

Some Current VAT Issues (and some lessons for the GST in India)

Michael Keen

Raja Chelliah Lecture

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Views are author's alone, and should not be attributed to the IMF

“In short, the Committee recommended...
moving towards a full-fledged VAT for the
commodities as well as the services sector”

Chelliah Report, 1992

Outline

The VAT experience:

- The triumph of the VAT!
- So why are there issues?

Some issues:

- Differentiating
- Cascading
- Overlapping

THE TRIUMPH OF THE VAT!

A VAT (or GST) is

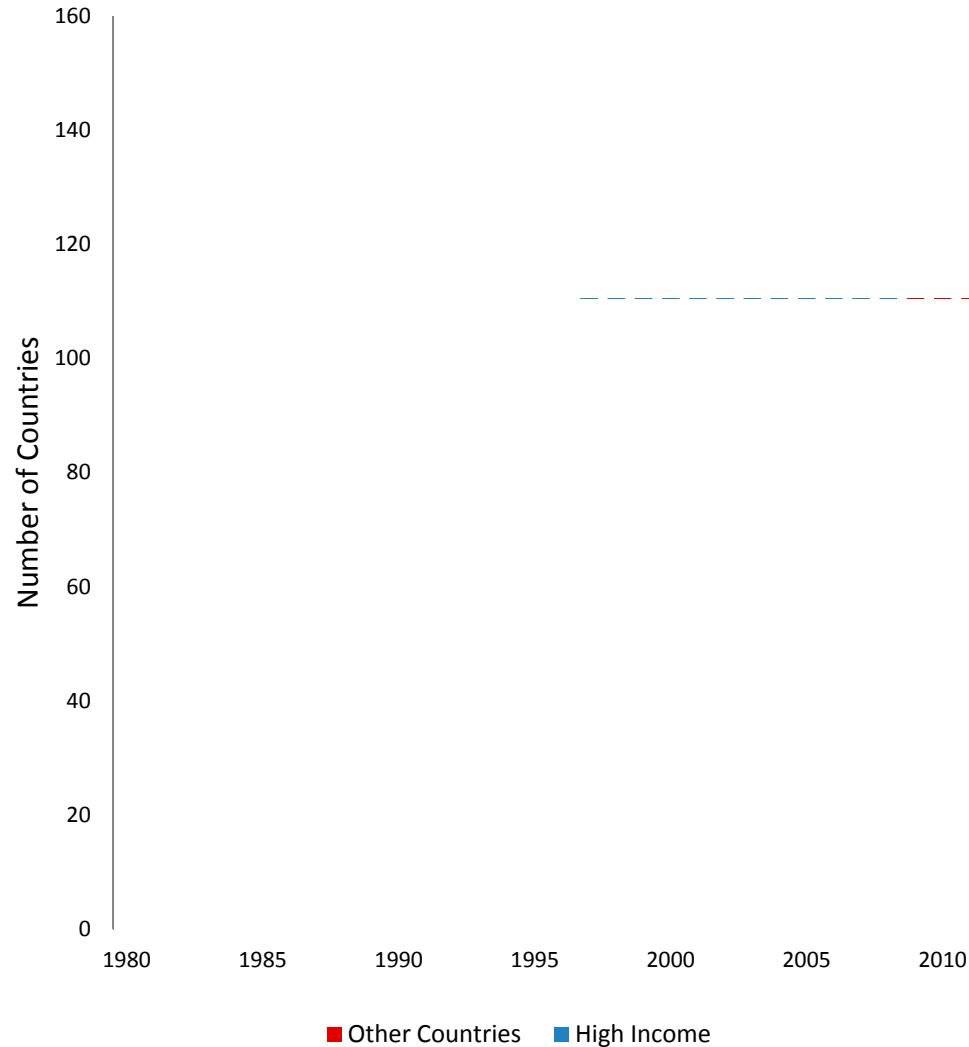
A broad-based tax on all firms' sales, with crediting/refund of tax paid on its inputs

