

Crafting a Good Research Question

ECS Research Workshop

15 October 2025

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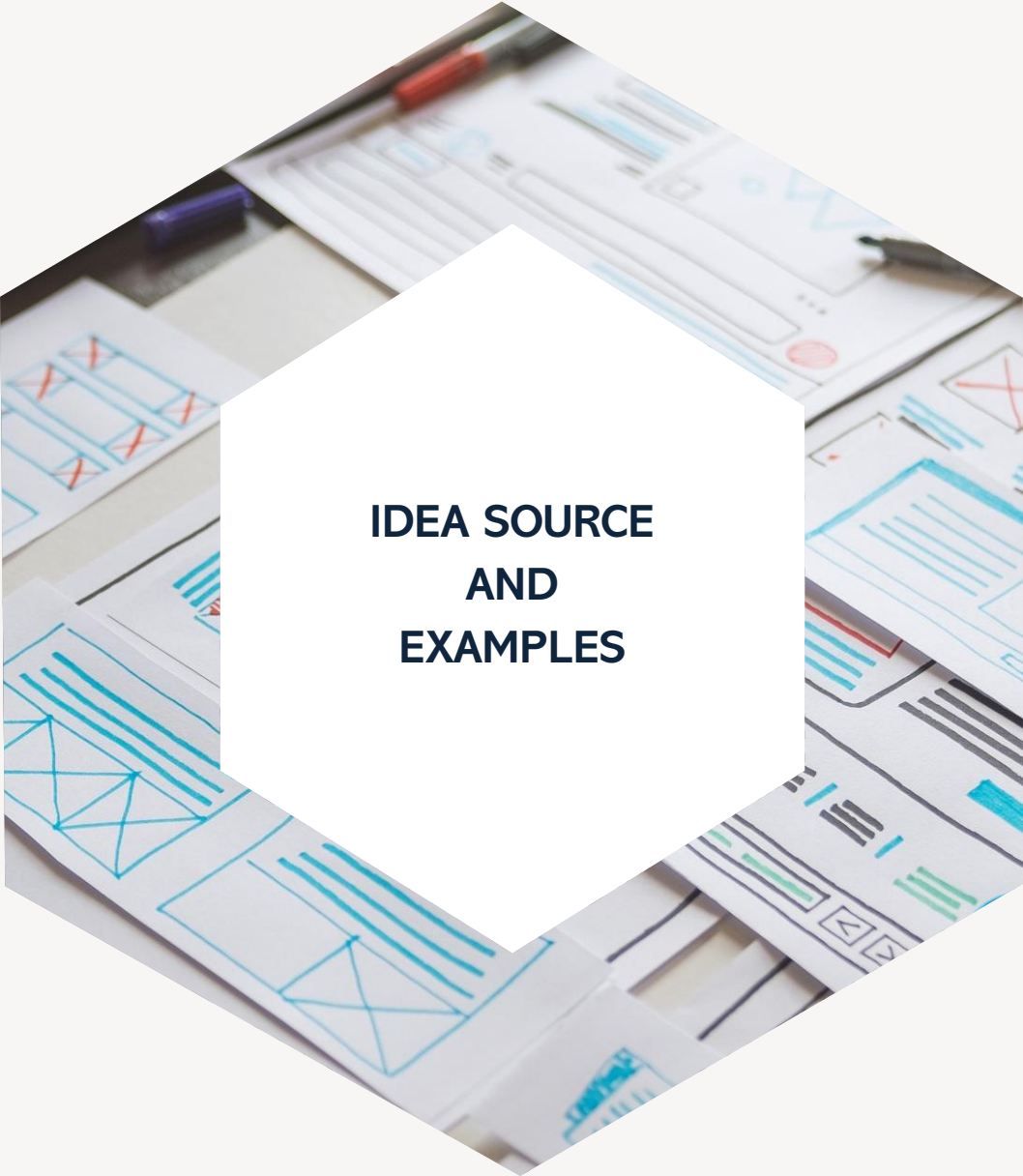
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Agenda





**IDEA SOURCE
AND
EXAMPLES**

**Q1 How to come up with
a Research Question?**

Q1 How to come up with a RQ?



