

**Microsoft COPILOT AI Response to the 2026 version of the paper," INDUSTRIAL CONCENTRATION AND CROWN CORPORATIONS IN BRITISH COLUMBIA " JUNE 1982, BY ELMER G. WIENS.**

Back in the day, 1982, I worked for the BC Government at the Economic Analysis and Research Bureau (EARB) located in the Ministry of Industry and Small Business Development. I wrote a research paper, "INDUSTRIAL CONCENTRATION AND CROWN CORPORATIONS IN BRITISH COLUMBIA " JUNE 1982, BY ELMER G. WIENS. I have now revised it somewhat and separated it onto three PDF documents that can be accessed at the webpage:

[https://www.egwald.ca/government/BC\\_industrial\\_concentration\\_crown\\_corporations.php](https://www.egwald.ca/government/BC_industrial_concentration_crown_corporations.php). Is there some value to this research now by comparing it to BC's industrial structure and Crown Corporations today? In the paper I tried to use the best theory available at the time concerning industrial structure and industrial organization. How have these theories changed?

**Yes — your 1982 research has real contemporary value, both as a historical benchmark of B.C.'s industrial structure and as a lens for evaluating how Crown corporations and market concentration have evolved. Modern industrial-organization theory has also shifted in important ways, making your work a useful reference point for understanding what has changed and what remains structurally persistent.**

**Why your 1982 study is valuable today**

**1. It provides a rare empirical snapshot of B.C.'s economy at a turning point**

Your research captured B.C.'s industrial structure just before the province entered a period of deep recession and restructuring in the early 1980s. Scholars note that this period marked a transition from post-war economic assumptions to a more globalized, market-driven environment. Having detailed concentration ratios, vertical integration patterns, and Crown corporation roles from 1982 allows today's analysts to:

- Compare long-term concentration trends in forestry, mining, energy, and transportation.
- Assess whether federal Crown corporations still create regional bottlenecks or whether governance reforms have changed outcomes.
- Examine how privatization, deregulation, and globalization altered the industrial landscape.

**2. Your analysis of Crown corporations remains relevant**

Your study highlighted how non-B.C. federal Crown corporations influenced ports, pipelines, rail, and refineries, sometimes creating bottlenecks or favouring central Canada. These issues remain alive today in debates over:

- Port governance and federal vs. provincial priorities
- Pipeline capacity and regulatory jurisdiction
- The role of provincial Crowns like BC Hydro in shaping industrial development

Your work provides a baseline for evaluating whether these structural tensions have improved or persisted.

### **3. Your detailed concentration ratios and industry-specific data are historically unique**

You documented four-firm concentration ratios, vertical integration patterns, and sector-specific structures across manufacturing and resource industries. This is valuable because:

- Many of these industries have since consolidated further or globalized.
- Some sectors (e.g., pulp and paper) have declined, while others (e.g., tech, film, LNG) have emerged.
- Long-term structural change can only be measured when early benchmarks exist.

## **How industrial-organization theory has changed since 1982**

### **1. Shift from structure–conduct–performance (SCP) to game-theoretic models**

In the early 1980s, SCP and concentration-ratio analysis were dominant. Your work reflects this tradition. Since then:

- **Game theory** became central to industrial-organization (IO), emphasizing strategic behaviour rather than static concentration measures.
- Models of **dynamic competition**, **capacity investment**, and **entry deterrence** became standard — ironically aligning with your earlier work on dynamic oligopoly and public firms.

### **2. Rise of empirical IO and econometrics**

Modern IO relies heavily on:

- Structural econometric models
- Firm-level microdata
- Simulation of counterfactual market structures

Your study's descriptive and structural approach remains useful, but today's methods allow more precise causal inference.

### 3. New focus areas: platforms, networks, and global value chains

Contemporary IO now examines:

- Digital platforms and network effects
- Global supply chains
- Vertical restraints and contracting
- Behavioural IO (bounded rationality, consumer biases)

These were not part of the 1982 theoretical landscape.

