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Stock Rating
Overweight

Industry View
In-Line

Initiation

Aveo Pharmaceuticals

Best Drug in a Large, but Competitive, Market

Initiating coverage of AVEO with an Overweight rating and $15 price target.

Phase III trial likely to prove superior to Nexavar. We expect Tivozanib, Aveo's lead drug candidate, to show superiority vs. Onyx' Nexavar on progression free survival (the primary endpoint) in its Phase III trial for advanced renal cell cancer (RCC). We see the potential for the drug to work in other indications with chemotherapy, and estimate WW peak sales of >$1.5bn. We do not expect Aveo to raise capital, a key investor concern, before Phase III data in 2H11.

Street underestimates commercial potential. We believe investors are underestimating tivozanib's strong data to date and its commercial potential. The Street appears to be pricing in $100-$150mn in peak sales vs. our estimate of >$1bn. If tivozanib proves superior to Nexavar, we see it gaining significant share from Nexavar and Pfizer's Sutent in the $1.6bn and growing RCC market (as well as modest sales in other cancers).

No need to tap equity markets until after data. We see several mechanisms to bolster the balance sheet to provide a better capital buffer going into Phase III data including: 1) early-stage technology deals (brought in >$160mn to date); 2) partner tivozanib in the EU; **or** 3) cut R&D. A stronger balance sheet with sustained R&D investment could lead to 30-50% upside to AVEO before Phase III data in 2011 (stock likely flat if cut R&D), the chief reason to own the stock over the next 12 months.

Value of tivozanib extends beyond RCC, a point overlooked by Street. Tivozanib's safety profile suggests it could work in combination with standard chemotherapy and target much larger markets, like Roche's Avastin (>$5bn in annual sales).

Pfizer's axitinib is a risk. Data from a Phase III trial of Pfizer's axitinib vs. Nexavar in late 2010 are a wild card for the stock, but we like tivozanib's long-term position.

Key Ratios and Statistics

Reuters: AVEO.O Bloomberg: AVEO US
Biotechnology / United States of America

Price target	**$15.00**
Shr price, close (Apr 20, 2010)	$9.39
Mkt cap, curr (mm)	$278
52-Week Range	$9.61-8.16

Fiscal Year ending	**12/09**	**12/10e**	**12/11e**	**12/12e**
ModelWare EPS ($)	**(27.33)**	**(2.24)**	**(1.12)**	**(3.27)**

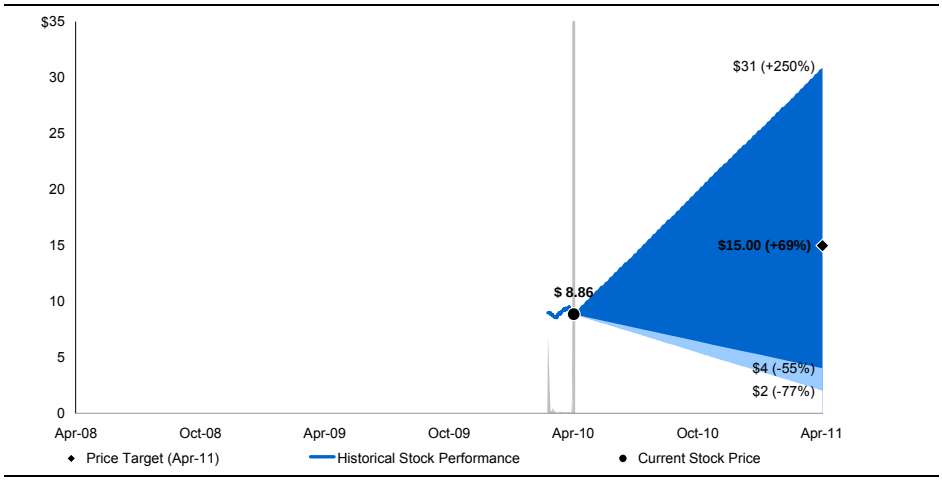
Unless otherwise noted, all metrics are based on Morgan Stanley ModelWare framework (please see explanation later in this note).
e = Morgan Stanley Research estimates

Key Investment Debates:

