Will International Rules on Subsidies Disrupt the World Trading System?

by

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I. Introduction

Disputes over subsidies an increasingly prominent feature of the world trading system.

- Creation of the WTO nearly prevented.
- Doha Round in trouble.
- Largest GATT/WTO-authorized retaliation.

Some disputes concern export subsidies.

- Inefficient victory for exporter-government interests.

Many concern subsidies to domestic production.

- Broad characterization of the WTO: ban domestic subsidies; permit tariffs.
- Seems to run counter to targeting principle.
- Still, tariff commitments eroded without some discipline on domestic subsidies; John Jackson.

Needed: analysis of subsidy disciplines of various designs, where governments also negotiate over tariffs.
Jackson (1989, p. 269):

“...the whole area of subsidy activity in international law, including the rules designed to constrain the use of subsidies and the other rules designed to allow national governments the unilateral privilege of responding to subsidies with countervailing duties, is not only extremely complex but holds the potential, if misapplied, of undermining the basic policy goals of the post-World War II liberal trade system. On the one hand, governments can use subsidies to evade a liberal trade system by subsidizing so as to inhibit imports, or by subsidizing so as to enhance exports. On the other hand, responses to subsidies, particularly the unilateral national government response of countervailing duties, can be implemented in such a way as to undermine liberal trade policies...”
Approach.
Two-country/two-good competitive general equilibrium model; tariff, production subsidy, consumption tax.

– Policy Redundancy.

General government objectives, consistent with many motives for subsidies.

– GATT Subsidies Code: accepts that subsidies “...are widely used for the promotion of social and economic policy objectives.”...not the Code’s intent “...to restrict the right...to use such subsidies...”

Question: Can governments move from Nash to international efficiency frontier with negotiations over tariffs and “disciplines” on subsidies?
Focus: GATT v. WTO.
- Seek to identify weaknesses in GATT subsidy disciplines that keep governments from the international efficiency frontier.
- Then gauge the degree to which WTO subsidy disciplines might mark an improvement.

GATT subsidy disciplines.
- CVD. (Potential problem: protectionist device).
- NV. (Potential problem: legally ambiguous).

Result 1.
Governments can move from Nash to any point on the international efficiency frontier with negotiations over tariffs and GATT disciplines on subsidies.
- CVD plays no role.
- NV is crucial.
  - Legal ambiguity need not pose a problem.
  - Policy redundancy appears important.
WTO subsidy disciplines.
- On top of GATT disciplines, the right to challenge and remove any “specific” subsidy.
- In light of Result 1, can’t hope for improvement over GATT.
- In light of policy redundancy, may do no harm.

Result 2.
Governments are precluded from reaching a range of points on the international efficiency frontier with negotiations over tariffs and WTO subsidy disciplines.
- Policy redundancy is utilized to reach efficient outcomes under GATT subsidy disciplines, and WTO disciplines can interfere with this.

What if governments do not have sufficient instruments for policy redundancy?
- Consider a limited instrument world: tariff and production subsidy, but no consumption tax.
In the absence of policy redundancy:

Result 3.
Governments are unable to attain *any* point on the international efficiency frontier with negotiations over tariffs and GATT disciplines on subsidies.

Result 4.
WTO subsidy disciplines mark an improvement over GATT disciplines if subsidies play a sufficiently minor role on the international efficiency frontier.
– Circumstances are at odds with views of GATT/WTO member governments.

Result 5.
WTO subsidy disciplines mark a step backward from GATT disciplines if subsidies play a sufficiently important role on the international efficiency frontier.
– In extreme case, WTO subsidy disciplines could *completely undermine* ability of tariff negotiations to serve as a vehicle for expanding market access.
II. The Model

2-country/2-good competitive general equilibrium model adapted to allow for the possibility of both tariffs and production subsidy/consumption taxes.

- For simplicity, home government has tariff and domestic instruments, foreign government just has tariff.