### 4. Reassessment of concentration as a policy issue

There is renewed global concern about rising concentration and market power. Your work fits directly into this modern policy conversation, especially regarding:

- Regional inequality
- Public vs. private ownership
- Infrastructure control
- Competition policy in resource-dependent economies

### Why revisiting your study now matters

Your research offers a **baseline**, a **methodological contrast**, and a **policy framework** that can be compared with today's industrial structure. It can help answer questions such as:

- Has B.C. diversified away from resource dependence?
- Are today's Crown corporations more accountable to B.C. interests?
- Has concentration increased or decreased in key sectors?
- How have globalization and privatization reshaped industrial organization?

If you'd like, I can help you **map your 1982 findings onto B.C.'s current industrial structure** and identify where the biggest changes have occurred.

### 1. Where your 1982 study "plugs into" today's B.C. economy

Here are the most natural comparison axes between your 1982 work and B.C. now:

- **Industrial mix:** In 1982, your focus was on **primary resources and manufacturing**—forestry, mining, oil and gas, fish products, plus related manufacturing and transport.

Today, B.C.'s GDP and employment are dominated by **services** (real estate, professional services, health care, public administration, finance, tourism, tech), with goods-producing sectors still important but smaller in share. Your concentration ratios and structural descriptions become a **baseline** for asking: how much of that old resource-heavy structure still drives vulnerability today?

- **Market concentration and firm size:** You measured four-firm concentration ratios and vertical integration in key industries. A modern follow-up could:
  - Recreate those ratios using NAICS-based data for the same or analogous industries.
  - Compare whether concentration in, say, forestry, mining, pipelines, and ports has **increased, decreased, or simply globalized** (e.g., foreign multinationals instead of Canadian conglomerates).
- **Exposure to external shocks:** You already argued that industrial concentration in a few resource sectors makes B.C. vulnerable to downturns and project completions. That logic is still live: you could contrast 1982's vulnerability (forest products, coal, metals) with today's mix (LNG, tech, tourism, film, housing construction) and ask whether diversification has actually reduced systemic risk—or just shifted it.

## 2. Crown corporations then vs now

Your Part Two on Crown corporations is almost tailor-made for a “then vs now” piece.

- **Scope and footprint:** In 1982, you emphasized **federal Crowns** (ports, rail, pipelines, refineries) and their tendency to favour central Canada, plus the under-representation of B.C. residents on boards. Today, the B.C. government oversees a **broad portfolio of provincial Crowns**—BC Hydro, ICBC, BC Housing, BC Transit, BCLC, InBC, etc.—with explicit mandates around infrastructure, social policy, and economic development. A direct comparison could ask:
  - Has B.C. gained more **control over its own bottlenecks** (energy, transit, housing, capital access)?
  - Or have new bottlenecks emerged (e.g., electricity pricing, insurance costs, housing delivery)?

🔍 **Governance and regional bias:** You raised the issue of **where directors live** and how that might bias decisions. A modern extension could:

- Examine current board composition of major B.C. Crowns (BC Hydro, ICBC, BCLC, BC Housing) and federal port/transport entities.

- Ask whether governance reforms (transparency, board appointment processes, performance reporting) have mitigated the regional-bias problem you identified.

📌 **Regulation vs ownership:** Your paper sits at the intersection of **public ownership** and **regulation** as tools to manage market power. Today, many sectors rely more on **independent regulators** (e.g., BCUC for energy, securities regulators, competition law) while still using Crowns in key network industries. You could revisit your earlier normative work on public firms and ask:

- In which sectors has **public enterprise** proved superior to pure regulation?
- Where might a “dominant public firm” model still make sense (e.g., climate transition, transmission, data infrastructure)?

### 3. How IO theory has moved since your 1982 framework

You were working with the best tools of the time—SCP, concentration ratios, vertical integration, economies of scale, barriers to entry. Those are still foundational, but the centre of gravity has shifted.

#### 3.1 From SCP to strategic, game-theoretic IO

- **Then:** Structure–Conduct–Performance, cross-sectional concentration measures, and comparative-statics reasoning.
- **Now:**
  - Game-theoretic models of **oligopoly**, **entry deterrence**, **capacity choice**, and **dynamic investment** are standard.
  - Your earlier work on dynamic oligopoly and public firms actually anticipated some of this strategic focus; the field moved in your direction, but with more formal tools and econometrics.

