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# New York Eviction Filings Analysis (2020–2021)

## 1. Data Overview and Preprocessing

This analysis uses two datasets:

- **Monthly Data** (`newyork_monthly_2020_2021.csv`)
- **Weekly Data** (`newyork_weekly_2020_2021.csv`)

The datasets are loaded using pandas and preprocessed to include proper datetime conversions for both monthly and weekly data. Specifically:

- **Monthly Dates:** Converted to datetime format using `pd.to_datetime()`.
- **Year and Month Number:** Extracted to support merging with weekly data.
- **Weekly Dates:** Parsed and decomposed into year and month for aggregation and merging.

## 2. Monthly Aggregation and Trend Analysis

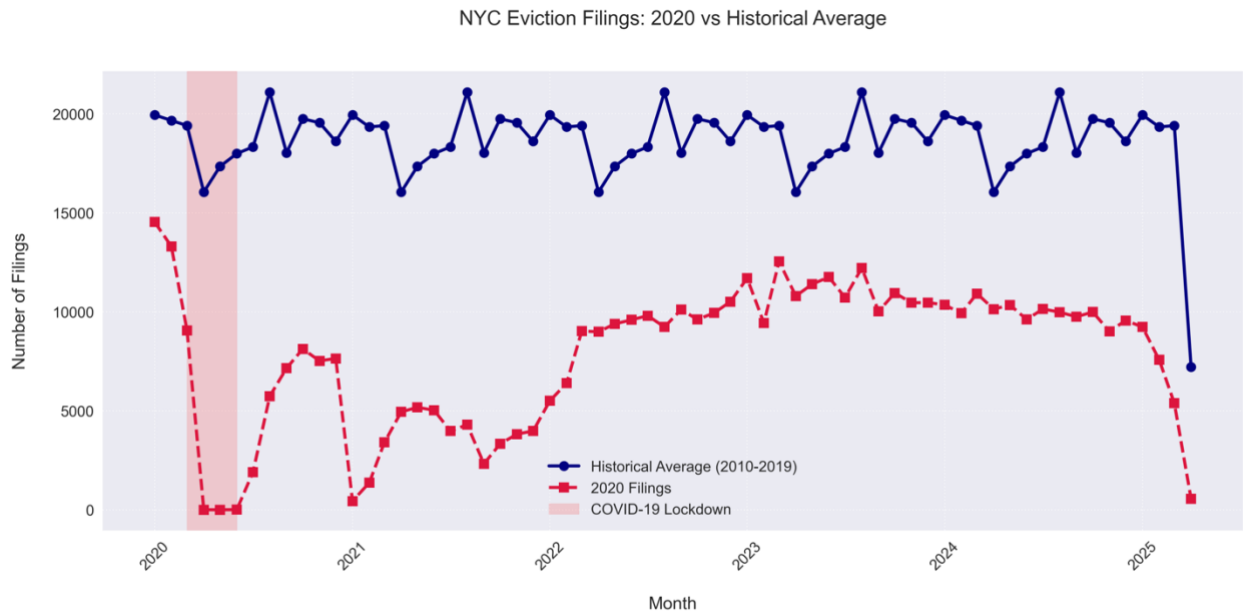
The monthly data is aggregated to show total filings and historical averages per month. The percentage change from historical averages (2010–2019) to 2020 actuals is calculated

using:

```
monthly_agg['pct_change'] = ((monthly_agg['filings_2020'] - monthly_agg['filings_avg']) /  
monthly_agg['filings_avg']) * 100
```

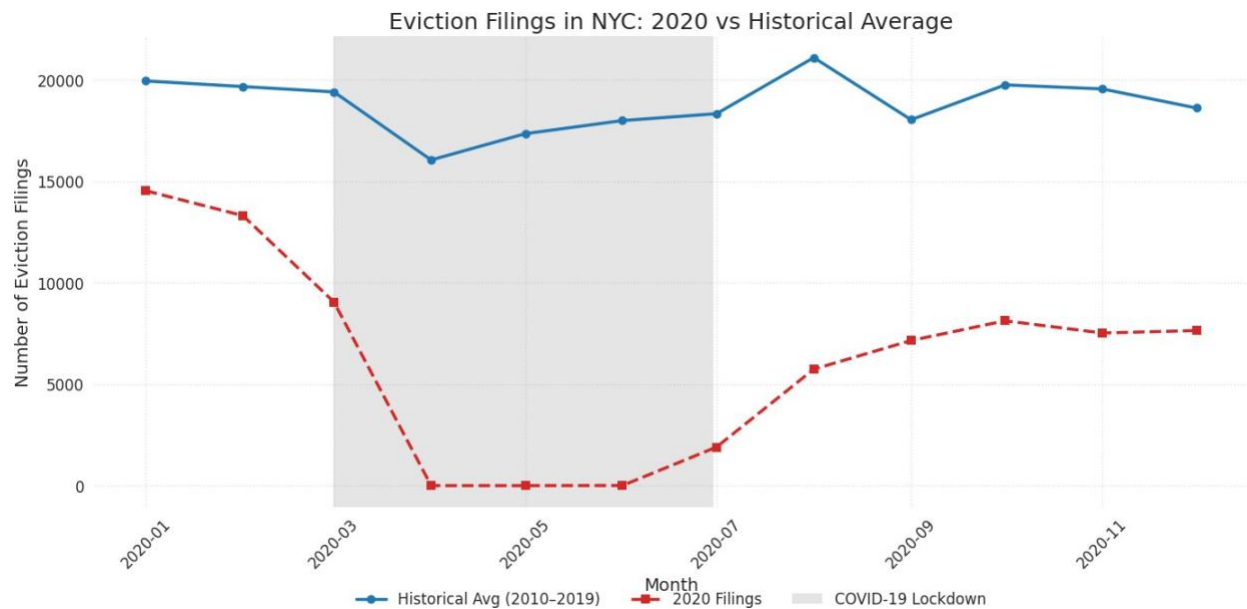
This helps identify months where eviction filings increased or decreased significantly compared to historical patterns.