II.1: The Basic Trade Model

The home country exports good $y$ to the foreign country in exchange for imports of good $x$.

\[
q = s\tau p^w = q(s, \tau, p^w),
\]

\[
p = t\tau p^w = p(t, \tau, p^w) \quad \text{and}
\]

\[
p^* = p^w/\tau^* = p^*(\tau^*, p^w).
\]
Foreign import demand and export supply functions:

\[ M^*(p^*, p^w); \quad E^*(p^*, p^w). \]

Home-country import demand and export supply functions:

\[ M(q, p, p^w); \quad E(q, p, p^w). \]

Home and Foreign budget constraints:

(1) \[ p^w M(q, p, p^w) = E(q, p, p^w), \]

(2) \[ M^*(p^*, p^w) = p^w E^*(p^*, p^w). \]

Equilibrium world price \( \bar{p}^w(s, t, \tau, \tau^*) \):

(3) \[ M(q(s, \tau, \bar{p}^w), p(t, \tau, \bar{p}^w), \bar{p}^w) = E^*(p^*(\tau^*, \bar{p}^w), \bar{p}^w) \]
Assume that Metzler/Lerner-type Paradoxes are ruled out:

\[ dq/d\tau = [s/t]dp/d\tau > 0 > dp^*/d\tau^* \]
\[ \partial p^w/\partial\tau < 0 < \partial p^w/\partial\tau^* , \partial p^w/\partial s<0 \text{ and } \partial p^w/\partial\tau<0. \]

Government objectives: \( W(q,p,\tilde{p}^w); W^*(p^*,\tilde{p}^w). \)

- Structure:

\[ W\dot{p}^w(q,p,\tilde{p}^w) < 0 \text{ and } W^\dot{p}^w(p^*,\tilde{p}^w) > 0. \]

- Consistent with many motives for subsidies.

II.2: The GATT/WTO Contracting Frontier

The international efficiency frontier:

\[
\text{Max}_{s,t,\tau,\tau^*} W(q(s,\tau,\tilde{p}^w),p(t,\tau,\tilde{p}^w),\tilde{p}^w)
\]

s.t. \( W^*(p^*,(\tau^*,\tilde{p}^w),\tilde{p}^w) \geq \hat{W}^* \)
The *Contracting Frontier*: restrict attention to efficient policies satisfying

\[(C1) \quad dW/d\tau > 0; \quad dW^*/d\tau^* > 0.\]

Points on the Contracting Frontier exhibit 2 important properties:

**Lemma 1**: Beginning from a point on the Contracting Frontier and with $\tau^*$ fixed at $\tau^*E$, the foreign government dislikes any policy changes that lead to a drop in $\tilde{p}^w$.

**Lemma 2**: Beginning from a point on the Contracting Frontier and with $\tau$ fixed at $\tau^E$, the domestic government dislikes any policy changes that entail a weakly higher foreign tariff and lead to a rise in $\tilde{p}^w$.

Note: Distinction between Lemmas 1 and 2 and condition (4).
III. The GATT Subsidy Rules

III.1 Institutional Background
Governments free under GATT to offer production subsidies to their producers as they wish.

Permissible responses to a subsidy offered to:

- ...exporting producers: CVD. Conditions.
- ...import-competing producers: NV. Conditions.

Basic Question: Can governments who

- (i) negotiate tariff commitments,
- (ii) are free to set domestic subsidy/tax policies unilaterally, and
- (iii) can respond to domestic policy choices of trading partners with CVDs and NV claims

implement outcomes on the international efficiency frontier?
The *GATT Subsidy Game*:

*Stage 1*: The domestic and foreign governments negotiate tariff levels \((\hat{t}, \hat{t}^*)\), and \(\tilde{p}_1^w = \tilde{p}^w(s_0, t_0, \hat{t}, \hat{t}^*)\) is implied by \((s_0, t_0)\).

*Stage 2*: The domestic government chooses domestic policies \((\tilde{s}, \tilde{t})\), and \(\tilde{p}_2^w = \tilde{p}^w(\tilde{s}, \tilde{t}, \hat{t}, \hat{t}^*)\) is implied.

