Financial Accounting
Recitation 6 (Income Taxes)

MIT Sloan School of Management

Recitation Agenda

Accounting for Income Taxes

Taxes

Some basic distinctions:

- **Pretax Income**: Generated under accrual based revenue recognition policies (GAAP)
- **Taxable Income:** Income before taxes generated using the tax code (more similar to cash accounting)
- **Cash Taxes:** Taxes paid to the IRS as determined by tax code (based upon taxable income)
- **Tax Provision:** Tax expense as recorded in Financial Statements (based upon GAAP income)

Taxes

- Taxable Income **does not equal** Pretax (Book) Income.
  - Book income uses accrual methods.
  - Tax income uses methods more similar to cash accounting

- Differences may be **Permanent** or **Temporary**.
  - **Permanent**: Penalties & fines, muni bonds, stock compensation, etc.
  - **Temporary**: Accelerated depreciation, deferred revenue, etc.

- Temporary book-tax differences will all **eventually** be made equal.
  - Business cycles may make this process take a long time.

Book-Tax Differences: Temporary

- US GAAP has a different set of rules for recognizing revenue and expenses (accrual-based) than the tax code (cash-based).

- As we have seen before, much of the difference between an accrual-based system and a cash-based system is in the **timing** of recognizing revenues and expenses.

- Temporary book-tax differences arise primarily as a result of these timing differences.

- For example, under US GAAP when a firm purchases PPE, it depreciates the asset gradually over time, whereas the tax code allows for immediate and **accelerated** depreciation.

Book-Tax Differences: Temporary

- Temporary Book-Tax differences can cause the tax provision (expense reported on the income statement) to vary from actual cash taxes paid

- Accrual-based accounting requires companies to report these differences using accounts that we refer to as **Deferred Tax Assets** (DTAs) and **Deferred Tax Liabilities** (DTLs).

- We can think of a Deferred Tax Asset as ‘prepaid taxes’. DTAs are recorded when cash taxes paid > tax expense.

- We can think of a Deferred Tax Liability as ‘unpaid taxes’. DTLs are recorded when cash taxes paid < tax expense.

Accounting for Income Taxes

Deferred Tax Assets (DTA)

- Tax Income > Book Income
- Taxes Paid > Tax Expense (Provision)
- *Example: Deferred Revenue*
  - Recognized as taxable income, but not in pretax income.
  - Leads to higher taxes due. The difference is the DTA

Cash (A)	DTA (A)	=	DTL (L)	+	R/E (E)
-\$100k	\$20k				-\$80k Tax Expense
Cash taxes paid according to tax accounting	Difference				Tax expense according to GAAP accounting

Accounting for Income Taxes

Deferred Tax Liabilities (DTL)

- Tax Income < Book Income
- Taxes Paid < Tax Expense (Provision)
- *Example: Depreciation of PPE*
  - Higher tax depreciation leads to lower taxable income
  - Results in lower taxes due. Difference is the DTL

Cash (A) = DTL (L) + R/E (E)

-$80k

$20k

-$100k Tax Expense

Taxes paid
according to tax accounting

Difference

Tax expense according to
GAAP accounting

Taxes

- Where would you expect to see a company with a large deferred tax liability (DTL)? Deferred tax asset (DTA)?

Tax effects of temporary differences for:	**2016**	**2015**
	(millions of dollars)	
Property, plant and equipment	46,744	49,409
Other liabilities	4,262	4,613
Total deferred tax liabilities	51,006	54,022
Pension and other postretirement benefits	(6,053)	(6,286)
Asset retirement obligations	(5,454)	(6,277)
Tax loss carryforwards	(5,472)	(4,983)
Other assets	(5,615)	(5,592)
Total deferred tax assets	(22,594)	(23,138)
Asset valuation allowances	1,509	1,730
Net deferred tax liabilities	29,921	32,614

Provision for Income Taxes

current taxes are higher than provision for income taxes, deferred tax is DTAs

Tax footnote:

The components of the provision for income taxes, net are as follows (in millions):

	Year Ended December 31, 2012	2011	2010
Current taxes:			
U.S. and state	$ 562	$103	$311
International	131	52	37
Current taxes	693	155	348
Deferred taxes:			
U.S. and state	(156)	157	1
International	(109)	(21)	3
Deferred taxes	(265)	136	4
Provision for income taxes, net	$ 428	$291	$352

Income statement:

AMAZON.COM, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS
(in millions, except per share data)

	Year Ended December 31, 2012	2011	2010
Net product sales	$51,733	$42,000	$30,792
Net services sales	9,360	6,077	3,412
Total net sales	61,093	48,077	34,204
Operating expenses (1):			
Cost of sales	45,971	37,288	26,561
Fulfillment	6,419	4,576	2,898
Marketing	2,408	1,630	1,029
Technology and content	4,564	2,909	1,734
General and administrative	896	658	470
Other operating expense (income), net	159	154	106
Total operating expenses	60,417	47,215	32,798
Income from operations	676	862	1,406
Interest income	40	61	51
Interest expense	(92)	(65)	(39)
Other income (expense), net	(80)	76	79
Total non-operating income (expense)	(132)	72	91
Income before income taxes	544	934	1,497
Provision for income taxes	(428)	(291)	(352)
Equity-method investment activity, net of tax	(155)	(12)	7
Net income (loss)	$ (39)	$ 631	$ 1,152

So how much was the US GAAP tax provision?