DEBATE	MARKET'S VIEW	OUR VIEW
Will Tivozanib meet its Phase III endpoint of superior progression free survival vs. Onyx' Nexavar?	**Consensus view is generally yes, but there are two key concerns:** 1) There is concern about the use of an active comparator as it creates a higher bar. Additionally, data may reach statistical superiority, but not be commercially adequate. 2) Investors believe hitting multiple targets (in other words having a less selective drug) may actually lead to greater efficacy.	**We think yes**. We believe tivozanib has a high probability of showing superiority vs. Nexavar on progression free survival (PFS), ***with the potential to show up to 100% greater efficacy***. Phase II data are solid with tivozanib showing an overall median PFS of 11.8 months and response rate of ~25%, and the benefit is even greater when looking at the subgroup of patients included in the Phase III trial. Nexavar showed a median PFS of ~5.5 months and response rate of only 2%. Furthermore, safety was encouraging with tivozanib showing lower rates of dose interruptions and dose reductions (suggest patients able to stay on continuous drug longer). *Where we could be wrong: Tivozanib's Phase II data were from a non-randomized trial, and the efficacy may not be as great in Phase III. Additionally, Nexavar could surprise.*
Will Tivozanib be differentiated enough to gain significant share in a crowded RCC market?	**Market skeptical.** At the current stock price, we estimate the market is only pricing in ~$150mn in tivozanib sales, as investors are concerned about competition with several large companies (Pfizer, Bayer, Roche). In addition, Pfizer's axitinib will have Phase III data vs. Nexavar prior to tivozanib, and there is concern that if axitinib is superior to Nexavar, it will raise the commercial hurdle further.	**We think yes, but highlight Axitinib as a risk.** In our opinion, tivozanib has the best risk/benefit balance seen to date of the oral RCC drugs (Sutent-like efficacy and safety that is better than Nexavar), allowing it to take share in 1st and 2nd line RCC and peak sales can exceed $750mn in this indication even assuming competition from current and future products. Strong superiority data with a PFS of 11 months or greater is key. The Street also overlooks tivozanib's potential in additional indications, as early data suggest its tolerability profile will allow it to combine with chemotherapy and target much larger markets. *Where we could be wrong: If tivozanib does not have a clear differentiated profile from current drugs, it will likely struggle commercially. Axitinib could prove more disruptive than we expect.*
What is value of the technology platform?	**Investors attribute little value**	**Too early to include sales for drugs derived from platform, but believe company can monetize assets for cash.** The Human Response Platform is a novel technology that has several advantages over traditional animal cancer models and it has served as a significant source of financing (agreements with Merck, OSI, and Biogen Idec). We model ~$150mn in revenue from new early stage/technology deals over the next 8 years, which may prove conservative. *Where we could be wrong: Aveo may fail to enter into collaborations from the platform, and instead of being a source of cash, it consumes resources.*
Can current balance sheet and IPO proceeds get the company through the tivozanib Phase III trial?	**Market is mixed.** A key Street concern is that Aveo will need to come back to the public markets prior to the completion of the Phase III tivozanib trial in 2H11.	**We think yes,** but will require an ex-US partner for tivozanib or additional antibody/technology deals. Aveo entered 2010 (pre-IPO) with ~$130mn in cash. If the company continues to spend at its current pace and does no additional partnerships, cash will run out in early 2012. With data in 2H11, we do not view this as an adequate buffer, **but we see three potential ways to avoid returning to the capital markets (we do not expect another financing until after data):** 1) partnering early-stage technology; 2) signing an EU partner for tivozanib; or 3) cutting basic research spend on its technology platform (a last resort).

Risk-Reward Snapshot: Aveo Pharmaceuticals (AVEO, OW, PT $15)

Success for tivozanib in indications beyond RCC drives upside; failure in ongoing Phase III trial vs. Nexavar drives downside:



Source: Company data, Morgan Stanley Research

Bull Case $31	**DCF based intrinsic value**	**Tivozanib successfully launches in one or many other indications:** Our bull scenario assumes tivozanib succeeds in one or more other additional indications, with sales from other indications beginning in 2015 and peak sales for tivozanib exceeding $1.5 bn. While this scenario may take longer to play take longer to play out, Phase Ib data for tivozanib in combination with chemotherapy may increase granularity over the next 12-18 months. Phase III trials could then begin in 2011 or 2012.
Base Case $15	**DCF based intrinsic value**	**Tivozanib succeeds in RCC, but sales are limited in additional indications.** This scenario assumes WW sales for tivozanib of ~$1.2bn by 2018 with more than 80% from RCC. The base case assumption of success in RCC and limited sales in additional indications is protected somewhat, as tivozanib can reach essentially the same value with limited success in renal and meaningful success in another indication (e.g. it can the commercial path for Onyx' Nexavar). Phase III data in 2H11 will be key.
Bear Case $4	**DCF based intrinsic value**	**Upcoming Phase III in RCC fails, but drug comes to market eventually.** Our bear case scenario assumes the head-to-head Phase III for tivozanib vs. Nexavar fails to show statistical superiority despite clear signs of efficacy, delaying launch. Such a negative outcome would lead to a launch delay of at least 2 years and require significantly greater investment.
Ultra bear case $2	**Cash based value**	**Drug fails.** This scenario assumes the drug never makes it to market, investors put little value on the pipeline, and the company is worth ~cash at the time the data become available. Though the pipeline is likely worth something, it is difficult for investors to value in the near-intermediate term.

Investment Thesis

- Tivozanib, Aveo's VEGF inhibitor, looks like a best in class oral VEGF receptor inhibitor with renal cell cancer as its lead indication.
- Based on data to date, we expect tivozanib will show superiority to Onyx' Nexavar on PFS in the ongoing Phase III trial (data 2H11). If true, the stock could see 50%+ upside.
- We believe tivozanib's differentiated profile will drive peak sales of >$1bn in RCC and beyond. The oncology market is a specialty market with high operating leverage, and EPS could peak at >$5
- Solid technology platform and IP allows for non-dilutive financing and potential for long-term sustainable business. De-risking the balance sheet through partnerships will be a key potential catalyst over the next 12 months

Risks

- Tivozanib could fail in its upcoming Phase III trial
- An unexpected safety issue could occur that stunts tivozanib's commercial potential
- Inability to partner tivozanib or do additional technology deals, or any delay in the Phase III trial could lead to additional financing prior to data
- Drugs such as Pfizer's axitinib could be greater competitors than expected