*Stage 3*: If the conditions for an NV claim are met, then the foreign government chooses NV or not; if the conditions for a CVD response are met, then the foreign government chooses CVD or not.
III.2 A Benchmark Result
Implications of GATT rules for stage 3.

Conditions for an NV claim: unexpected reduction of negotiated market access:

- “Unexpected”: GATT WP. \((\hat{s}, \hat{t}) \neq (s_0, t_0)\).
- \(\tilde{p}_2^w < \tilde{p}_1^w\): Figure 1.
- Choose \((\hat{s}, \hat{t})\), consistent w/ original market access.

**Lemma 3**: An NV claim is made in stage 3 of the GATT Subsidy Game if and only if, (i) \(\tilde{p}_2^w < \tilde{p}_1^w\), and (ii) \(W^* (p^* (\hat{t}^*, \tilde{p}_1^w) \tilde{p}_2^w) > W^* (p^* (\hat{t}^*, \tilde{p}_2^w) \tilde{p}_1^w)\).
Figure 1
Conditions for a CVD response: subsidy caused material injury.

- $\tilde{P}_2^w > \tilde{P}_1^w$. Figure 2.
- Increase $\tau^*$, by an amount no greater than subsidy.

**Lemma 4:** The foreign government chooses to impose a CVD in stage 3 of the GATT Subsidy Game if and only if (i) $\hat{s} < \min[1,s_0]$ and $\tilde{P}_2^w > \tilde{P}_1^w$, and (ii) $\hat{t} < \tau^*(\hat{s},\hat{t},\hat{r})$. 
Figure 2
A policy combination can be implemented under GATT tariff negotiations if and only if:

– there exists a pair \((\hat{t}, \hat{t}^*)\) such that
– this policy combination corresponds to a SGPE of stages 2 and 3 of the GATT Subsidy Game.

**Proposition 1:** Any point on the Contracting Frontier can be implemented under GATT tariff negotiations.

How? Consider \((s^E, t^E, \tau^E, \tau^*E)\) on the Contracting Frontier.

– By policy redundancy, \((s^E/\alpha, t^E/\alpha, \alpha \tau^E, \tau^*E)\) for any \(\alpha > 0\) is equivalent.
– Define \(\tilde{p}^wE = \tilde{p}^w(s^E, t^E, \tau^E, \tau^*E)\).
– Define \(\hat{t}^E\) implicitly by \(\tilde{p}^w(s_0, t_0, \hat{t}^E, \tau^*E) = \tilde{p}^wE\).
– Let \(\hat{\alpha} = \hat{t}^E/\tau^E\).
– \((s^E, t^E, \tau^E, \tau^*E)\) is equivalent to \((s^E/\hat{\alpha}, t^E/\hat{\alpha}, \hat{t}^E, \tau^*E)\).

Let stage 1 yield \((\hat{t} = \hat{t}^E, \hat{t}^* = \tau^*E)\), implying \(\tilde{p}^w_1 = \tilde{p}^{wE}\).
Consider stage 2. If \( (\hat{s} = s^{E/\hat{\alpha}}, \hat{t} = t^{E/\hat{\alpha}}) \) selected, then:

- \( \tilde{p}_2^w = \tilde{p}^{wE} = \tilde{p}_1^w \) implied, Lemmas 3/4 imply no stage-3 response from the foreign government, and
- the welfare levels associated with \( (s^{E}, t^{E}, \tau^{E}, \tau^{*E}) \) will be implemented.

