre total de décisions : 457
```

Themes rarely addressed

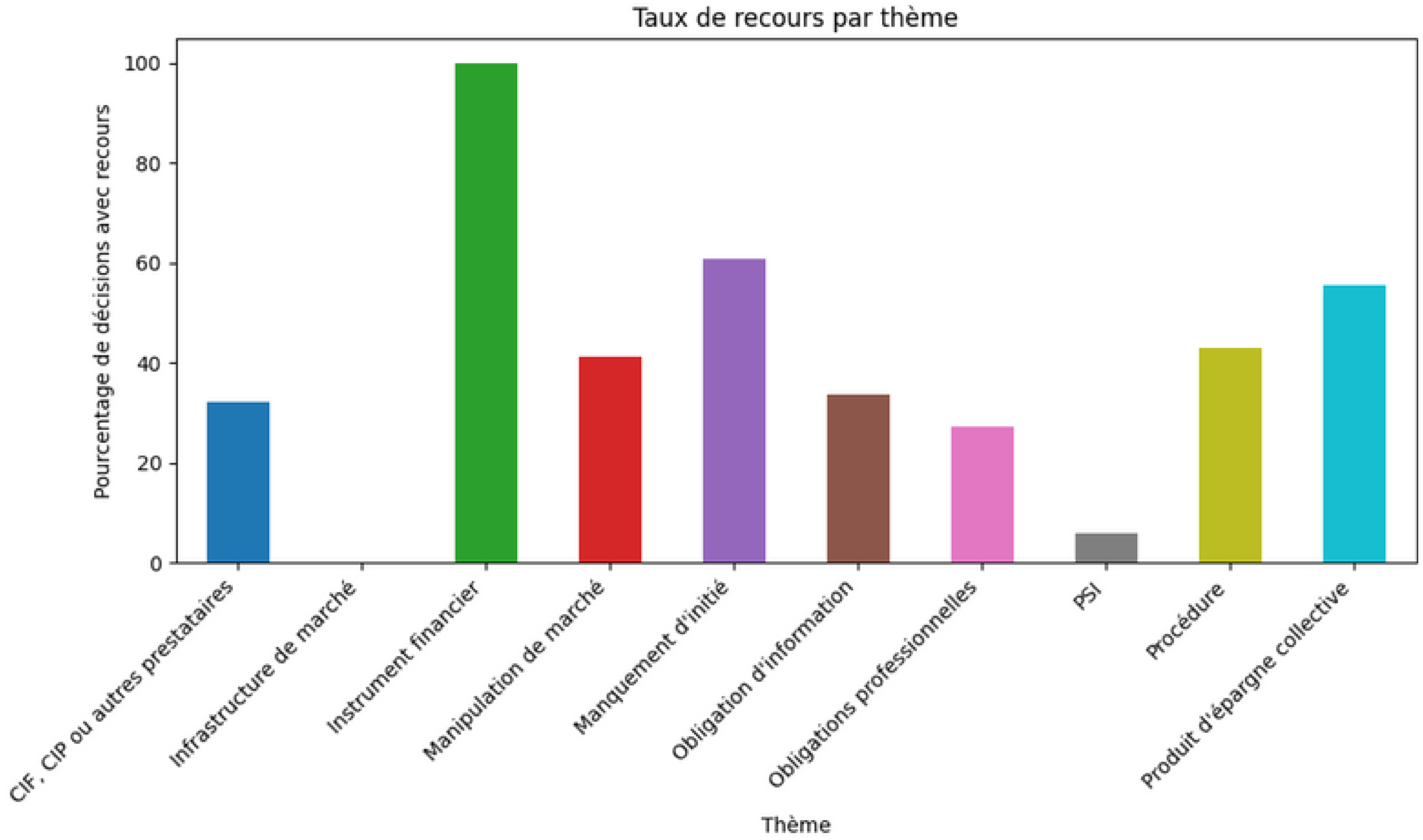


4 themes account for 95% of the amount of penalties imposed !