Potential Catalysts

- **2010/2011:** Potential ex-US partnership
- **2H11:** Phase III head-to-head data for tivozanib in RCC vs. Nexavar
- **2010/2011:** Data for Pfizer's axitinib
- **1H12:** Potential tivozanib NDA filing

Investment Case

Summary & Conclusions

We are initiating coverage of Aveo Pharmaceuticals with an Overweight rating and price target of $15.
Aveo has two main assets: 1) tivozanib, an oral VEGF inhibitor, in Phase III trials for renal cell cancer (RCC), and 2) a technology platform based on a unique method of building preclinical models of human cancer to more accurately reflect human disease. Tivozanib drives our Overweight thesis with Phase III data vs. Onyx' Nexavar expected in 2H11. We expect these data will: 1) demonstrate tivozanib is a best-in-class drug; 2) drive investor views around the commercial potential towards our own; and 3) lead to significant stock upside.

The key debates for Aveo are: 1) Will tivozanib meet its Phase III endpoint of superior progression free survival vs. Onyx' Nexavar? 2) Will tivozanib be differentiated enough to gain significant share in a crowded RCC market? 3) Is there near-term value in the technology platform? 4) Can the current balance sheet get the company through the tivozanib Phase III trial? We believe investors underestimate tivozanib's data to date and the commercial potential of this drug.

Phase II data are strong and suggest Phase III success.
Tivozanib, a once daily pill that inhibits VEGF receptor, is being examined in RCC. There are a number of approved drugs for RCC (e.g. Pfizer's Sutent, Roche's Avastin, Bayer/Onyx' Nexavar), but none of these drugs have been compared in a head-to-head trial, and therefore none have a superiority claim. Aveo's tivozanib is currently in a Phase III trial vs. Nexavar, in which the primary goal is to demonstrate superiority on progression free survival (PFS).

We believe tivozanib will show superiority vs. Onyx' Nexavar. Tivozanib has been studied in a 272 patient Phase II trial, where it had a median PFS of 11.8 months; in Nexavar's Phase III trial, the PFS was 5.5 months. In the subset of patients with 100% nephrectomy and clear cell RCC (tivozanib's population being studied in Phase III; and almost all of Nexavar's population in Phase III), tivozanib's benefit was greater (PFS of 14.8 months). With the Phase III trial 90% powered for tivozanib to show a 3 month improvement in PFS vs. Nexavar, Phase III data that are anywhere near as potent as Phase II should lead to success.

Investors underestimate commercial potential
Many investors are concerned about tivozanib's ability to compete in a crowded RCC market. VEGF-inhibitors are >80% of the rapidly growing $1.6bn+ WW RCC market. The two dominant players are Pfizer's Sutent (viewed as most efficacious drug and sells ~$900mn in RCC WW) and Onyx' Nexavar (viewed as most tolerable drug, and we estimate ~$300 in RCC sales WW). Sutent is viewed as the most potent RCC drug, but tolerability is an issue, especially in the elderly. Nexavar is viewed as the best tolerated. Phase II data suggest tivozanib has Sutent-like efficacy and a side effect profile that is better than Nexavar's. Should these characteristics hold in Phase III, we expect tivozanib will sell ~$750 mn-$1bn in RCC WW.

Inhibition of the VEGF pathway has demonstrated benefits for patients with a wide range of cancers (renal cell, breast, colorectal, and non-small cell lung cancers etc) and VEGF-pathway targeted drugs sold >$6bn WW in 2009. The oral drugs (Sutent and Nexavar) are only approved as monotherapies, as they have proven too toxic (or not efficacious, potentially due to dose reductions) when used in combination with chemotherapy. Tivozanib's superior side effect profile may allow it to be combined with standard chemotherapy, providing an opportunity in indications outside RCC. If true, the real competition may become Roche's Avastin rather than other oral VEGF inhibitors. This outcome drives our Bull scenario (value~$31), assuming $650 mn in sales in "other indication" sales by 2018.

Why own it now?
With no data until 2011, potential financing risks between now and Phase III data, and Phase III data from Pfizer's axitinib, some investors may feel the reward is better in 2011. While axitinib is an important competitor, we estimate that the market is only pricing in ~$150 mn in peak tivozanib sales, suggesting that unless Phase III axitinib data obviate the need for tivozanib (which we doubt given the drug's high rates of fatigue and diarrhea), there is little downside risk. On the positive side, we believe the company has several levers to de-risk the balance sheet, with the most likely being deals around its early stage compounds and technology as well as a potential EU partner for tivozanib (provide upfront payments and cover portion of forward R&D spend). We believe such de-risking of the balance sheet could push the stock 30-50% higher before Phase III data in 2011.

Key expected upcoming events include: 1) Phase III data for tivozanib (2H11); 2) potential ex-US tivozanib partnership (2010/2011); 3) NDA filing for tivozanib (1H12); 4) Phase III

data for Pfizer's axitinib (late 2010/2011); 5) potential tivozanib approval (late 2012); and 5) pipeline partnerships (key source of financing).

There are several risks to our thesis:
1) Tivozanib could fail to meet its superiority endpoint in its Phase III trial vs. Nexavar. Though tivozanib has shown strong efficacy data to date, this is one of the first head-to-head trials in oncology and the active comparator creates a high bar.