Observation and Data

- **Idea source:** Everyday or data-based patterns that look surprising or unexplained.
- **Ask yourself:** “*Why does this happen?*”
- **Examples:**
 1. People move from rural to urban areas even when wages are similar → *Why migrate if income gains are small?*
 2. Female labor participation increases during recessions → *Why do gender roles shift in downturns?*
 3. Some schools with fewer resources achieve higher test scores → *What drives their success?*

Q1 How to come up with a RQ?



Policy

- **Idea source:** New reforms, programs, or institutional changes that create variation.
- **Ask yourself:** “*Did it work?*” or “*Who benefited?*”
- **Examples:**
 1. A country raises the minimum wage → *Does it reduce employment or improve job quality?*
 2. A new parental leave policy → *Does it change mothers’ long-term career paths?*
 3. Government builds new highways → *Does infrastructure improve regional equality or congestion?*

Q1 How to come up with a RQ?



News

- **Idea source:** Recent events or public debates that raise fresh questions.
- **Ask yourself:** “*Can we explain or measure this phenomenon using data?*”
- **Examples:**
 1. Global rise of remote work → *How does it affect productivity and urban housing demand?*
 2. Extreme weather events → *Do they increase migration or reshape local economies?*
 3. Social media bans in schools → *Do digital restrictions improve student focus?*

Q1 How to come up with a RQ?



Books and Qualitative Studies

- **Idea source:** Historical accounts, ethnographies, or anthropological works that describe mechanisms or puzzles not yet tested quantitatively.
- **Ask yourself:** “*Can I test this idea with data?*” or “*Can I measure this mechanism empirically?*”
- **Example:**
Inspired by anthropological and medical-history books on African colonial health programs. → *Did exposure to colonial medical campaigns reduce people’s trust in medicine today?*
Lowes & Montero (QJE 2021): “*The Legacy of Colonial Medicine in Africa.*”



**PRACTICAL
APPROACH**

**Q2 How to tell whether it
is good Research Question**

Q2 How to tell whether it is good RQ

Literature

Crafting a Good Research Question



Step 1. Start from the literature

- Read recent **handbooks**, **Annual Review of Economics** and **Journal of Economic Literature** to understand where the field is going.
- Identify **what has been done** and where the **gaps or unresolved issues** lie.
- **Ask yourself:** “*What contribution would my study add to this conversation?*”
- **Example**
- You’re interested in “minimum wage and employment.” Reading the ***Handbook of Labor Economics*** shows the field is mature.
But maybe there’s less evidence on *informal workers* or *developing countries* → potential niche.

Tips: Find Literature

- [Google Scholar](#)
- [ScienceDirect.com](#) | Science, health and medical journals, full text articles and books.

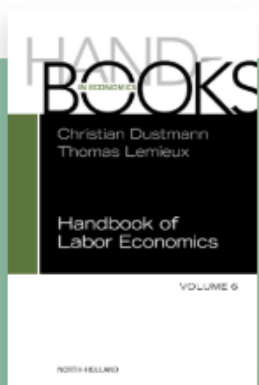
Good to install add-on: [LibKey Nomad](#)

The screenshot displays the LibKey Nomad interface. The top left section, with a dark blue background, features the LibKey Nomad logo and tagline "Discovery starts everywhere." It explains that the service connects library resources with scholarly articles from PubMed, Wikipedia, and other publisher websites. It also includes a link for questions and answers, and a note that LibKey Nomad is a Third Iron technology supported by the library, with a privacy policy link and version number (v1.50.0).

The top right section, with a white background, shows the "Options" menu and the "National University of Singapore" (NUS) logo. Below this is a "Select Organization" dropdown menu, which is currently expanded to show a list of organizations, including "25Test_Philips", "3M Company", "A.T. Still University", "Aaron University", "AbbVie Inc.", "Abdus Salam International Centre for Theoretical Physics (ICTP)", "Abertay University Library", "Aberystwyth University", and "Abington - Jefferson Health".