```
                                  Plus gros montant de sanction
Thème
CIF, CIP ou autres prestataires                        960000.0
Infrastructure de marché                                50000.0
Instrument financier                                   250000.0
Manipulation de marché                               37020000.0
Manquement d'initié                                  18200000.0
Obligation d'information                             20000000.0
Obligations professionnelles                         93000000.0
PSI                                                   3000000.0
Procédure                                              100000.0
Produit d'épargne collective                          3769500.0
```

The largest sanction amounts are also found in the 4 main themes

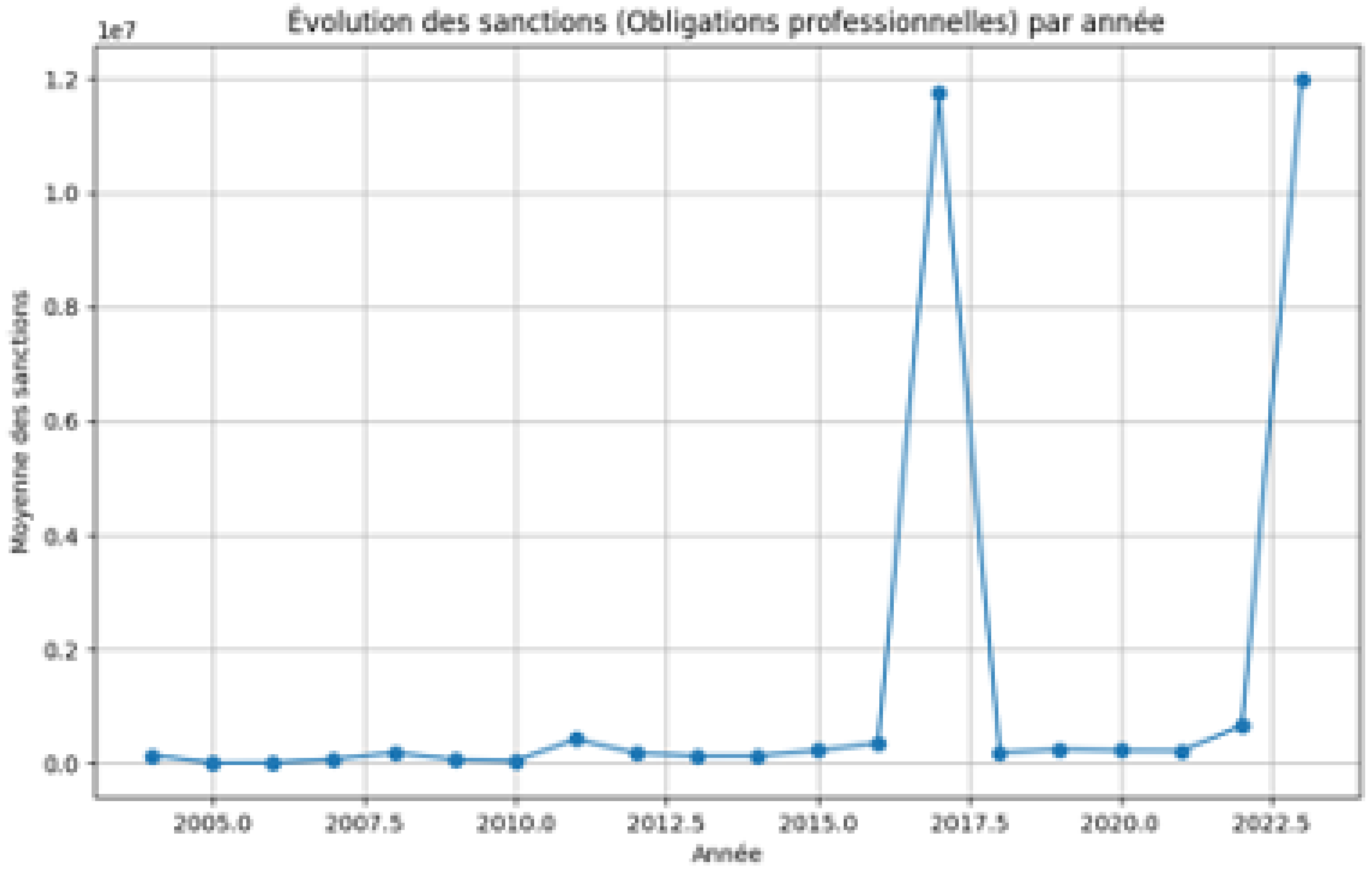


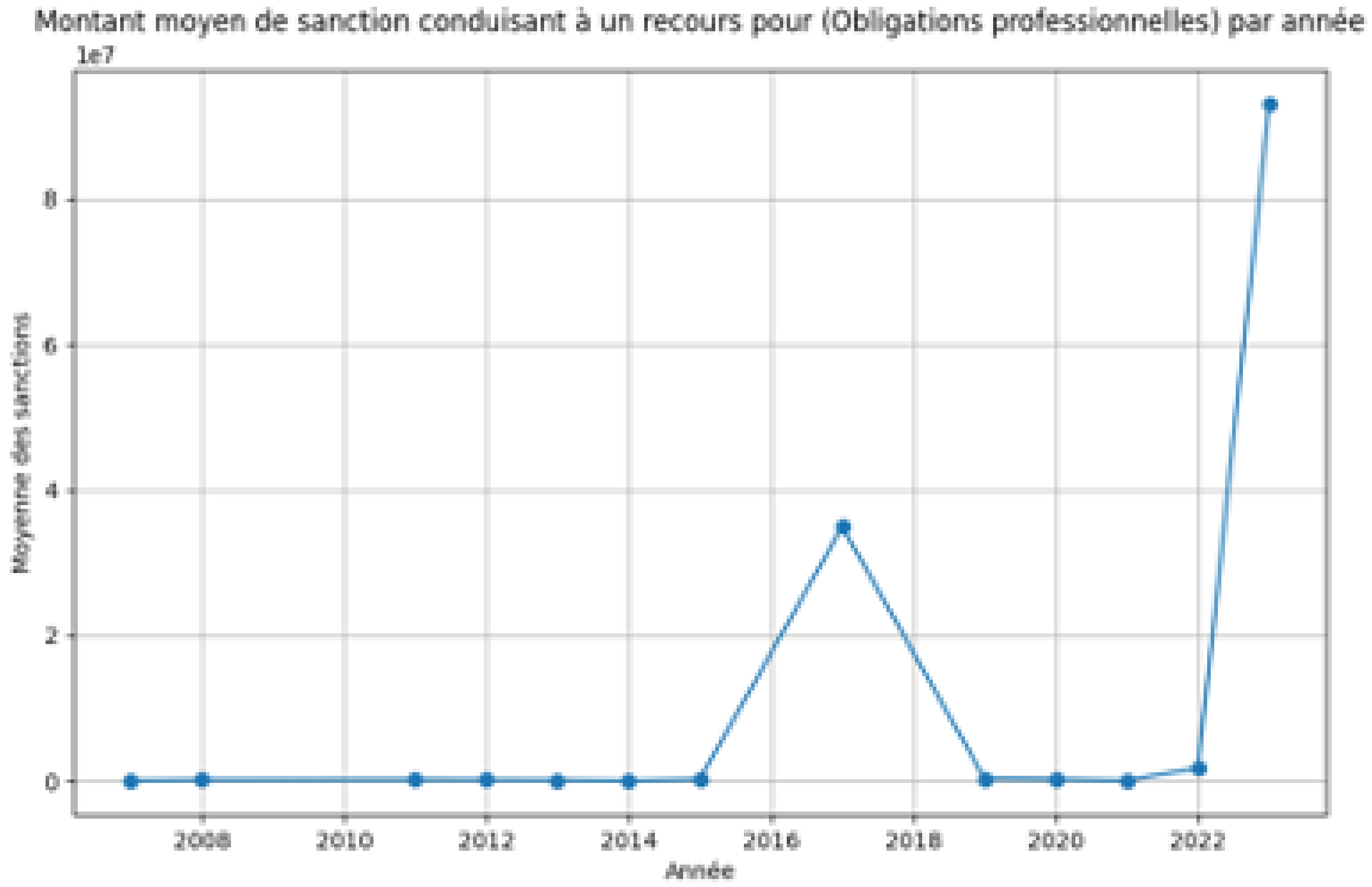
The first theme of the 4 main themes in terms of appeals is "insider trading".