2) An unexpected safety issue could occur in the Phase III trial that delays or precludes approval or stunts the drug's commercial potential (there were a couple cases of Grade 3 liver enzyme elevations in Phase II, and though these elevations were transient and there were no increases in total bilirubin, this issue bears watching).

3) Aveo could fail to partner tivozanib or secure additional technology deals. Inability to find non-dilutive sources of financing could require a meaningful cut in spending (likely placing investment in additional indications for tivozanib and the pipeline on hold) or for another public financing prior to Phase III data (something the Street would likely look quite unfavorably upon). Any delay in the Phase III trial would also add pressure to the balance sheet.

4) Axitinib data could be better than we expect, which would increase commercial hurdles for Aveo in RCC.

Valuation. Overweight. Price Target $15.
Our $15 price target is based on a discounted cash flow (DCF) analysis that uses a WACC of 20%, an intermediate growth rate of 10% and a terminal growth rate of 0%.

Exhibit 1
DCF analysis suggests price target of $15

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Free Cash Flow (w/o option expense)	-80,535	12,090	-117,736	-72,378	-28,191	65,066	176,961	176,295	247,298	272,028	299,231
	564.79%	*-115.01%*	*-1073.87%*	*-38.53%*	*-61.05%*	*-330.80%*	*171.97%*	*-0.38%*	*40.28%*	*10.00%*	*10.00%*
Free Cash Flow (w/ option expense)	(80,535)	12,090	(117,736)	(72,378)	(28,191)	65,066	176,961	176,295	247,298	272,028	299,231
Y	*564.79%*	*-115.01%*	*-1073.87%*	*-38.53%*	*61.05%*	*-330.80%*	*171.97%*	*-0.38%*	*40.28%*	*10.00%*	*10.00%*
Present Value of Free Cash Flow	-84,291	10,544	-85,574	-43,839	-14,229	27,368	62,028	51,495	60,196	55,179	50,581

Discounted Cash Flow (DCF) Business Valuation ($ millions):	
WACC Applied (%)	20%
Intermediate Growth rate	**10%**
Terminal Growth Rate (%)	**0%**
Discounted Net Cash Flow	**89,459**
Terminal Value	1,496,153
Discounted Value of Terminal Value	**303,487**
Terminal Value as % of total	77.2%
Firm Value	**392,946**
Net Debt	(38,109)
Equity Value	**431,055**
Shares Outstanding (thousand)	29,679
Equity Value per Share ($)	**$15**

Source: Company data, Morgan Stanley Research estimates

Debate 1: Will Tivozanib Meet Its Phase III Endpoint of Superior Progression Free Survival vs. Onyx' Nexavar?

The first indication Aveo is pursuing for tivozanib is renal cell carcinoma (RCC), with a Phase III trial initiated in December 2009. Pfizer's Sutent, Onyx' Nexavar, Roche's Avastin, GSK's Vorient are all approved in RCC. All of these drugs were approved via placebo or interferon controlled registration trials. Given the number of approved drugs in this disease, it is no longer ethical (or ideal from a commercial standpoint) to run placebo controlled Phase III trials. In its Phase III trial, tivozanib will be tested head-to-head vs. Onyx' Nexavar with the goal of showing a superior benefit on progression free survival (time patients live without the disease progressing).

The read-out of these data (2H11) is *the key catalyst* for this stock and company over the next 18 months. Head-to-head registration trials in cancer to date are rare, and consequently, some on the Street are concerned that tivozanib will not hit its endpoint. We expect that tivozanib will hit its superiority endpoint as: 1) preclinical data demonstrate that this drug is the most potent and selective of VEGF tyrosine kinase inhibitors (e.g. Sutent and Nexavar) to date; and 2) Phase II response rate and PFS data point to success. ***Our general take is that this drug has Sutent-like efficacy (most potent RCC drug currently on the market) and a safety/tolerability profile that is superior to Nexavar's (currently, the best tolerated oral VEGF inhibitor on the market).***

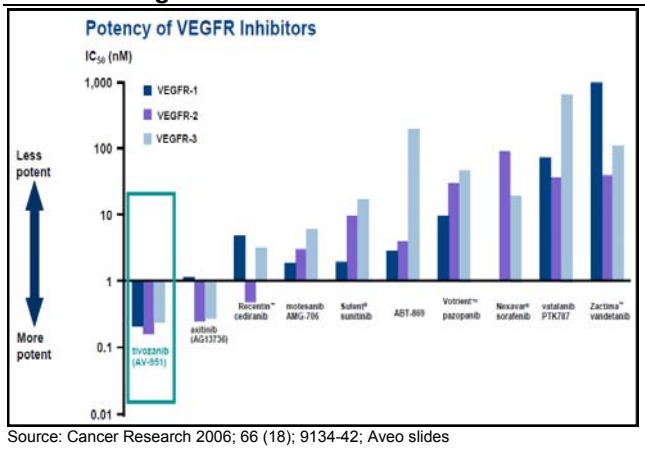
Tivozanib is a potential best in class oral VEGF inhibitor

Tivozanib is an inhibitor of the vascular endothelial growth factor (VEGF) receptors 1, 2, and 3. Data suggest that tivozanib is more potent and specific than other oral VEGF receptor inhibitors (see Exhibits 2 and 3). In addition, tivozanib's half-life (period of time it takes for drug to decline by 50% in the body) is 4.5 days, the longest of any VEGF receptor inhibitor in development. These characteristics are believed to: 1) lead to a clinical profile that will have better efficacy with fewer side effects, as a more selective drug should be less likely to bind to non-VEGF targets, leading to less off-target toxicity, and 2) pose less risk to patients' missing a dose –patients can experience a rebound effect when drugs do not sufficiently maintain blockade of the receptor, and the longer half-life allows for continuous blockade.