### 3. Visualization 1: 2020 Filings vs Historical Averages



Data Source: Eviction Lab | Analysis: College Board

During the pandemic, the government forced all eviction filings to a halt. In 2025, evictions fell drastically. In early 2025, evictions also fell drastically. We can see that eviction filings are not as prevalent as historical averages.



This chart compares the monthly number of eviction filings in 2020 with the average filings from 2010 to 2019.

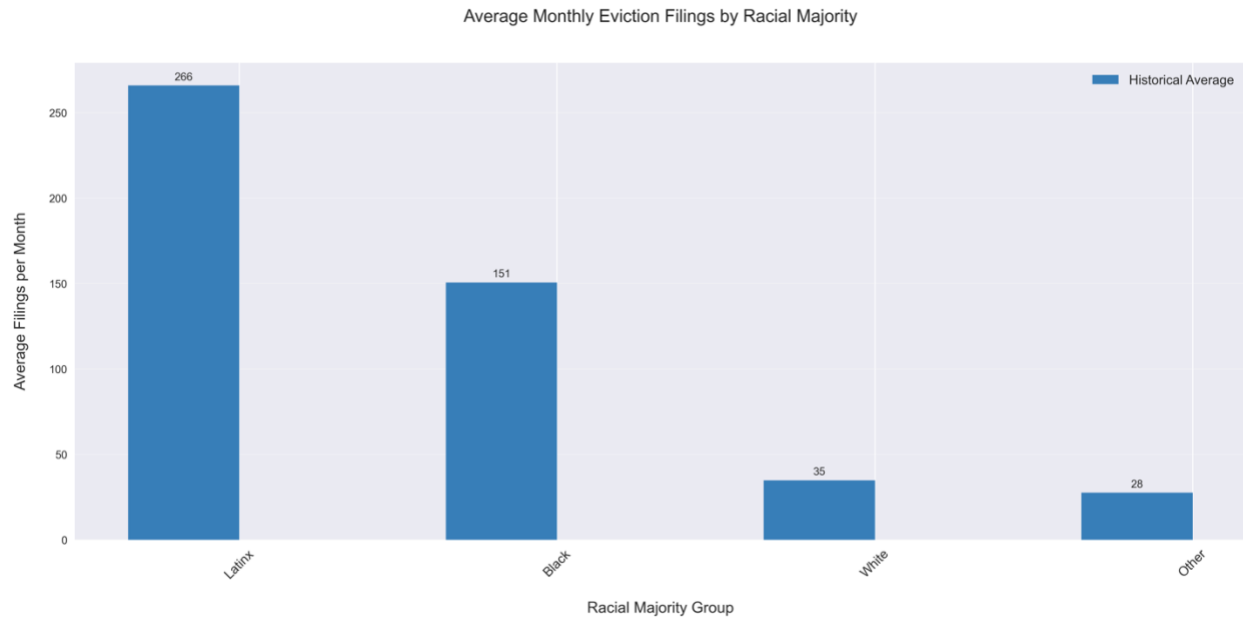
**What it shows:**

- **Blue Line:** The average number of eviction filings per month from 2010–2019 — a stable baseline.
- **Red Dashed Line:** The actual number of filings in each month of 2020.
- **Gray Shaded Area (March–June):** Highlights the COVID-19 lockdown period.

**Key insights:**

- **Before Lockdown (Jan–Feb):** 2020 filings were slightly below the historical average.
- **During Lockdown (Mar–Jun):** Eviction filings in 2020 dropped sharply, hitting near zero — showing the strong impact of eviction moratoriums.
- **After Lockdown (Jul–Dec):** Filings picked up again but stayed well below the usual levels, suggesting ongoing disruptions and possibly continued protections.

## 4. Visualization 2: Racial Disparity Analysis



This grouped bar chart breaks down average monthly eviction filings by **racial-majority areas** (if available):

- Compares historical average vs 2020 figures.
- Labels on top of each bar show precise filing counts.

This highlights disparities and how different racial-majority neighborhoods experienced eviction filings during the pandemic.

## 5. Data Merging and Quality Check

The weekly and monthly datasets are merged based on GEOID, year, and month\_num. The merge success rate is:

- **Matched weekly records:** 82,775 out of 83,076
- **Merge accuracy:** 99.6%
- **Unmatched records:** 301

This indicates a high-quality merge, enabling temporal analysis across both resolutions (weekly and monthly).

## 6. Output Files Generated

Four key CSV files were generated:

- processed\_monthly.csv
- processed\_weekly.csv
- merged\_data.csv
- monthly\_aggregated.csv

Three visualization images were saved:

- 1\_historical\_trend\_comparison.png
- perfect\_covid\_impact.png
- racial\_disparities.png