The main content area shows an article preview for "Minimum wage increases and vacancies" from the journal "Labour Economics", Volume 97, December 2025, 102765. The article is authored by Marianna Kudiyak, Murat Tasci, and Didem Tüzemen. The preview includes a list of references (40) and a "Highlights" section. The highlights section lists three key findings: "Vacancies have not been studied much in the large empirical minimum wage literature.", "At-risk occupations have a larger share of workers earning close to the minimum wage.", and "Minimum wage increases reduce vacancies in at-risk occupations relative to others." It also notes that "Negative effects start three quarters prior to the minimum wage increase."

At the bottom of the interface, there is a "Download PDF" button and a "National University of Singapore" logo.



Handbook of Labor Economics

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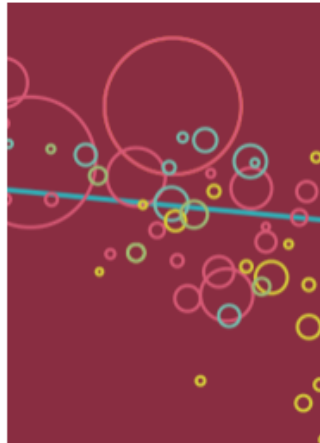
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Chapter 8 - Labor market monopsony: fundamentals and frontiers

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Q2 How to tell whether it is good RQ

Gap



Step 2. Identify the research gap and contribution

- **Research gap:** something not yet explored, or not well explained (e.g. identification limitation, data constraint, unclear mechanism...)
- **Contribution:** data, method, or evidence that help fill the gap
- **Example:**
- Gap: Few studies separate the effects of parental income and education on children's outcomes.
Question: How much of intergenerational mobility is driven by income versus education?
Contribution: Provides new evidence using linked administrative data and sibling comparisons.

Q2 How to tell whether it is good RQ

Contribution



Step 3. Is the research question of general interest?

Ask yourself:

- “Why should others care about this question?”
- “Does it speak to a broader audience beyond my specific case or country?”

What counts as general interest:

- The question connects to a big theme — inequality, environment, technology, governance, human behavior, etc.
- It offers insight beyond one dataset or region.
- It relates to current debates or policy concerns.

Q2 How to tell whether it is good RQ

Contribution



Step 3. Is the research question of general interest?

Examples:

- Studying Singapore's **school streaming reform** → can inform broader questions about how incentives and labeling affect student motivation and social mobility.
- Studying **urban heat mitigation** in Singapore's public housing estates → speaks to global challenges of climate adaptation in densely populated cities.
- Examining trust and technology in Singapore's **e-government systems** → connects to cross-cutting debates on digital governance and citizen accountability.

Tip:

- Even if your topic is narrow, frame it around a universal mechanism (e.g., incentives, information, trust, risk, inequality).

Q2 How to tell whether it is good RQ

Contribution



Step 4. Discuss: If the field is crowded

- **Challenge:** Hard to make an original contribution; risk of being incremental.
- **Strategy:**
 1. Focus on a different context (e.g. another country, group, or mechanism).
 2. Bring in a new dataset or better identification.
 3. Shift from “Does it exist?” to “How or why does it vary?”

Q2 How to tell whether it is good RQ

Contribution

Example: New Method for an Old Question

- **Old question:**
Do minimum wages reduce employment?
→ A long-debated topic in labor economics.
- **Gap:** Most studies assume we can clearly identify *who* is directly affected by the minimum wage. In reality, this classification is noisy and may bias estimated effects.

Cengiz, Dube, Lindner, and Zentler-Munro (2019, *AEJ*)

- **Contribution:** use machine learning (random forest / boosted trees) to predict each worker's *probability of being a minimum-wage earner*. They then estimate treatment effects along this predicted distribution.
- **Why this matters:** The study revisits an *old question* with a *new method*, offering richer insights into **heterogeneous impacts**—not just “*Does the minimum wage reduce jobs?*” but “*For whom and by how much?*”

Q2 How to tell whether it is good RQ

Contribution



Step 4. Discuss: If the field is blue ocean

Why it's blue

1. The topic is **new, interdisciplinary, or data-scarce**.
2. Few established theories or empirical results exist.

Opportunity (Pros)

1. High novelty and visibility.
2. Room to explore new concepts, data, and frameworks.
3. Easier to claim “first evidence” or “first systematic study”.