Levied on a destination basis, **typically** by:

- Taxing imports and
 - 'Zero-rating' exports: no charge on export sales and (unlike 'exemption') input tax refunded
- (more on this later....)**

The remarkable rise of the VAT

The Spread of the VAT, 1980–2011



Now 154 countries

Often 25% of revenue

Spread continues

Rationale for the VAT: A consumption tax that:

- Is consistent with basic principle “Don’t tax transactions between businesses”
 - Unlike cascading turnover taxes (**more later!**)
- Protects revenue by collection throughout chain
 - Unlike retail sales tax
- Effective in capturing services as well as goods
 - Again unlike retail sales tax

And practical experience seems good too

- Evidence that VAT has proved particularly efficient
 - Countries with a VAT raise more revenue, consistent with VAT lowering marginal cost of public funds
 - Except sub-Saharan Africa
 - Only 5 countries removed a VAT, all brought it back
- In many countries, VAT has been a catalyst for wider administrative reform

SO—WHY ARE THERE ISSUES?

Not all VATs are the same...

- Standard rate goes from 4% (Iran) to 25% (Denmark...)
- Big differences in structure: number of rates, exemptions, threshold, compliance...
- Reflected in summary indicator of effectiveness:

$$C - efficiency = \frac{VAT\ revenue}{\tau \times Consumption}$$

This would be 100% for perfectly-enforced VAT on all consumption, but...

...with apparent scope to improve many

C-efficiency varies widely across regions:

Asia-Pacific	Europe	Middle East/ Central Asia	SSAfrica	Western Hemisphere
59	72	66	48	53

And within regions/income groups too:

- In Asia-Pacific, from 20% to 90%
- In OECD, from 32% to 97%

New understanding, new challenges

- Public sector more often competes with private
 - we know how to tax so as not to distort competition
- Financial services—exemption not good enough
 - we now know there are alternatives (with Financial Activities Tax (FAT) likely an improvement)
- Running subnational VATs without internal borders?
 - we now know how to do this, in principle (more later!)

And some old issues too

Perhaps deepest issues concern VAT design and implementation in presence of non-compliance

- Poor state of empirical knowledge of VAT doesn't help

But focus now on three issues that seem salient in India—a mix of old and new...

DIFFERENTIATING

A perennial issue

- Single rate or a reduced rate on necessities?
 - An issue for any consumption tax, not just VAT
- “Expert” opinion favors uniformity—and has been influential:

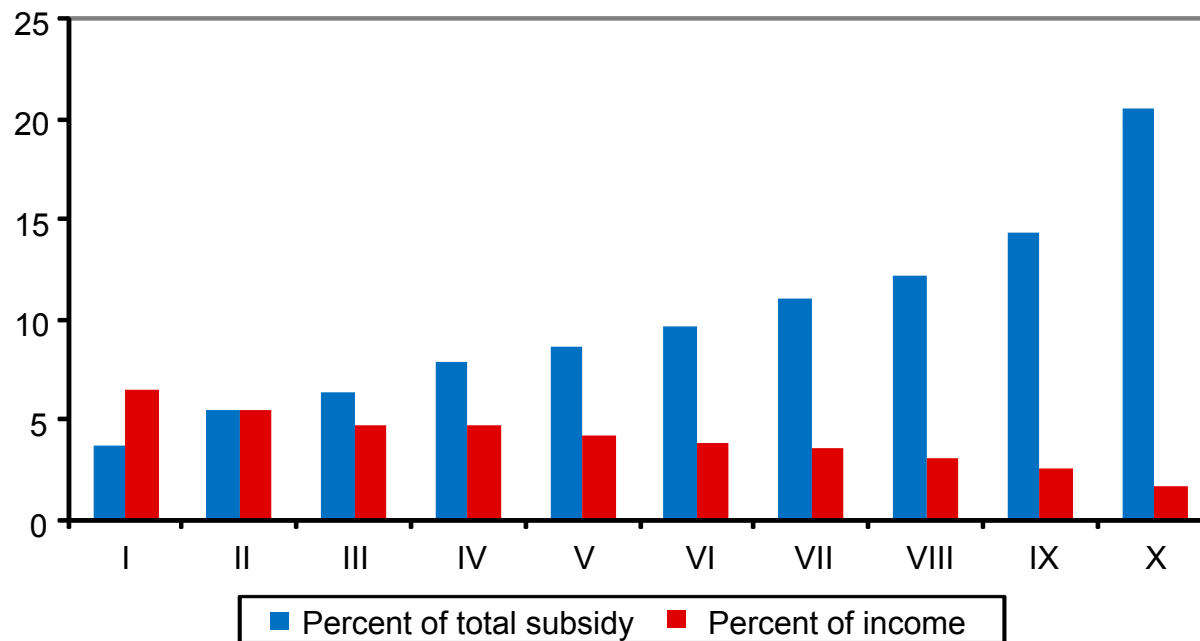
	Number of new VATS	Proportion born with a single rate
Before 1990	48	25%
1990-1999	75	71%
1999-2011	31	81%