If \( (\hat{s}', \hat{t}') \neq (s^{E/\hat{\alpha}}, t^{E/\hat{\alpha}}) \) selected, then 3 possibilities:

- \( \tilde{p}_2^w = \tilde{p}^{wE} = \tilde{p}_1^w \). Then Lemmas 3/4 imply no stage-3 response, and the foreign government is indifferent.
- Domestic preference for \( (\hat{s}', \hat{t}') \) over \( (s^{E/\hat{\alpha}}, t^{E/\hat{\alpha}}) \) is inconsistent with efficiency of \( (s^{E}, t^{E}, \tau^{E}, \tau^{*E}) \).
- \( \tilde{p}_2^w < \tilde{p}^{wE} = \tilde{p}_1^w \). Then Lemmas 1/3 imply a stage-3 NV claim, and \( (\hat{s}, \hat{t}) \) satisfies \( \tilde{p}^w(\hat{s}, \hat{t}, \tau^{E}, \tau^{*E}) = \tilde{p}_1^w = \tilde{p}^{wE} \).
- So the domestic government can do no better than to select \( (\hat{s} = s^{E/\hat{\alpha}}, \hat{t} = t^{E/\hat{\alpha}}) \).
- \( \tilde{p}_2^w > \tilde{p}^{wE} = \tilde{p}_1^w \). Then Lemmas 3/4 imply only CVD possible (raising \( \tilde{p}^w \) further), and domestic government loses by Lemma 2.
GATT rules that delineate permissible responses to domestic subsidy/tax policies strike the right balance between:

– providing governments with the means to prevent their trading partners from making domestic policy choices that would preclude attainment of the international efficiency frontier and,

– not being so permissive as to allow the responses themselves to create impediments to efficiency.

Role of CVD is not clear.

Role of NV is critical: but high cost of bringing this legally ambiguous claim is ignored.
III.3 Costly NV
Assume cost of NV claim is borne by the claimant.
– Define costs; a new Lemma 5 augments Lemma 1; a new Lemma 6 replaces Lemma 3.

Proposition 2: Whether or not NV claims are costly, any point on the Contracting Frontier can be implemented under GATT tariff negotiations.

Intuition. Redundancy of policy instruments allows governments to:
– position negotiated tariffs so as to imply a level of market access which yields an NV “trigger point” at the efficient level of market access; and
– permit the level of market access to “slip” back to this trigger point through the unilateral choice of domestic subsidy and tax policies.
– Policy redundancy ensures that the conditions for domestic efficiency are not compromised;
– and the threat of NV prevents market access from falling below efficient levels.
IV. The WTO Subsidy Rules

IV.1 Institutional Background
The WTO Agreement on Subsidies and Countervailing Measures (SCM) and the WTO Agreement on Agriculture.
- Attempts to bring further teeth to subsidy disciplines within the WTO.

Focusing on the SCM Agreement, three key changes:

- A subsidy that is successfully challenged under the SCM Agreement must be removed.
- No distinction in the SCM Agreement between “new” and “old” subsidies.
- No requirement that a government challenging a subsidy under the SCM Agreement had previously negotiated a tariff commitment.

The SCM Agreement severs link between upset market access expectations and challengeable subsidies.
The *WTO Subsidy Game*:

*Stage 1:* The domestic and foreign governments negotiate tariff levels \((\hat{t}, \hat{t}^*)\), and \(\tilde{p}_1^w = \tilde{p}^w(s_0, t_0, \hat{t}, \hat{t}^*)\) is implied by \((s_0, t_0)\).

*Stage 2:* The domestic government chooses domestic policies \((\hat{s}, \hat{t})\), and \(\tilde{p}_2^w = \tilde{p}^w(\hat{s}, \hat{t}, \hat{t}, \hat{t}^*)\) is implied.

*Stage 3:* If \(\hat{s} \neq 1\), then the foreign government chooses whether or not to challenge the subsidy under the SCM Agreement. If challenged, \(s = 1\) and the domestic government may choose \(\hat{t}\) again.

*Stage 4:* If the conditions for an NV claim are met, then the foreign government chooses NV or not; if the conditions for a CVD response are met, then the foreign government chooses CVD or not.
A policy combination can be implemented under WTO tariff negotiations if and only if:

– there exists a pair of negotiated tariff levels \((\hat{t}, \hat{t}^*)\) such that
– this policy combination corresponds to a SGPE of stages 2-4 of the WTO Subsidy Game.

