

# One Source, Many Outputs

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The reason to write analysis in Quarto rather than a notebook plus a separate deck is that the deck stops drifting from the analysis. This page and the PDF, reveal.js and PowerPoint versions linked beside the title all came from one `index.qmd`. Nothing was copied.

Getting that to work is mostly about three constraints, which are easier to accept up front than to retrofit.

## Rule 1: Headings are slide boundaries

In the article formats a `##` heading starts a section. In reveal.js and PowerPoint the same heading starts a *slide*, and its content has to fit on one.

That is a real writing constraint, not a formatting detail. It means a few tight paragraphs and one figure per heading. The upside is that prose written this way is better prose — if a section does not fit on a slide, it was probably doing two things at once.

## Rule 2: Static figures only

An interactive Plotly chart is JavaScript. There is no sensible way to put it on a PDF page or a PowerPoint slide, so a multi-format document uses matplotlib.

```
import numpy as np
import matplotlib.pyplot as plt

years = np.arange(0, 31)
fig, ax = plt.subplots(figsize=(8, 4.2))

for rate, color in [(0.04, "#95a5a6"), (0.07, "#1f4e79"), (0.10, "#c0392b")]:
    ax.plot(years, 10_000 * (1 + rate) ** years,
            color=color, linewidth=2, label=f"{rate:.0%} annual return")

ax.set_xlabel("Years")
ax.set_ylabel("Value of $10,000")
ax.yaxis.set_major_formatter(lambda x, _: f"${x/1000:,.0f}k")
ax.legend(frameon=False, loc="upper left")
```

```
ax.spines[["top", "right"]].set_visible(False)
plt.show()
```

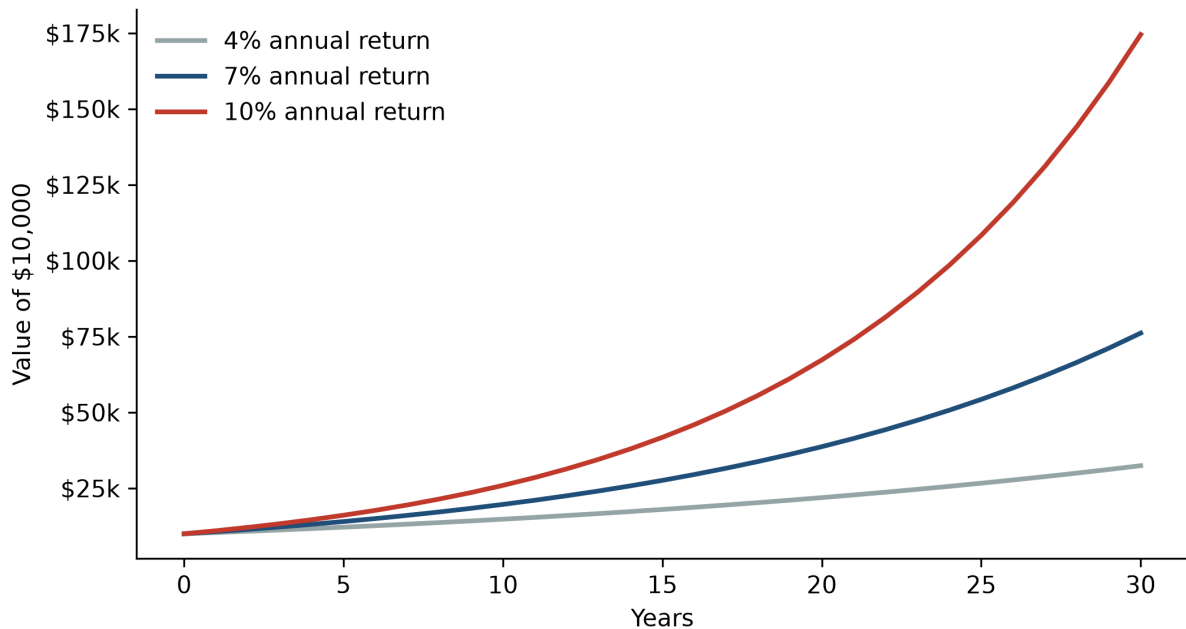


Figure 1: Compounding is the least intuitive arithmetic in finance.

Three percentage points of annual return is a factor of two and a half over thirty years, which is Figure 1's entire point.

### Rule 3: Content that only belongs in one place gets fenced

Some material is web-only — a long appendix, a data dictionary, an interactive widget. Some is slide-only, like a punchline with no supporting text. Quarto's conditional divs handle both.

*(This note is PDF-only: the HTML version of this post has an interactive-figure section that has no print equivalent.)*

### What the formats cost

Each extra format is a line of YAML and a slower render. The honest accounting:

| Format   | Good for                     | Watch out for                     |
|----------|------------------------------|-----------------------------------|
| html     | The canonical post           | Nothing; this is the default      |
| pdf      | Sending to someone, printing | Needs LaTeX; wide tables overflow |
| revealjs | Presenting from a browser    | Content must fit a slide          |

| Format            | Good for                     | Watch out for                     |
|-------------------|------------------------------|-----------------------------------|
| <code>pptx</code> | Someone who needs to edit it | No theme control worth relying on |

I default to HTML only, and add formats to a specific post when there is an actual reason. `format-links` in the HTML sidebar generates the download links automatically, so readers get them for free whenever a post declares extra formats.

## The takeaway

Write the analysis once, in the format that keeps the code next to the claim. Decide later who needs it as a document.