Won't try to review all aspects rate differentiation

- Which is a vast topic
 - including also arguments for differentiation to address informality rather than distribution
- But explore one aspect of equity concern further than has been common—linking taxes with spending

A pragmatic argument against differentiation:

- The poor may spend *relatively* more on (e.g.,) food, but rich spend *absolutely* more (Mexico)



Couldn't govt. spend \$100 so poor gain at least \$4?

More precisely—taking a maximin approach

Starting from uniform VAT, poorest lose from cutting rate on 'food' if and only if:

Proportion of all food they consume

Exceeds

Their marginal benefit from \$1 of public expenditure

×

(1 + term reflecting revenue lost from induced labor supply change)

– E.g., if labor supply falls, poor gain less from the tax cut

For instance:

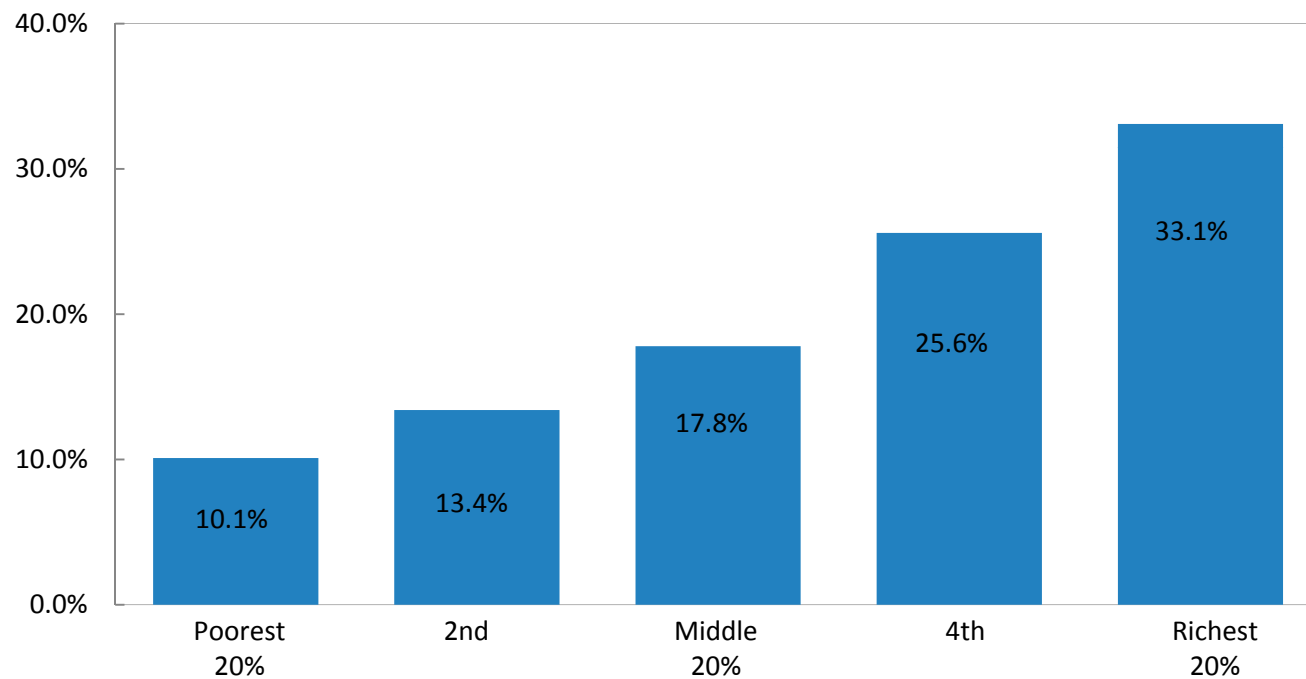
Suppose:

- Poor consume 4% of all food (as in picture above)
- Food is 20% of all consumption
- Initial VAT rate is 15%
- 10% cut in food price reduces labor supply by 5%

Then poor gain from a reduced tax rate on food if and only if \$1 more public expenditure benefits them by no more than 2.9 cents

Benefit incidence studies cast light on one aspect

E.g., distribution of benefits of curative health care in India:



Source: Mahal, Ajay, Abdo S. Yazbeck, David H. Peters, G.N.V. Ramana, *The Poor and Health Service Use in India* (World Bank)

But many issues remain

- Benefit incidence studies allocate costs, not valuations
- Information needed on labor supply responses
- What is marginal use of funds?
 - Varies greatly for things we can measure
 - And hard to measure for other things
 - Governance issues loom large
- Is there a case for constraining—or seeming to—government spending at margin?

An aside: What difference can cards make?

- Information stored (e.g., age) can enable tagging in:
 - Cash transfers
 - Group-specific commodity taxes
- Would one want to use latter?
 - Less likely to extent equity issues primarily between tagged groups
 - Within groups, same issues as above remain

CASCADING

What is it?

Tax levied (and 'sticks') at multiple stages

- Pervades Indian indirect tax structure:
 - Central Sales Duty non-creditable
 - Sectors excluded from (so no credit for) CENVAT, state GSTs
 - No cross-crediting CENVAT and SGSTs

Estimated that $\frac{1}{3}$ of indirect taxes collected by center and state cascade
- Arises under VATs too, to extent of exemptions
 - And focus of much VAT reform is to reduce it

So what's the problem?

- Term 'cascading' often used as if self-evidently bad
- But isn't "Low rate, broad base" good?
 - Turnover taxes can generate lots of revenue at low rate
 - Often cited e.g., as a merit of financial transaction taxes
- So, a closer look: Why/when worry about cascading?

Cascading is messy

- Non-transparent
 - Effective rates “...almost fortuitous and largely unknown to policy makers”
(which can suit politicians)
 - Distorts international trade
 - “...a great hindrance to our export efforts”
 - And a tax advantage to imports (since zero-rated abroad)
- Though exchange rate will adjust to partly offset

More fundamentally, it creates real output loss

- Not from cascading per se
- But from—and to the extent of—any induced change in real production decisions, through:
 - “..unintended changes in the relative prices of inputs and hence in the proportion in which different inputs are used”
 - Distortions of organizational form
- These responses reduce private (tax-inclusive) costs of production, but increase social (tax-exclusive) costs...

This cannot be optimal...