Some investors, companies, and physicians argue that selectivity is not necessarily a good thing, as cancer is a complicated disease and hitting multiple targets, even weakly, may lead to better disease control. We disagree. Drugs that hit 2-3 intended targets, by nature, almost certainly hit more. Therefore, these drugs have been plagued by off-target side effects (e.g. extreme fatigue for Sutent, hand-foot syndrome for Nexavar). We believe a better strategy is combination therapy with several potent and selective agents. Additionally, in RCC at least, it appears the only important mechanism is inhibiting the VEGF pathway, as the more potent the drug is on this pathway (as measured either by in vitro tests or hypertension, an on-target side effect, in patients) the greater the clinical benefit to date.

Exhibit 2

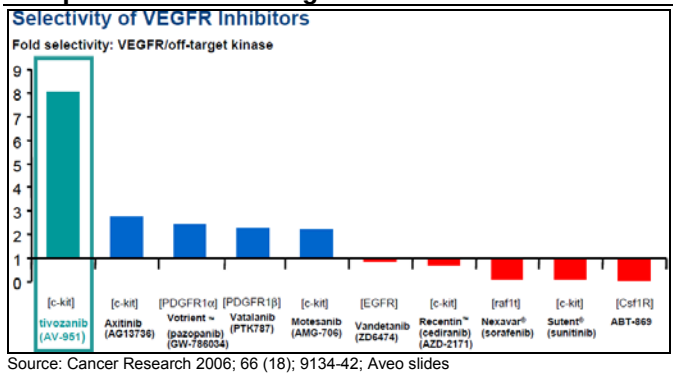
Tivozanib appears more potent than all approved and late stage VEGF inhibitors



Source: Cancer Research 2006; 66 (18); 9134-42; Aveo slides

Exhibit 3

Tivozanib is also 5-fold more selective for the VEGF receptor than other drugs



Source: Cancer Research 2006; 66 (18); 9134-42; Aveo slides

Phase II data point to Phase III success

Aveo has completed a 272 patient Phase II trial in advanced RCC. In this trial, tivozanib had a response rate of ~25% and a median progression free survival (PFS, the primary endpoint of

the Phase III trial) of 11.8 months. The trial's primary endpoint was a randomized discontinuation trial in patients with stable disease after 12 weeks of treatment. These patients were randomized to continue tivozanib or switch to placebo, and the trial met its primary endpoint, essentially confirming that patients with stable disease are benefiting from the drug, with a significantly higher percentage of patients progression free relative to placebo at 12 weeks post randomization (55% vs. 28%; p=0.004).

In the subset of patients with 100% nephrectomy and clear cell RCC (the population being studied in Phase III and the population making up >90% of Sutent and Nexavar data sets), the median PFS was 14.8 months and objective response rate improved modestly to 27% (85% of patients had stable disease or better). Overall, these efficacy data compare quite favorably with data for approved drugs (see Exhibit 4).

Exhibit 4

Tivozanib PFS and response rates are consistent with best in class drug

	Sutent	Nexavar	Votrient	Tivozanib
Population	Clear cell RCC; 91% nephrectomy	Clear cell RCC; 94% nephrectomy	Clear cell RCC; 89% nephrectomy	Clear cell RCC; 100% nephrectomy
Trial	Phase III vs. interferon	Phase III vs. placebo	Phase III vs. placebo	Phase II RDT
PFS	**11 months***	**5.5 months***	**9.2 months***	**14.8 months***
Objective response rate	27.5%	2%	30%	26.8%

*Independent radiology readings

Source: Company data; product labels

Safety data for tivozanib were also encouraging, and our physician dialogues have consistently highlighted the tolerability and safety of this drug as its strongest attribute versus current drugs. In its Phase II trial, tivozanib showed notably lower rates of off-target toxicities than competitors, and manageable levels of on-target toxicity (e.g. hypertension). Importantly, both dose reductions and dose interruptions were substantially lower with tivozanib than with other therapies, providing an additional potential reason for the drug's solid efficacy (people able to say on drug longer, drug likely to have a greater impact).