428 provision for income taxes

How much taxes do they need to pay for this year?

693 current taxes

How much taxes are deferred?

265 deferred taxes

And what transaction did they record?

Cash (A)	DTA (A)	=	DTL (L)	+	R/E (SE)
-693	265				-428 Tax Provision

Deferred Tax Assets/Liabilities

Tax footnote on DTA/DTL:

Deferred income tax assets and liabilities are as follows (in millions):

	Year Ended December 31, 2012	Year Ended December 31, 2011
Deferred tax assets:		
Net operating losses U.S. - Federal/States (1)	$ 47	$ 43
Net operating losses foreign (2)	289	113
Accrued liabilities, reserves, & other expenses	482	412
Stock-based compensation	281	178
Deferred revenue	129	41
Assets held for investment	129	64
Other items	133	98
Tax credits (3)	12	7
Total gross deferred tax assets	1,502	956
Less valuation allowance (4)	(415)	(227)
Deferred tax assets, net of valuation allowance	1,087	729
Deferred tax liabilities:		
Depreciation & amortization	(698)	(572)
Acquisition related intangible assets	(274)	(231)
Other items	(29)	(21)
Net deferred tax assets (liabilities), net of valuation allowance	$ 86	$ (95)

- These balances reflect the difference in US GAAP tax provision and taxes paid to IRS
- Since they are balances of accounts (balance sheet), they are cumulative
- So what was the aggregate difference in taxes recognized under GAAP and paid for deferred revenue?
  129
- Different question: what difference in recognized revenue led to this DTA?
  - We need to assume a tax rate
  - Let's say 30%

129 / 30% = **430**

Valuation Allowance

- DTAs are like “pre-paid” assets, and we’ll need taxable income to offset it

- If management does not think the company will have enough future taxable income to be able to use all the DTAs, then a contra-asset must be established against the DTAs

- This contra-asset account is called **Valuation Allowance**

Cash (A) + DTA (A) – Valuation Allowance (XA) = L + R/E (S/E)
30,000 -30,000 (Tax expense)

  - Similar intuition with Accounts Receivable & Allowance for Doubtful Accounts

- Amazon Income Tax Footnote

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Question 1: Temporary Differences

Part A. ABC Company buys new production equipment costing $10,000. The equipment has a 10 year useful life and no salvage value. Under current tax rules, the machinery may be fully depreciated in year 1. Suppose that ABC Company generates revenues of $50,000 and has expenses of $30,000. Assume a tax rate of 30% and straight-line depreciation. What is the effect on deferred taxes? Express it in BSE.

- Depreciation Exp. (Book) = $1,000
  - Straight-line: (10,000 – 0) / 10 = $1,000/year

- Depreciation Exp. (Tax) = $10,000
  - Accelerated: equipment can be fully depreciated in year 1.

Question 1: Temporary Differences

- This difference in timing results in ABC Company recognizing a **lower** taxable income for tax purposes.

	Book Income	Tax Income
Revenue	$50,000	$50,000
Op. Exp	($30,000)	($30,000)
Deprec. Exp	($1,000)	($10,000)
EBT	$19,000	$10,000
Tax	($5,700)	($3,000)
NI	$13,300	$7,000

- Note that earnings before taxes (EBT) is reduced by $9,000. This results in lower taxes of $9,000 * .30 = $2,700.

- Since this represents taxes we did not pay this year and **will have to pay** in the future. We will recognize a **Deferred Tax Liability.**

Cash (A)	=	DTL (L) +	Ret. Earnings (E)
-3,000		+2,700	-5,700

Question 1: Temporary Differences

Part B. What would happen next year?

	Book Income	Tax Income
Revenue	$50,000	$50,000
Op. Exp	($30,000)	($30,000)
Deprec. Exp	($1,000)	$0
EBT	$19,000	$20,000
Tax	($5,700)	($6,000)
NI	$13,300	$14,000

- Depreciation expense (Book) = $1,000
- Depreciation expense (Tax) = $0

- Assuming the tax rate remains at 30%, this means $300 of the DTL will reverse.