#### 3.2 Empirical IO and identification

- **Richer data:** firm-level microdata, scanner data, detailed trade and cost information.
- **Structural estimation:** demand systems, cost functions, and counterfactual simulations (e.g., “what if this merger hadn’t happened?”).
- Your descriptive and structural narrative could be **re-interpreted** in this modern empirical IO language—e.g., your discussion of tariffs, scale economies, and vertical integration maps naturally into today’s models of trade and industrial organization.

#### 3.3 New objects of study

- **Platforms and networks:** digital platforms, two-sided markets, network effects.
- **Global value chains:** offshoring, fragmented production, logistics networks (ports, rail, shipping—right in your wheelhouse).
- **Behavioural IO:** bounded rationality, switching costs, salience, etc. For B.C., this means you could extend your framework to:
  - Tech and platform-based industries in Vancouver.
  - Logistics chains through B.C. ports as part of global networks, not just domestic trade.

### 3.4 Policy turn: renewed concern about market power

- here is a **global revival of antitrust and competition policy**, with concern about rising concentration, inequality, and regional disparities.
- Your 1982 questions—about whether concentration and Crown-controlled infrastructure distort regional development—fit directly into this modern debate, just with new tools and data.

### 4. A concrete way to “update” your work

If you feel like taking this further, here’s a realistic, focused project that builds directly on what you’ve already done:

1. **Select 3–5 anchor sectors** you covered in 1982: **Forestry, mining/oil & gas, ports/rail, pipelines, and one manufacturing group.**
2. **Recreate a simple concentration picture today** using publicly available NAICS-based data (top firms, market shares where possible, or at least firm counts and size distributions).

#### 🔍 **Overlay Crown involvement then vs now:**

- Which sectors still have major Crown presence (BC Hydro, BC Transit, BCLC, BC Housing, etc.)?
- Where did federal Crowns dominate in 1982, and what’s the institutional arrangement today (e.g., port authorities, rail, pipelines)?

#### 🔍 **Ask three sharp questions, not twenty:**

- **Has B.C. actually reduced structural vulnerability** to sector-specific shocks since 1982?
- **Do today’s Crowns alleviate or create bottlenecks** in energy, transport, and housing?

- **Is market power more or less of a concern now** than in your 1982 snapshot, once we account for globalization and services?

📄 **Write it explicitly as a “40-year comparison”:** Something like: *“Industrial Concentration and Crown Corporations in British Columbia: 1982–2025”*—using your original paper as Part One and the update as Part Two.

Historically the BC Forestry Industry was the most important. A sketch of the "then vs now" would be helpful!

Absolutely — the B.C. forestry industry is the perfect place to build a clear, meaningful **“1982 vs. today”** comparison. What makes this especially powerful is that your 1982 paper captured the industry *at its peak structural importance*, just before a long arc of consolidation, mechanization, globalization, and decline.

Below is a structured, insight-rich sketch that connects directly to the way you analyzed the sector in 1982: concentration ratios, vertical integration, regional dependence, and the role of Crown-controlled infrastructure.

### **B.C. Forestry: 1982 vs. Today — A Structural Comparison**

#### **1. Economic Importance: From Dominant to Significant but Secondary**

##### **1982 (your baseline)**

- Forestry was **the single most important industry** in B.C.
- Roughly **1 in 10 jobs** depended directly on forest products.
- Forest products made up **over 50% of provincial exports**.
- The industry was the backbone of many single-industry towns.
- You documented high concentration in:
  - Pulp and paper
  - Sawmilling
  - Panelboard
  - Logging and timber tenures

##### **Today**

- Forestry remains important, but:
  - It is **<5% of GDP**.

- It accounts for **~25% of goods exports**, far below its historical share.
- Employment has fallen dramatically due to automation, mill closures, and reduced harvest levels.
- B.C.'s economy is now dominated by:
  - Real estate
  - Professional services
  - Tech
  - Tourism
  - Film
  - Public sector services

**Interpretation:** Your 1982 warning about structural vulnerability to resource cycles was prescient. The province diversified—but partly because forestry contracted, not because new sectors were deliberately built to replace it.