- ...when conditions of the Diamond-Mirrlees theorem are satisfied
- These are restrictive
 - May want production inefficiency e.g., when not all items of final consumption can be taxed
- But deliberate departures from production efficiency require careful justification

Anatomy of the deadweight loss from cascading

“The increase in consumer prices due to cascading is not limited to what accrues to the Exchequer by way of revenue”

- Deadweight loss is amount by which increase in price to consumer exceeds revenue collected
- But how big is it? Messy, so proceed in steps

When only two production stages

Deadweight loss:

- Increases with:
 - The square of the nominal tax rate
 - The ease of replacing taxed inputs by untaxed
- But is lowest when the taxed input is either a small or a large part of total input costs
 - Because if all inputs are taxed, there's no distortion

For example...

Maximum deadweight loss (input share of 50%) is:

Tax Rate (%)	Elasticity of Substitution			
	Zero	1	2	5
2.5	0	0.01	0.02	0.04
5	0	0.03	0.06	0.16
15	0	0.28	0.56	1.48
20	0	0.50	1.00	2.50

Note: Assumes taxed input 50% of input costs.

And the loss increases with

- The number of stages
 - e.g., with 2 prior stages and taxed input share of 50%, nominal 10% tax becomes effective 18.5%

But full effect largely felt with just a few stages

- After 3 stages, effective rate is 20%, very close to 22% effective rate that arises with infinite number of steps

And powerfully with

- Substitution at all stages:

Elasticity of Substitution			
First stage	Second stage		
	1	2	5
1	0.56	0.98	2.25
2	0.70	1.13	2.39
5	1.13	1.55	2.82

Note: Assumes nominal tax rate of 15%, and taxed input 50% of input costs.

OVERLAPPING

Subnational VATs raise particular design problems

- Many late comers to VAT are federations with substantial taxing powers at lower levels
 - Australia
 - US
 - India
- And now significant issues in
 - Brazil
 - European Union
 - GCC, with design of future VAT

Much discussed: Treatment of inter-state trade

- Destination principle—taxing final consumption where it occurs—remains desirable
 - As a condition for production efficiency...
 - ...though that says nothing about who gets the revenue
- Usual method, zero-rate exports and tax imports...
- ...is hard to do without border controls:
 - Weakens collection chain at weakest point
 - Creates opportunities for criminal attack

But are other ways to have destination principle

For instance, 'VIVAT' combines

- Common federation-wide VAT on B2B transactions
- State-specific tax on B2C

This:

- Preserves destination principle
- (Is reminiscent of CSD)
- Can be combined with sharing of common VAT receipts—perhaps in line with state consumption

Pros and cons of VIVAT

Pro:

- Eliminates break in the VAT chain
- No need to identify where in the federation customer resides

Con:

- Trader must identify whether customer is registered or not
 - but likely to have to do this for services anyway

Less discussed: Vertical externality in tax setting

- With concurrent VATs, the two levels of government share a common tax base
- An increase in the rate applied by one will reduce the tax base, hence revenues, of the other
- If each level ignores this effect, the combined VAT rate will be inefficiently high

Does this matter?

- Might think not if common base relatively inelastic
- But effect also greater the higher the tax rate set by other level of government...
...and low elasticity makes rates higher!

In simple case, latter dominates: less elastic base makes problem *more* severe

And in very simple case, combined tax rate is *twice* optimal level (whatever the elasticity)

Further considerations

- Effect may be eased if states compete to attract out of state sales, or mobile labor

- But is worsened by horizontal equalization that compensates for differences in tax base: if

Transfer to state j = Average state tax rate

× (average p.c. consumption - p.c. consumption in j)

a small state is protected even from contraction of its own tax base

How to address? Federal Leadership?

If feds can anticipate how states will respond:

- Set federal rate so that combined rate is optimal
- Transfer to states whatever additional revenue needed to finance their optimal spending

But information requirements demanding:

- Hard even to know whether an increase in federal rate will lead to higher or lower state rate

How to address? Adjust vertical transfers?

- Reducing transfers from centre to state j by
Federal tax rate ×
(average p.c. consumption - p.c. consumption in j)
ensures j internalizes impact on federal revenues
(and has zero net revenue cost)

NB: This takes no account of differing state circumstances—some modification needed

CONCLUDING