Step 3: Analyze each theme

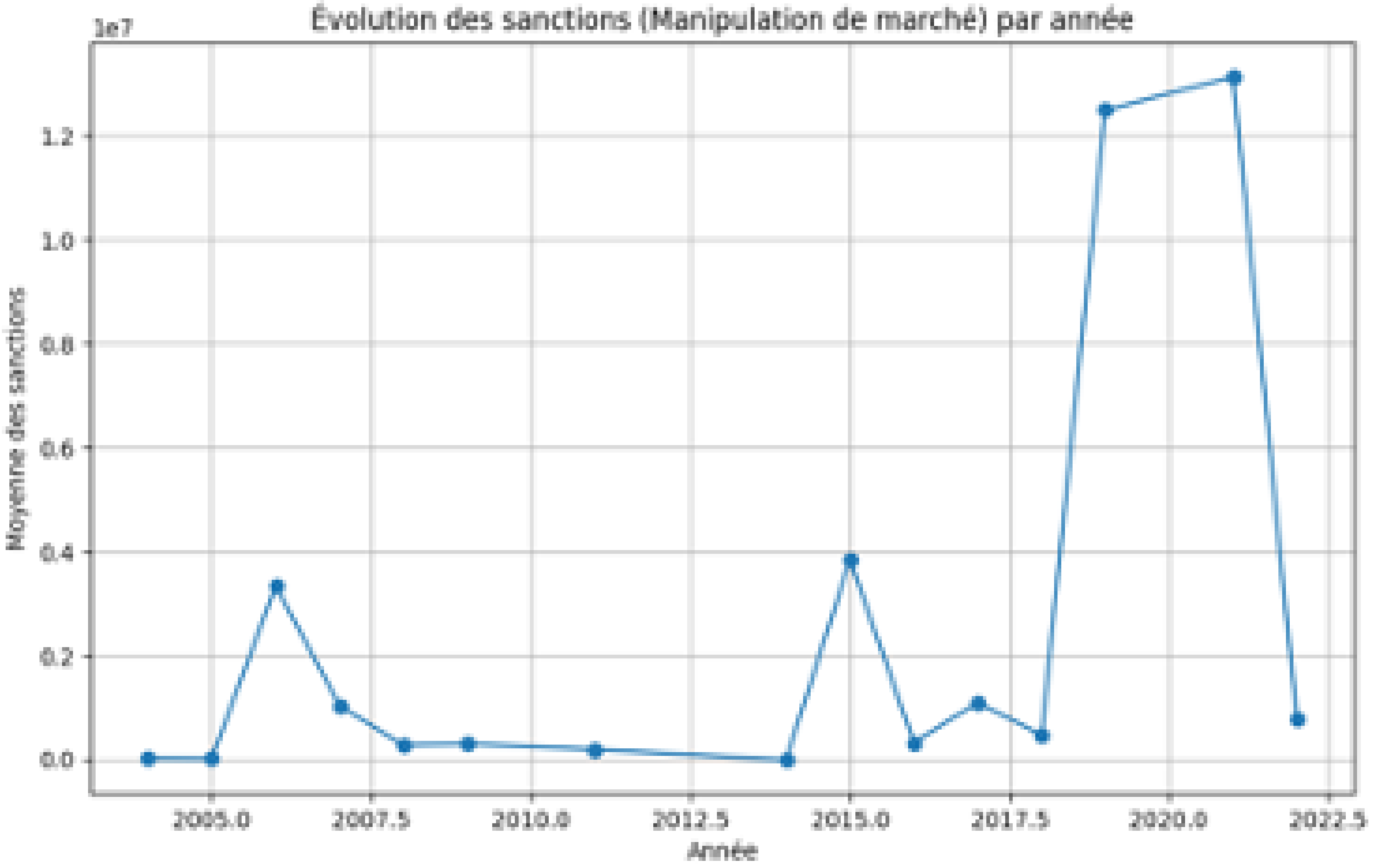
1) Professional duties (“Obligations professionnelles”

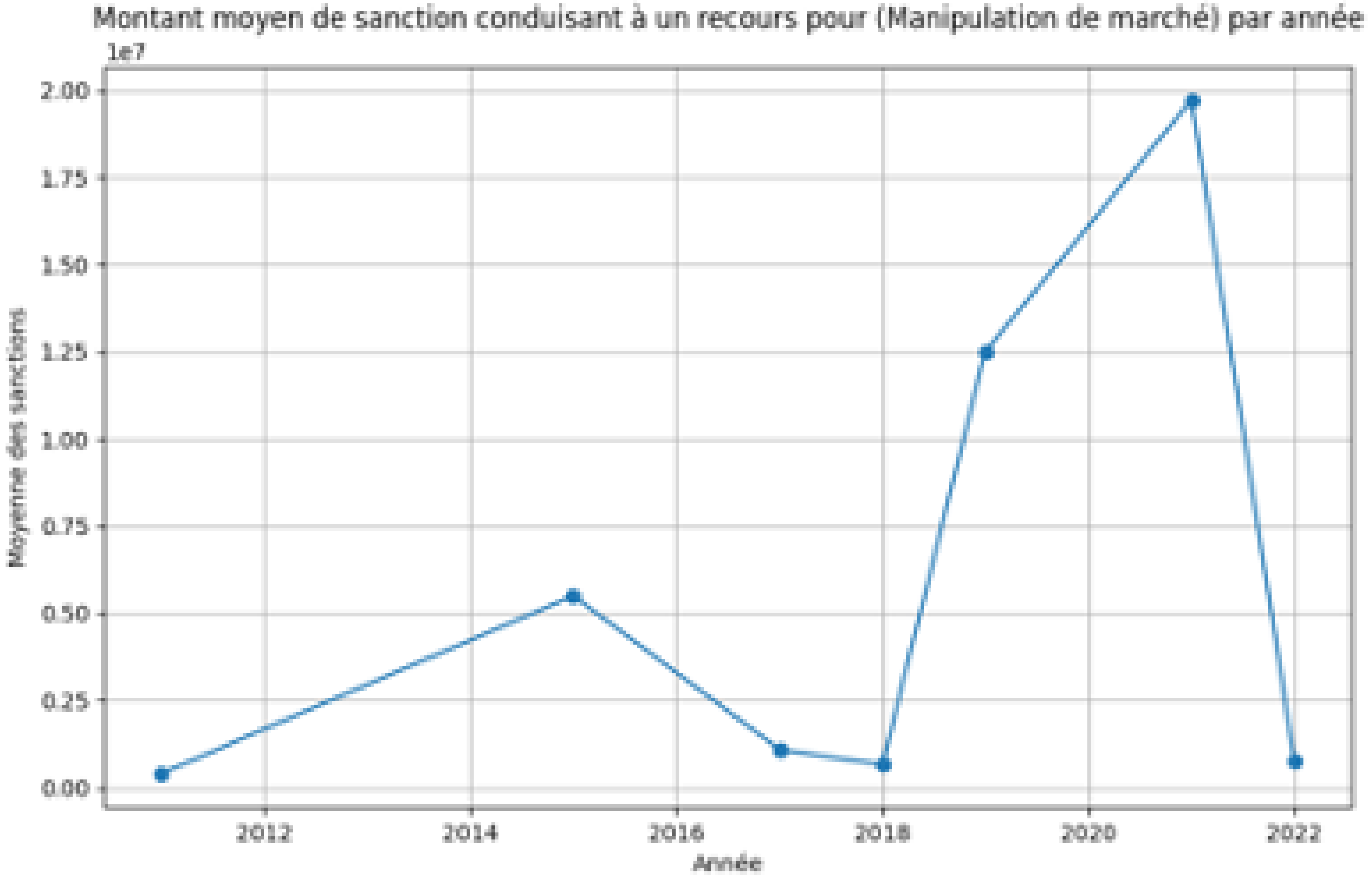