Exhibit 5

Tivozanib had fewer "off-target" toxicities and lower rates of dose reductions and interruptions

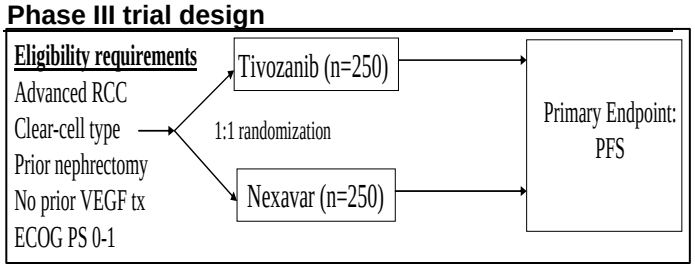
Single Agent Toxicity; All grades (Gr 3/4)	Sutent (N=375)	Nexavar (N=451)	Votrient (N=225)*	Axitinib (n=52)	Recentin (N=126)	Tivozanib (N=272)
Hypertension	30% (10%)	17% (3%)	40% (4%)	57.7% (7.7%)	73% (30%)	50% (8.8%)
Mucositis/Stomatitis	43% (3%)			17%(2%)		4.4% (0%)
Hand-foot syndrome	21% (5%)	30% (6%)	12% (2%)			3.7% (0%)
Rash/Desquamation	27% (1%)	40% (1%)	12% (<1%)	12% (0%)		6.3% (1.1%)
Diarrhea	58% (6%)	43% (2%)	52% (4%)	59.6%(9.6%)	76% (12%)	12.1% 1.5%)
Fatigue	58% (9%)	37% (6%)	19% (2%)	52% (8%)	66% (18%)	8.1% (1.5%)
Anemia	52% (2%)	8% (3%)	26% (3%)			15.1% (1.8%)
Neutropenia	72% (12%)		34% (2%)			11.4% (2.2%)
LFT elevation (AST)	52% (2%)		53% (8%)			25.7% (<1%)
Dose reduction	32%	13%	36%	29%	NA	10.3%
Dose interruption	38%	21%	42%		NA	3.7%

* Phase II data (ASCO 2007)

Source: Package inserts, ASCO data, Aveo slides; Rixe et al. Axitinib treatment in patients with cytokine-refractory metastatic renal-cell cancer: a Phase II study, Lancet 2007.

Aveo initiated its Phase III trial (TIVO-1) vs. Nexavar in December 2009. This trial will enroll ~500 patients with advanced clear cell RCC. Patients will be randomized 1:1 to tivozanib or Nexavar (see Exhibit 6). The FDA has stated that a ≥3 month improvement in PFS over a comparator would likely be viewed as a clear and convincing benefit for approval, and Aveo's trial is 90% powered for tivozanib to show at least a 3 month improvement over Nexavar. Given that in its Phase II trial tivozanib demonstrated a PFS of 11.8 months (and an even greater PFS of 14.8 months in the patient population being studied in Phase III), versus Nexavar's Phase III PFS of 5.5 months, we think tivozanib has a high probability of demonstrating at least a 3 month benefit vs. Nexavar (and potentially even a doubling of PFS).

Exhibit 6
Phase III trial design



Source: Company data, Morgan Stanley Research

In summary, we believe tivozanib has a strong chance of proving superior to Nexavar in its Phase III trial. We see three primary data points favoring success: 1) the independently-adjudicated response rates in Phase II for tivozanib were meaningfully superior to those seen with Nexavar (response rate has correlated with PFS in trials to date, and it is more clearly a drug effect than PFS in a non-randomized setting); 2) the PFS is meaningfully longer for tivozanib (although longer PFS can be attributed to either drug effect or patient selection, the large size of the Phase II data, the strong response rate, and the known baseline characteristics of the patient population make us comfortable); and 3) the strong safety profile (will lower drop-outs in trial and differentiate commercially).

Debate 2: Will Tivozanib Be Differentiated Enough to Gain Significant Share?

The RCC market is crowded with several approved oral drugs and is dominated by large pharma companies (Bayer, Pfizer, Roche, GSK). One of the key Street concerns*, and where we are likely most differentiated*, is that this drug will have limited commercial success as it is entering a market with several already entrenched agents and will have to compete with commercial bellwethers. At the current stock price, in our view, the Street is only pricing in ~$100-$150mn in sales. ***In contrast, we believe tivozanib has ~$1bn potential in renal with at least hundreds of millions of further potential revenue in additional indications.***

Market is large, growing and unmet need exists

VEGF inhibitors are currently >80% of the rapidly growing >$1.6bn RCC market. While there are effective drugs approved, there is a clear window of opportunity for new improved drugs, as the existing VEGF receptor tyrosine kinase inhibitors have both toxicity and efficacy drawbacks. Sutent, for example causes extreme fatigue and neutropenia, while Nexavar, though relatively well tolerated in this setting, has not demonstrated the same efficacy benefits. Avastin is likely the most tolerable VEGF inhibitor, but it requires costly and inconvenient infusions and has little share in this setting as it is only approved in combination with interferon.

Tivozanib is a potent, specific, convenient once daily pill, and to date has demonstrated the best risk/benefit balance, in our view. Should the Phase III data look like the Phase II data, we expect tivozanib to become a significant player in this market (second generation drugs, tivozanib and axitinib, are likely to dominate this market over the next few years, in our view). We assume that tivozanib reaches ~25% share of the front-line market in both the US and the EU, and ~20% of the second-line tivozanib eligible (those that have not received tivozanib first-line) patient population. With these assumptions we come to a WW peak sales estimate for tivozanib in RCC of $800 mn-$1bn (see Exhibit 11) by 2018. We do note that these numbers are dependent on market growth and tivozanib showing a clear differentiated profile in its Phase III trial; if this is not the case, our peak sales estimate in RCC could decline by 50%+.