## 2. Industrial Structure & Concentration

### 1982

You documented:

- **High concentration** in pulp and paper (few major firms).
- **Moderate concentration** in sawmilling, but with strong regional dominance.
- **Vertical integration** from timber tenure → logging → milling → pulp.
- **Barriers to entry** created by:
  - Tenure system
  - Capital intensity
  - Transport bottlenecks (rail, ports)
  - Federal Crown corporations controlling key infrastructure

### Today

The structure has changed, but the *pattern* of concentration remains:

- The industry is now dominated by **a handful of large firms**:
  - Canfor
  - West Fraser

- Interfor
- Tolko
- Many smaller mills have closed; the mid-sized tier has largely disappeared.
- Vertical integration persists, but firms have become **multinational**:
  - Major B.C. companies now own mills in the U.S. South and Eastern Canada.
- Timber supply constraints (fires, beetle kill, conservation) have reduced the allowable annual cut, intensifying consolidation.

**Interpretation:** Your concentration-ratio approach still applies. The difference is that today's concentration is driven less by economies of scale and more by **scarcity of fibre** and **global strategic positioning**.

### 3. Timber Tenure & Resource Control

#### 1982

- Tenure system favoured large integrated firms.
- You noted that this created **quasi-monopolistic control** over timber supply.
- Smaller firms faced barriers to entry because they lacked secure access to logs.

#### Today

- The tenure system is still largely intact, though under pressure.
- Government has introduced:
  - Community forests
  - First Nations woodland licences
  - More competitive log markets
- But the **big firms still control most long-term tenures**.

**Interpretation:** Your analysis of tenure as a structural barrier remains valid. The main change is the rise of **Indigenous rights and title**, which is reshaping tenure allocation more than competition policy ever did.

### 4. Crown Corporations & Infrastructure

#### 1982

You emphasized:

- Federal Crowns (CN, CP, ports, pipelines) created **bottlenecks** and **regional bias**.
- B.C. lacked control over key export infrastructure.
- This affected forestry more than any other sector.

**Today**

- Ports are now run by **federal port authorities**, not traditional Crowns, but still federally controlled.
- Rail remains dominated by **two national carriers**.
- B.C. still has limited influence over:
  - Port expansion
  - Rail service levels
  - Export logistics

**Interpretation:** Your argument that B.C.'s resource industries depend on infrastructure controlled outside the province remains true. The governance model changed, but the structural dependence did not.

## **5. Globalization & Market Power**

**1982**

- B.C. firms were mostly domestic.
- Export markets were concentrated (U.S., Japan).
- You analyzed market power primarily within B.C. and Canada.

**Today**

- B.C. forestry is embedded in **global value chains**.
- Firms compete with:
  - U.S. South
  - Scandinavia
  - Russia (until recently)
  - New Zealand

- Trade disputes (especially softwood lumber) shape the industry more than domestic policy.

**Interpretation:** Your SCP framework still works, but the relevant “market” is now global. Concentration within B.C. matters less than **global cost competitiveness**.

### ★ The Big Picture: What Has Changed, What Hasn't

#### What changed

- Forestry is no longer the dominant economic engine.
- The industry is more global, more consolidated, and more capital-intensive.
- Timber supply is structurally lower due to fires, beetle kill, and conservation.
- Indigenous rights are reshaping tenure and governance.
- Firms have diversified geographically (U.S. South).

#### What hasn't changed

- High concentration in key segments.
- Dependence on federally controlled infrastructure.
- Vulnerability to external shocks (trade disputes, global prices).
- The tenure system still favours large incumbents.
- Forestry remains central to many rural communities.

### Why your 1982 analysis is still valuable

Your work provides:

- A **baseline** for concentration and industrial structure.
- A **theoretical framework** (SCP, vertical integration, barriers to entry) that still applies.
- A **historical benchmark** for how policy and market forces have reshaped the sector.
- A way to evaluate whether B.C. has reduced structural vulnerability (answer: partially, but not fully).

Your paper is not just historically interesting—it's a **reference point for understanding 40 years of structural change**.

If you want, we can now go deeper into **one of these dimensions**—for example:

- Reconstructing 1982 concentration ratios vs. today
- Mapping tenure control then vs. now
- Comparing the role of Crown corporations in export logistics
- Evaluating whether B.C. has reduced its structural vulnerability

Which angle would you like to explore next?