Article L533-1 of the CMF: "*Investment service providers shall act honestly, loyally and professionally, in a way that promotes the integrity of the market*".



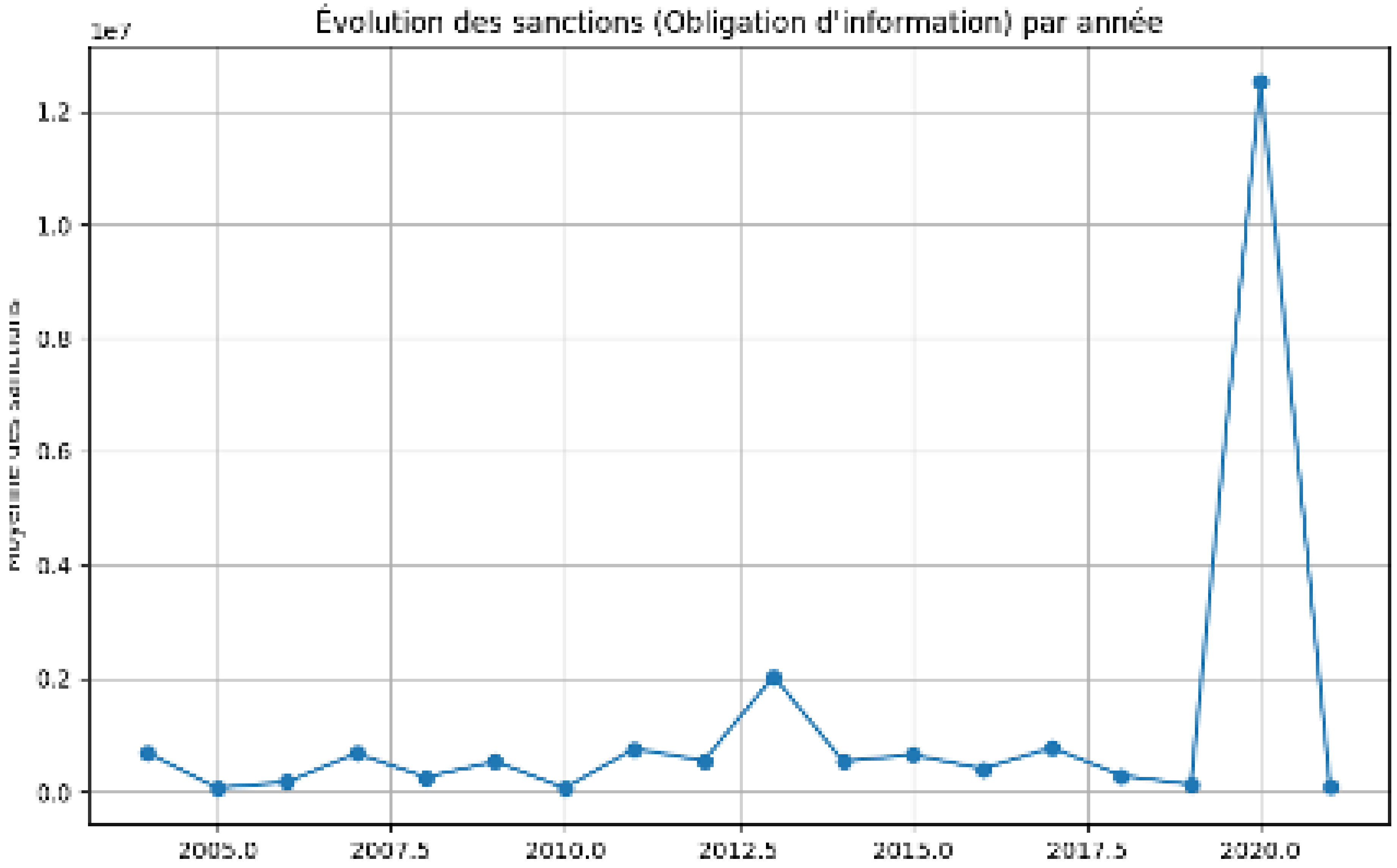


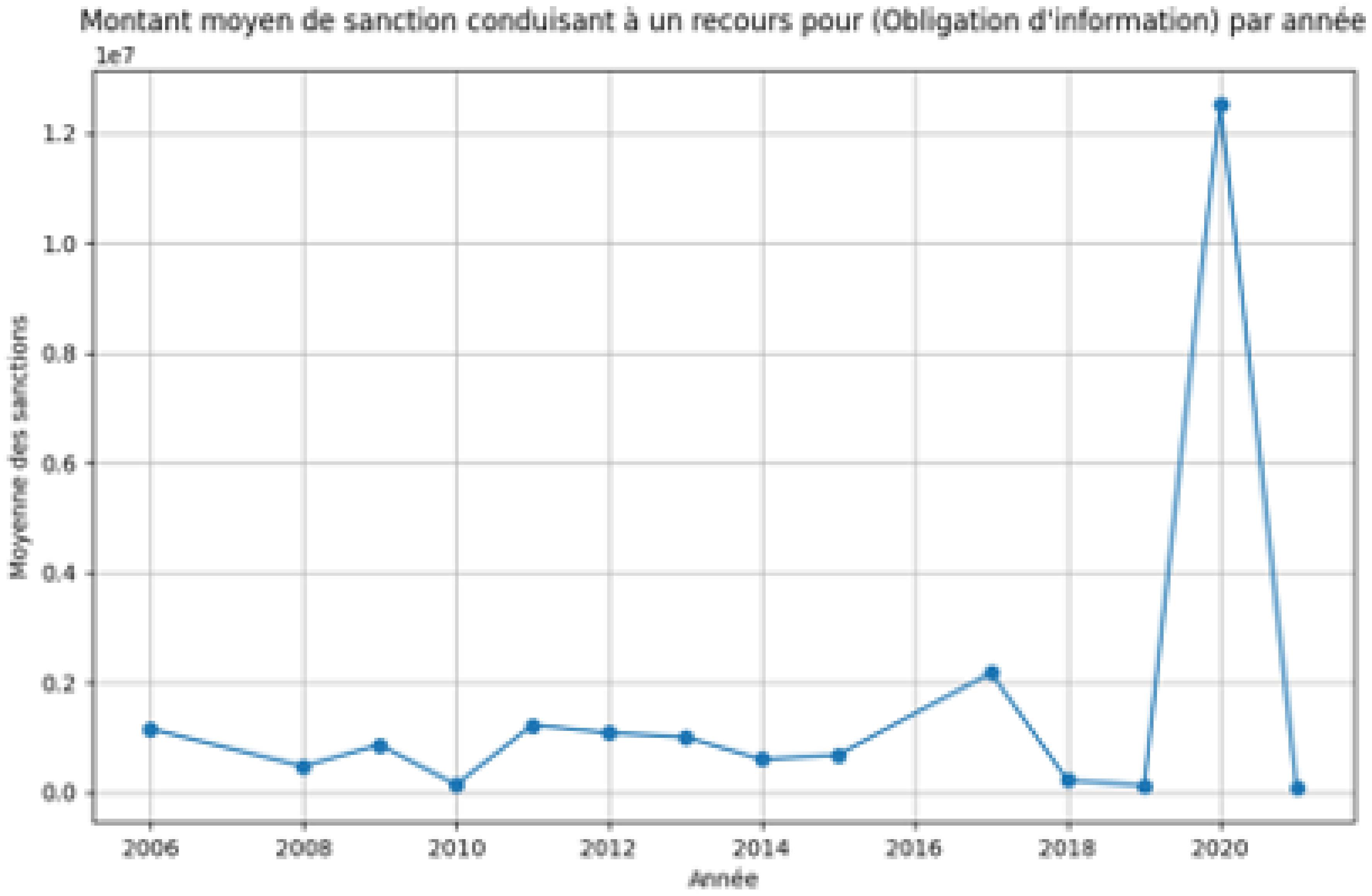
2) Market manipulation ("Manipulation de marché")



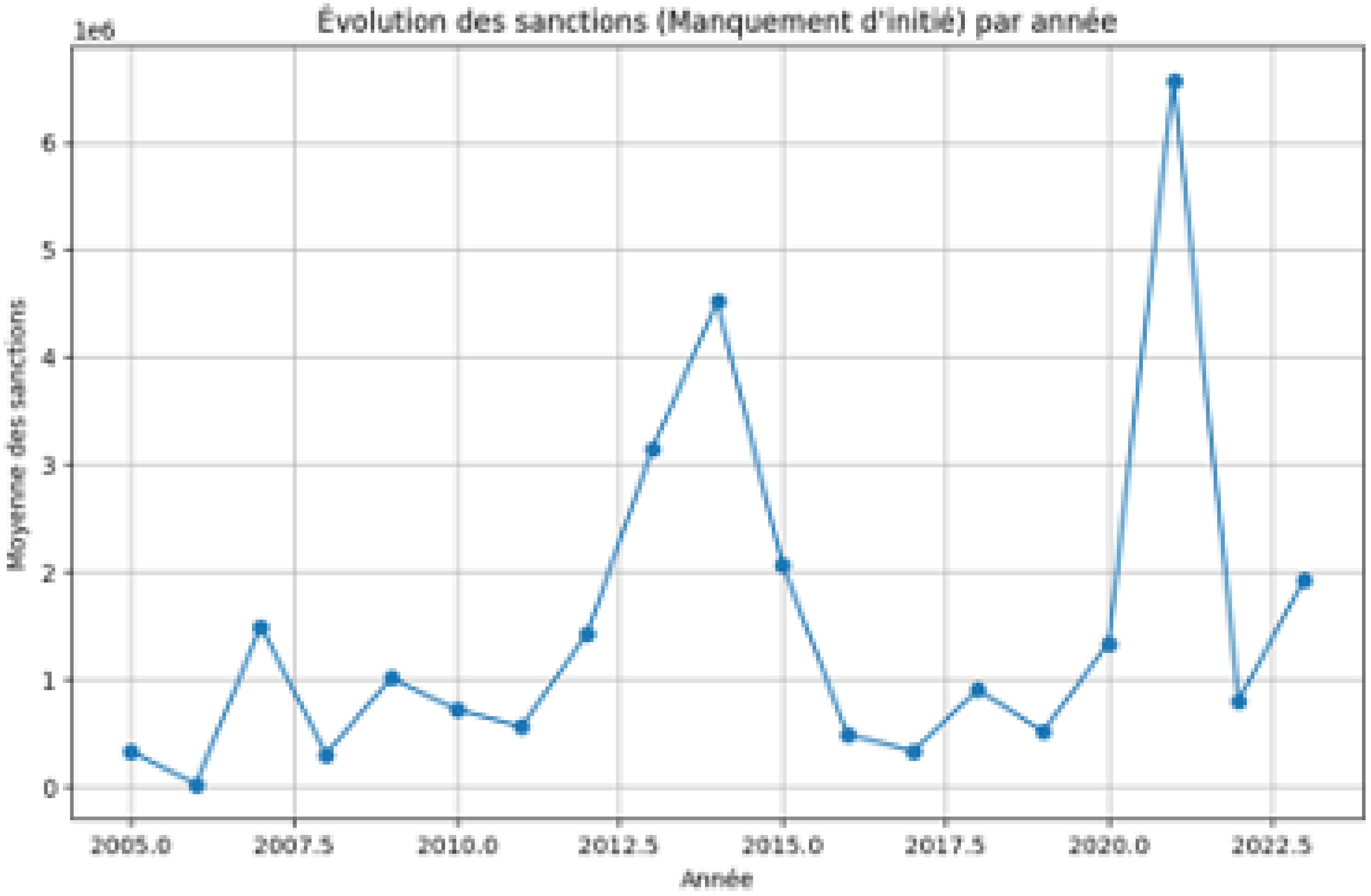