Overlooked potential in additional indications

Inhibition of the VEGF pathway has demonstrated benefit for patients with a wide range of cancer types including RCC, metastatic breast cancer, colorectal cancer, non-small cell lung cancer, and liver cancer (see Exhibit 7). VEGF targeting drugs currently sell >$6bn WW. Interestingly, Sutent and Nexavar, which both sell ~$1bn WW, have managed to reach their blockbuster status despite the fact that both drugs are only approved (and used) as monotherapies (combination regimens with these drugs have failed in clinical trials likely due to side effects). In our opinion, tivozanib's superior selectivity and side effect profile create the potential for more combinations with standard chemotherapy, and likely broaden the commercial opportunity for this drug compared to its current peers.

Exhibit 7

VEGF inhibitors are approved in seven tumor types

Market size

	Monotherapy	Combo therapy
Colorectal cancer	–	Avastin
Breast cancer	–	Avastin
Lung cancer	–	Avastin
Renal cell carcinoma	Sutent, Nexavar	Avastin
Liver cancer	Nexavar	–
Glioblastoma	Avastin	–
GIST	Sutent	–

Source: Company data

Tivozanib's combinability has been demonstrated in early stage trials. A recent Phase Ib trial showed that tivozanib is the only VEGF inhibitor that can be safely combined with Wyeth's Torisel in patients with RCC at full doses of both drugs (no dose limiting toxicities at these doses). Aveo is currently conducting a number of early stage studies in various combinations and dosing regimens including: 1) Phase Ib in combination with FOLFOX6 in patients with advanced colorectal cancer and other gastrointestinal cancers (data likely presented at ASCO); and 2) Phase Ib in combination with paclitaxel in metastatic breast cancer (data likely presented at ASCO).

We believe the most likely next indication will be breast cancer, a blockbuster potential market, where Onyx' Nexavar has both provided proof of concept and a window of opportunity as it appears the drug is effective in this indication, but may be limited by its side effect profile (hand foot syndrome). Tivozanib's long-term tolerability could provide a key competitive advantage in attacking bigger markets that require combinations with chemotherapy. We currently model risk adjusted sales in other indications of ~$200mn. Our bull case models the impact of greater success in additional indications ($650mn) and gives a DCF based value of $31.

Axitinib is a risk, but tivozanib is a better drug, in our view
Pfizer's axitinib, also a VEGF inhibitor, is currently the only other drug in a Phase III head-to-head trial vs. Nexavar in RCC. A key risk to Aveo between now and Phase III tivozanib data will be the results from the axitinib Phase III, which are currently expected in late 2010.

Axitinib is second in line in terms of potency and specificity to the VEGF receptors 1-3 (see Exhibits 2 & 3). Data to date for axitinib are limited to two relatively small (n=50) single arm trials, but the drug clearly has potent efficacy in this disease. Our general conclusion is that axitinib will be a formidable competitor, with efficacy that is similar to tivozanib as well as Pfizer's strong commercial presence in this disease. ***Tivozanib looks to have two distinct advantages: 1) it has a better side effect and tolerability profile, especially in regard to fatigue and diarrhea (see exhibits 5 and 9); and 2) it is more convenient, and its longer half-life can give physicians more comfort if a patient misses an occasional dose (tivozanib is a once daily therapy vs. axitinib's twice daily dosing).***

Axitinib has been studied in two small non-randomized open-label Phase II trials in cytokine refractory and sorafenib refractory RCC patients respectively. Results from the cytokine refractory trial (n=52) show an overall response rate (ORR) of 44.2% (two complete and 21 partial responses), as well as a median time to progression of 15.7 months and a median overall survival of 29.9 months. These data appear encouraging when compared to other drugs (Exhibit 8). Data from the other Phase II trial are more in line with what has been seen from the other potent VEGF inhibitors (e.g. Sutent and tivozanib) with an overall response rate of ~22% and a median PFS of 7.4 months. It is worth noting, though, that the patient population in this study was more difficult to treat than other trials, as all patients had previously progressed on Nexavar.

Exhibit 8
In its small open-label Phase II in cytokine refractory patients, axitinib had solid ORR and PFS

	ORR	PFS (months)
Axitinib (N=52)	44.2%	15.7[1]
Sutent (N=168)	45%	8.4
Pazopanib (N=202)	29%	7.4
Nexavar (N=384)[2]	2%	5.5
Tivozanib (N=272)[3]	25.4%	11.8

1: TTP in this case, not PFS
2: 319 prior cytokine treatment
3: 126 prior cytokine treatment

Source: ASCO data, product labels

Exhibit 9
Axitinib showed high rates of fatigue, hypertension and diarrhea in its Phase II trial

	All Grades	Grades 3-4
Diarrhea	59.6%	9.6%
Hypertension	57.7%	15.4%
Fatigue	51.9%	7.7%
Nausea	44.2%	0.0%
Hoarseness	36.5%	0.0%
Anorexia	34.6%	1.9%
Dry skin	32.7%	0.0%
Weight loss	26.9%	0.0%
Dyspepsia	23.1%	0.0%
Dose reductions due to AEs	29%	

Source: Rixe et al. Axitinib treatment in patients with cytokine-refractory metastatic renal-cell cancer: a Phase II study. Lancet Oncol, 2007.