Challenge (Cons)

1. Unclear theoretical foundation: may need to build your own conceptual framework.
2. Data limitations: few established datasets, often requiring creative construction.
3. Higher uncertainty: reviewers may question relevance or external validity.

Q2 How to tell whether it is good RQ

Data Availability



Step 5. Could the data answer the question

Ask yourself:

- “Is there data that actually allows me to test this idea?”
- “Can I observe the key variables or credible variation needed?”

What to check:

- Data coverage: does the dataset capture the population, region, or time period you care about?
- Measurement: are the key observable or proxied?
- Identification: does the data contain variation to separate cause from correlation?
- Access & feasibility: is the data publicly available, or realistic to obtain/collect?

Tip:

- Even if perfect data don’t exist, ask whether a feasible proxy or natural experiment could approximate what you need.

Q2 How to tell whether it is good RQ

Identification

Crafting a Good Research Question



Step 6. Could any identification strategy answer the question?

A good research question must be answerable with a credible identification strategy — not just conceptually interesting.

Ask yourself:

- “Can I find variation that mimics a random experiment?”
- “Can I distinguish causality from correlation?”

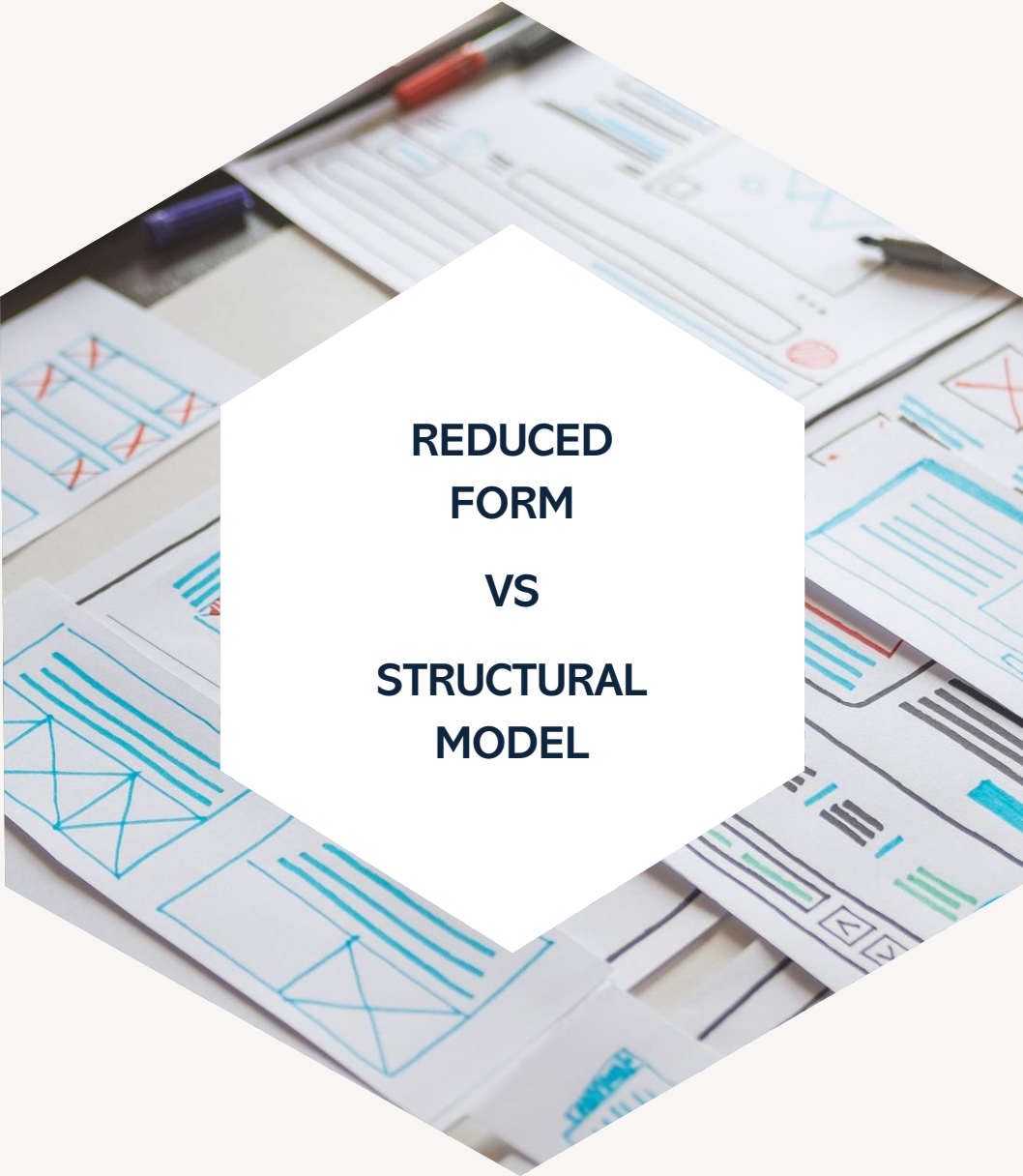
Common identification strategies

- Experiment / Randomization – lab or field experiment
- Quasi-experiments – natural shocks, policy timing, discontinuities, instruments
- Structural identification – impose behavioral structure or model assumptions to infer parameters.

If no credible identification exists, even the best idea remains just a “question,” not research.

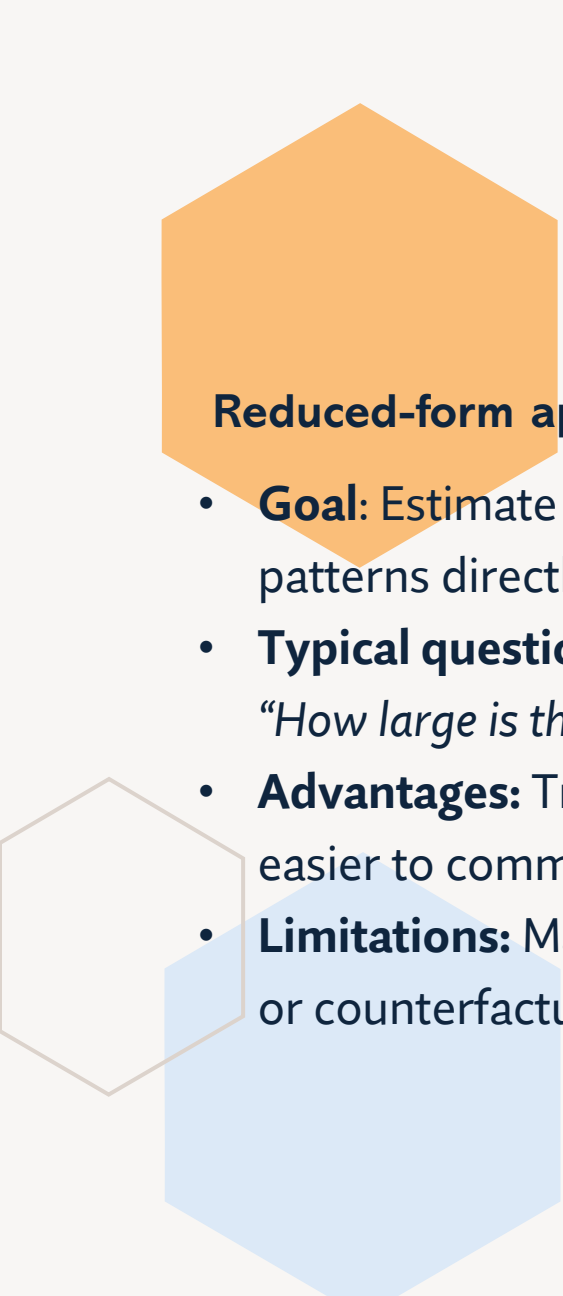
Next, let’s discuss how to actually answer it — through reduced-form or structural strategies.