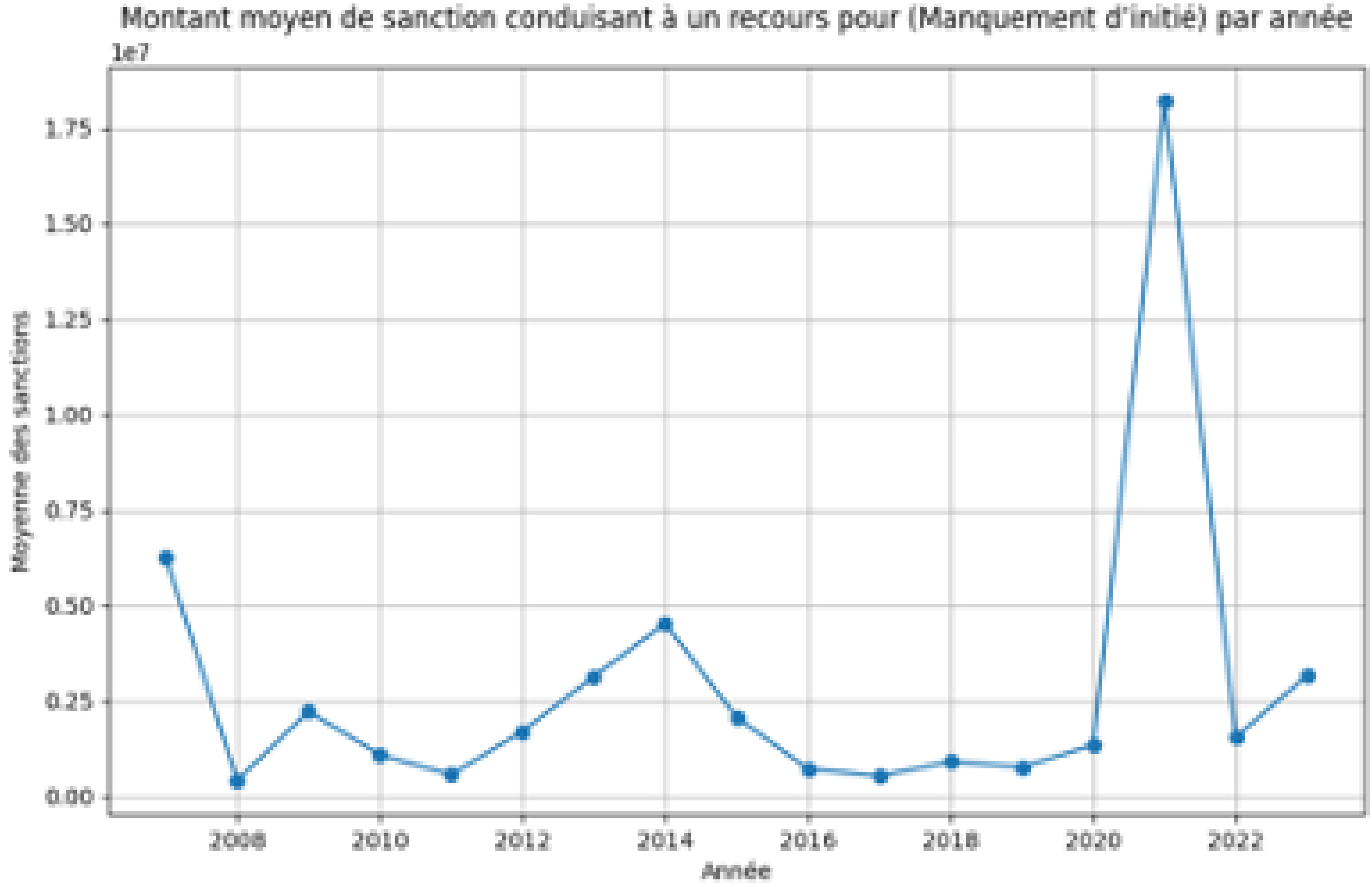
3) Disclosure requirements (“Obligation d’information”)





4) Insider trading (“Manquement d’initié”)


Évolution des sanctions (Manquement d'initié) par année
1e6
Moyenne des sanctions
Année


Montant moyen de sanction conduisant à un recours pour (Manquement d'initié) par année
1e7
Moyenne des sanctions
Année