

# 14.471: Fall 2012: Recitation 13: Overview Tax results

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Base	Name	Assumptions	Result / <i>*Intuition/Counterexample</i>
Commodity	Diamond ('71) /Pigou	(i) Agent-specific lump sum (ii) Same per unit contribution to pollution (iii) Pollution aggregator	Corrective tax restores efficiency <i>*1 instrument: \$x tax/unit consumed vs. ≠ contributions/unit consumed</i>
Commodity	Single Ramsey	(i) Only linear taxes	$\sum_i t_i \frac{\partial x_j^i}{\partial q_i} = -x_j \theta$ <i>*Discourage goods by same %</i>
Commodity	Diamond-Mirrlees ('71) Production efficiency	(i) Only consumers enter welfare (ii) Intersector transaction tax (e.g. profits if no CRTS) (iii) ≠ rates per good/factor	Optimal commodity tax implies production efficiency (e.g. no intermediate good tax) <i>*Tax final goods: no factor distortion</i>
Commodity	Uniform commodity	(i) $U(G(x_1, \dots, x_n), H(x_{n+1}, \dots))$ (ii) $G, H$ are HD1	$\tau_1 = \dots = \tau_n, t_{n+1} = \dots = t_{n+m}$
Commodity	Multiple Ramsey	(i) Only linear taxes (ii) Lump-sum $I$	$\mathbb{E}_h \left[ \sum_i t_i \frac{\partial x_j^{c,h}}{\partial q_i} \right] = X_j Cov_h \left[ \frac{x_j^h}{X_j}, \hat{\beta}^h \right]$ <i>Discourage less goods of high SMU agents</i>
Income	Mirrlees ('71)	(i) Heterogeneous skill (ii) Only earnings available (iii) Bounded wealth distribution (iv) Utilitarian SWF	Zero MTR at top <i>*Reducing MTR @ top (i) does not reduce tax liability above ("there is nobody") (ii) improves incentives/tax bill @ top *Speed @ which density falls = ∞</i> Positive MTR $T'(Y) > 0$ (vs. Diamond ('80)) <i>* Contradiction: Higher <math>T'(Y) \uparrow</math> revenues (i) above: +redistribution (ii) @ <math>Y</math> : Lower subsidy</i>
Commodity/ Capital/ Income	Atkinson-Stiglitz ('76)	(i) Non-linear income tax Utility $u^h(c_1, \dots, c_K, z)$ : (ii) Separable leisure $z$ from $(c_1, \dots)$ (iii) $u^h(\cdot) = U^h(v(c_1, \dots, c_K), z)$ where $v$ does not depend on $i$ (iv) No bequest (1-dimensional inequality)	No commodity/capital tax <i>*Conditional on earnings, consumption does not give info on ability *1 instrument vs. 1 dimensional inequality</i>  Separable: Computers & Leisure? $v^i = v$ : High $\theta$   $z$ like museums? Bequest: High $Beq$   $z$ signal inheritance?
Capital	Chamley-Judd('85)	(i) Infinite horizon (ii) No uncertainty (iii) Infinite supply elasticity capital (iv) Welfare measure $t = 0$ (dynasty) ("time consistency") (v) 1 agent (robustness Werning (2007))	At s.s. , tax on capital is zero. <i>*Capital tax <math>\sim \frac{P_{C^t}}{P_{C^t+T}}</math></i>  Uncertainty: Idiosyncratic income (NDPF) $t^{Welfare Meas}$ : Are children of parents with 0 taste for bequest included?
Income	Werning('07)	(i) Pareto Efficiency criterion (ii) Continuum types (iii) Additive consumption & disutility labor	Any $T(Y)$ is efficient for many $f(\theta) \dots$ and inefficient for many $f(\theta)$ <i>*Many relevant empirical parameters (skill density, income elasticity leisure, ... labor supply elasticity)</i>
Capital	Rogerson ('85) New Dynamic PF	(i) Uncertain future productivity (ii) Leisure is normal good	Positive tax on savings <i>*Savings reduce labor *Tax <math>\uparrow</math> ability insurance against future poor labor outcomes</i> Note: rather small welfare gains?

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