**REDUCED
FORM
VS
STRUCTURAL
MODEL**

Q3 How to answer the Research Question



Reduced-form approach (“Evidence-first”)

- **Goal:** Estimate causal effects or empirical patterns directly from data.
- **Typical questions:** “Does X affect Y ?” / “How large is the effect?”
- **Advantages:** Transparent, data-driven, easier to communicate policy relevance.
- **Limitations:** May not capture mechanisms or counterfactuals far from observed data.

Structural approach (“Mechanism-first”)

- **Goal:** Build an explicit economic model of behavior and estimate its parameters.
- **Typical questions:** “Why does X affect Y ?” / “What would happen under alternative policies?”
- **Advantages:** Can simulate counterfactual policies and uncover mechanisms.
- **Limitations:** Requires stronger assumptions and model validation.

Q3 How to answer the RQ

Reduced-Form

Crafting a Good Research Question



1. The logic of counterfactuals

- In causal inference, we ask:
*“What would have happened **if X had not changed?**”*
- The **counterfactual** is the outcome we *cannot observe* — what the same person, firm, or region would have done in the absence of the treatment.
- The key challenge: we never observe both worlds → so we need **comparison groups** to approximate it.

Example:

- After a new minimum wage law, employment falls in one region.
- To claim causality, we need to know what would have happened **without** the policy → use another region as counterfactual.

Q3 How to answer the RQ

Reduced-Form

Crafting a Good Research Question



2. Experiments (Randomized Controlled Trials, RCTs)

Idea:

- Random assignment creates an *as-if* counterfactual.

Goal:

- Make treated and control groups identical on average, except for the treatment.

Example:

- Giving cash transfers to half of villages at random → compare outcomes.

Strength:

- Strong internal validity.

Limitation:

- Expensive, sometimes unethical or unfeasible; external validity may be limited.

Q3 How to answer the RQ

Reduced-Form

Crafting a Good Research Question



3. Quasi-experiments

Idea: Use naturally occurring or policy-driven variation to mimic random assignment.

Common methods:

1. Difference-in-Differences (DID)

- Card & Krueger (1994) — Compare employment changes in New Jersey (with a minimum wage increase) vs. Pennsylvania (no change).

2. Instrumental Variables (IV)

- Angrist & Krueger (1991) — Use quarter of birth as an instrument for schooling to estimate the return to education.

3. Regression Discontinuity (RD)

- Lee (2008) — Study U.S. elections: districts where a Democrat barely wins vs. barely loses → estimate incumbency advantage.

4. Event Studies

- Jacobson et al. (1993) — Study earnings trajectories before and after job displacement using event-time analysis.

Q3 How to answer the RQ

Structural Model



1. The logic of structural model

- Build an **economic model of behavior** (how people or firms make choices).
- Estimate the model's **parameters** so that simulated outcomes **replicate** real behavior.
- Use it to run counterfactuals — *What if the policy didn't exist, or a new one was introduced?*

Example:

- A migration model where people choose whether to move → simulate what happens if moving costs fall by 10%, **to predict policy impact on regional population shifts.**

2. Common types of structural models

Type	What it studies	Classic / modern examples
Discrete choice model	How agents choose among discrete options	McFadden (1974) Random utility model of transport mode choice
Dynamic discrete choice	Sequential choices over time under uncertainty	Rust (1987) bus engine replacement; Keane & Wolpin (1997) life-cycle schooling model
Search & matching model	Frictions in matching between agents (labor, marriage, etc.)	Mortensen & Pissarides (1994) — unemployment dynamics; Shimer (2005) — labor market tightness
General equilibrium (GE) model	Interactions across markets / spatial units	Eaton & Kortum (2002) — trade; Caliendo et al. (2019) — migration and regional GE
Structural trade / spatial model	How trade, migration, or commuting shape regional welfare	Redding & Rossi-Hansberg (2017) — spatial equilibrium; Fajgelbaum & Gaubert (2020) — trade & inequality
Industrial organization (IO) models	Firm pricing, entry/exit, competition	Berry, Levinsohn & Pakes (1995) — demand estimation; Aguirregabiria & Mira (2007) — dynamic firm entry

Summary

Q1 How to come up with a RQ

Q2 How to tell whether it is good RQ

Q3 How to answer the RQ



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Thank you

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