Cash (A)	=	DTL (L)	+ Tax Payable (L)	+ Ret. Earnings (E)
-6,000		-300		-5,700

Effective Tax Rate

Effective Tax Rate = Tax Expense / GAAP pre-tax income

The effective tax rate can differ from the US statutory rate (35% in 2017). Examples of why:

- Items recognized by GAAP but not the tax code (“permanent differences”):
  - Interest received on tax-exempt bonds
  - Fines paid to government and associated legal expenses
- Differences in tax rates on foreign earnings
- Revaluation of DTA / DTL due to tax rate changes
- Stock compensation

Income Statement

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$$Effective\ tax\ rate = \frac{Provision\ for\ Income\ Taxes}{Income\ before\ Income\ Taxes} = \frac{428}{544} = 78.6\%$$

Really?

Tax Rate Reconciliation

Tax footnote:

	Year Ended December 31,		
	2012	2011	2010
Federal statutory rate	35.0%	35.0%	35.0%
Effect of:			
Impact of foreign tax differential	31.5	(8.4)	(12.7)
State taxes, net of federal benefits	0.2	1.5	1.5
Tax credits	(4.4)	(3.2)	(1.1)
Nondeductible stock-based compensation	11.1	4.1	1.6
Other, net	5.2	2.2	(0.8)
Total	78.6%	31.2%	23.5%

Yes, really!

Losses incurred in foreign jurisdictions for which we may not realize a tax benefit, primarily generated by subsidiaries located outside of Europe, reduce our pre-tax income without a corresponding reduction in our tax expense, and therefore increase our effective tax rate.

Question 2 – More taxes

B. Tax Rate Reconciliation

Reconciliation of the U.S. statutory income tax rate to our effective tax rate for income from continuing operations follows:

	YEAR ENDED DECEMBER 31,		
	2009	2008	2007
U.S. statutory income tax rate	**35.0%**	35.0%	35.0%
Earnings taxed at other than U.S. statutory rate	**(9.3)**	(20.2)	(21.6)
Sales of biopharmaceutical companies	**(5.1)**	(4.3)	—
Resolution of certain tax positions	**—**	(3.1)	—
U.S. research tax credit and manufacturing deduction	**(1.3)**	(1.2)	(1.5)
Legal settlements	**(1.6)**	9.0	—
Acquired IPR&D	**0.2**	2.1	1.1
Costs associated with Wyeth acquisition	**2.4**	—	—
All other—net	**—**	(0.3)	(2.0)
Effective tax rate for income from continuing operations	**20.3%**	17.0%	11.0%

For earnings taxed at other than the U.S. statutory rate, this rate impact reflects the fact that we operate manufacturing subsidiaries in Puerto Rico, Ireland and Singapore. We benefit from Puerto Rican incentive grants that expire between 2013 and 2029. Under the grants, we are partially exempt from income, property and municipal taxes. In Ireland, we benefit from an incentive tax rate effective through 2010 on income from manufacturing operations. In Singapore, we benefit from incentive tax rates effective through 2031 on income from manufacturing operations. In 2008 and 2009, the rate impact also reflects the jurisdictional location of earnings and the costs of certain repatriation decisions. In 2008, the rate impact also reflects the realization of approximately $711 million (tax effect) in net operating losses.

Question 2 – More taxes

Part A. What is Pfizer's 2009 effective tax rate?

B. Tax Rate Reconciliation

Reconciliation of the U.S. statutory income tax rate to our effective tax rate for income from continuing operations follows:

	2009
U.S. statutory income tax rate	35.0%
Earnings taxed at other than U.S. statutory rate	(9.3)
Sales of biopharmaceutical companies	(5.1)
Resolution of certain tax positions	—
U.S. research tax credit and manufacturing deduction	(1.3)
Legal settlements	(1.6)
Acquired IPR&D	0.2
Costs associated with Wyeth acquisition	2.4
All other—net	—
Effective tax rate for income from continuing operations	$\boxed{20.3\%}$

Question 2 – More taxes

Part B. What is the major reason why Pfizer's effective tax rate is different from the U.S. statutory tax rate of 35%?

Earnings are taxed at other than US statutory rate

B. Tax Rate Reconciliation

Reconciliation of the U.S. statutory income tax rate to our effective tax rate for income from continuing operations follows:

	2009
U.S. statutory income tax rate	35.0%
Earnings taxed at other than U.S. statutory rate	(9.3)
Sales of biopharmaceutical companies	(5.1)
Resolution of certain tax positions	—
U.S. research tax credit and manufacturing deduction	(1.3)
Legal settlements	(1.6)
Acquired IPR&D	0.2
Costs associated with Wyeth acquisition	2.4
All other—net	—
Effective tax rate for income from continuing operations	20.3%

Question 2 – More taxes

Part C. Assume that in 2010, the Pfizer reports book depreciation of $20,000 (in millions, like the financial statements) and tax depreciation of $40,000. What is the effect of this transaction on Pfizer's deferred tax liability for 2010? Assume a statutory tax rate of 35%

Tax income < GAAP income so will have to pay more tax in the future, so DTL will increase by $7,000.

Difference = $20,000 x 35% = $7,000.