Challenges in ESG-DCF Modeling

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The Promise of ESG-DCF

Integrating ESG into DCF sounds great on paper.

✅ It accounts for long-term sustainability risks & opportunities.

✅ It helps investors align capital with impact.

But there's a catch: The practice is messy.
Here's why 👉

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Challenge 1

Greenwashing

Many firms exaggerate ESG performance.
📌 EU Commission found 42% of green claims to be false or misleading.

If a DCF model uses these inflated claims…
📉 Your valuation = flawed.

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Challenge 2

Data Gaps & Rating Conflicts

Reliable ESG data is still limited.
📌 **Only 33% of global firms report full Scope 1, 2 & 3 emissions (CDP 2023).**

📉 **ESG ratings vary:**
→ **MIT study found average ESG rating correlation = 0.61**
(Compare that to credit ratings: 0.99)

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Challenge 3

Forecasting ESG Risks

DCF is forward-looking — but ESG risks are fast-moving and uncertain.

📦 Think:
▪ Carbon pricing
▪ Climate events
▪ Regulatory shifts
▪ Social backlash

📌 Yet most models use static ESG scores and One-size-fits-all risk premiums!

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Challenge 4

Short-Term Bias

DCF models usually look 5–10 years ahead.
But ESG risks often play out over decades.

🌍 Example: A 2°C global temperature rise could shrink GDP by 11-14% by 2050 (Source: Swiss Re Institute)

What Can We Do?

To improve ESG-DCF, we need:

✅ Better ESG disclosure frameworks (ISSB, CSRD).

✅ Sector-specific ESG factor mappings.

✅ Advanced tools: Real options, Monte Carlo simulations.

✅ Cross-training: Finance ↔ Sustainability.

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