**Proposition 3:** Whether or not NV claims are costly, there exists a range of outcomes on the Contracting Frontier that cannot be implemented under WTO tariff negotiations.

Why?
First: Can the stage-1 choices \((\hat{t} = \tau^E, \hat{t}^* = \tau^*E)\) that worked under GATT still work with the WTO?

– Only if a stage-2 selection of \((\hat{s} = s^E/\alpha, \hat{t} = t^E/\alpha)\) is not challenged under the SCM Agreement by the foreign government.
– If no SCM challenge, the foreign government receives \(W^*(p^*(\tau^*E, \bar{p}^wE), \bar{p}^wE)\).
– The foreign government can receive more under an SCM challenge only if the resulting $\tilde{p}^w$ is greater than $\tilde{p}^{we}$.

– So how does the domestic government adjust $t$ in response to the restriction $s=1$ brought on by the SCM challenge?

– If $\hat{s} = s^{E/\alpha} > 1$ “not too small,” adjustment in $t$ does not preserve $\tilde{p}^w$ at $\tilde{p}^{we}$: implied by efficiency.

– If $\hat{s} = s^{E/\alpha} > 1$ also “not too big,” then the foreign government likes the induced rise in $\tilde{p}^w$: implied by (C1).

– When $\hat{s}$ falls in this intermediate range, the stage-1 choices $(\hat{\tau} = \tau^{E_1}, \tau^* = \tau^{*E})$ that worked under GATT will not work with the WTO.

Second: Can any other stage-1 choices then work?

– No: whether or not production subsidy eliminated under SCM challenge, appropriate NV trigger still needed (for $s$ and/or $t$).

– No actual policy redundancy under GATT rules.

– Too many demands on instruments under WTO rules.
V. Limited Domestic Policy Instruments

Set \( t = 1 \). Nash welfare unaffected; Efficient welfare unaffected; Lemmas 1-6 still hold.

**Proposition 4:** In the presence of limited domestic policy instruments and costly NV claims, there does not exist (generically) a point on the Contracting Frontier that can be implemented under GATT tariff negotiations.

- Policy “redundancy” was utilized to get to the efficiency frontier under GATT tariff negotiations.

In this setting:

- WTO subsidy rules lead to more efficient outcomes than GATT subsidy rules when subsidies are sufficiently unimportant on the efficiency frontier.
- GATT subsidy rules can lead to more efficient outcomes than WTO subsidy rules when subsidies are sufficiently important on the efficiency frontier.
When subsidies have legitimate purpose in an internationally efficient policy environment, WTO subsidy disciplines present a tradeoff between:

– preventing erosion of market access commitments, and
– interfering with “first-best” policy instruments.

The latter factor can dominate, and the WTO subsidy rules can *completely undermine* the ability of tariff negotiations to serve as the mechanism for expanding market access to more efficient levels.

– Governments are stuck with Nash welfare levels.
– Figure 3.

Intuition: If governments consider domestic subsidies to be sufficiently vital in their pursuit of policy goals,
– they may be less inclined to negotiate tariff commitments under the subsidy rules of the WTO,
– since such commitments increase the likelihood that their subsidies will be challenged under the SCM Agreement.

A possible “chilling” effect.
Figure 2
VI. Conclusion

GATT subsidy rules are viewed as weak and inadequate.

WTO subsidy rules are seen as representing a significant strengthening of multilateral disciplines on subsidies.

But the key changes introduced by the WTO subsidy rules may ultimately do more damage than good to the multilateral trading system,
– by unduly restricting the use of “first-best” instruments, and
– by undermining the ability of tariff negotiations to serve as the mechanism for expanding market access to more efficient levels.

Further Questions: Modeling NV claims; What role for CVD’s; Policy instrument limitations; If WTO subsidy disciplines inferior, why adopted (possibly an inferior fix for third-country weakness of NVs)?