Commercialization will be challenging; we think Aveo can market this drug, but ex-US a key strategic decision
If successful in bringing tivozanib to market, Aveo will be competing with large pharmaceutical companies (Pfizer, Bayer etc.), which could be a challenge for a small biotech company. Phase III data are crucial as the better tivozanib's profile is, the easier it will be to market.

A relatively small commercial infrastructure is necessary in the RCC market. Typical oncology sales forces are between 25-200, and range from 80-120 in RCC. We expect Aveo to start at the low end of this range. We expect Aveo to retain full US rights, although we can envision scenarios under which the company considers a partnership.

Ex-US, the decision is more difficult. Most cancer drugs now sell more in the EU than in the US at peak, and Nexavar and Sutent are no exception. However, the market is more fragmented, making it more difficult for a company of Aveo's size to maximally penetrate. More importantly, we believe a partner can accelerate the development of the drug, and there are numerous scenarios under which this will increase the NPV of the drug (the faster this drug can get to market in as many indications as possible, the better, as these markets are becoming increasingly crowded). Both the US and EU decision, though, are likely to also be driven by the company's ability to finance itself (early-stage partnerships and the financial markets after Phase III data).

In the US, the commercial infrastructure required to compete in the RCC space is reasonable. The target audience for RCC is ~9,100 physicians. Comparator sales forces range in size from

40-120 reps (though these detail more than one drug; see Exhibit 10). Aveo believes the optimal US sales force is ~50-75 reps (assumes 100 physicians per rep and targeting of 60-75% of oncologists). Based on company views on the likely initial size of its sales force (which we scale over time) and our assumptions, we estimate Aveo will reach profitability when tivozanib sales are ~$200mn. We model peak sales >$1bn.

Solid IP estate

Aveo has a solid IP estate that should allow for substantial cash flow generation over the next 15 years. Tivozanib has issued composition of matter patents in both the US and EU that expire in 2022 (potential term extension to 2027) as well as licensed patents that cover tivozanib's therapeutic use. We estimate that from drug launch through 2020, Aveo will generate over $1bn in free cash flow.

Exhibit 10

Sales force comparisons suggest RCC infrastructure is reasonable

Company	Product(s)	Sales Force Size
Pfizer	Sutent (RCC & GIST), Aromasin	120
Bayer	Nexavar (RCC and HCC)	40[1]
Wyeth	Torisel (RCC), Mylotarg, Relistor, Neumega	85

1: co-promote with Onyx in US

Source: Company data, Morgan Stanley Research

Exhibit 11

We expect tivozanib peak WW sales >$1bn

US	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
First-line										
Patients diagnosed with mRCC	24,259	24,987	25,737	26,509	27,304	28,123	28,967	29,836	30,731	31,653
Tivozanib penetration	*0%*	*0%*	*0%*	*3%*	*10%*	*17%*	*21%*	*23%*	*24%*	*25%*
Patients treated with Tivozanib	0	0	0	795	2,730	4,781	6,083	6,862	7,375	7,913
Cost per month	NA	NA	NA	$5,900	$6,077	$6,259	$6,447	$6,641	$6,840	$7,045
Average cost per patient				$11,800	$33,424	$37,556	$41,906	$44,823	$47,878	$51,076
Total front-line US RCC sales				**$9,384**	**$91,259**	**$179,552**	**$254,915**	**$307,588**	**$353,119**	**$404,171**
Second-line										
Patients eligible for Tivozanib 2nd line	16,981	17,491	18,016	17,761	16,382	14,905	14,194	14,023	14,136	14,244
Tivozanib penetration	*0%*	*0%*	*0%*	*1%*	*6%*	*9%*	*14%*	*18%*	*20%*	*20%*
Patients treated	0	0	0	178	983	1,341	1,987	2,524	2,827	2,849
Cost per month	NA	NA	NA	$5,900	$6,077	$6,259	$6,447	$6,641	$6,840	$7,045
Average cost per patient				$5,900	$9,116	$15,648	$19,341	$23,242	$27,359	$30,293
Total second-line US RCC sales				**$1,048**	**$8,960**	**$20,992**	**$38,433**	**$58,665**	**$77,350**	**$86,297**
Total US RCC Sales				**$10,432**	**$100,219**	**$200,543**	**$293,349**	**$366,253**	**$430,469**	**$490,468**

EU	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
First-line										
Patients diagnosed with mRCC	28,350	29,201	30,077	30,979	31,908	32,865	33,851	34,867	35,913	36,990
Tivozanib penetration	*0%*	*0%*	*0%*	*0%*	*2%*	*10%*	*18%*	*22%*	*24%*	*25%*
Patients treated	0	0	0	0	638	3,287	6,093	7,671	8,619	9,248
Cost per month	NA	NA	NA	NA	$6,077	$6,077	$6,077	$6,077	$6,077	$6,077
Average cost per patient					$12,154	$18,231	$30,385	$36,462	$39,501	$42,539
Total front-line EU RCC sales					**$7,756**	**$59,917**	**$185,143**	**$279,690**	**$340,459**	**$393,383**
Second-line										
Patients eligible for Tivozanib 2nd line	19,845	20,440	21,054	21,685	21,698	19,719	17,603	16,736	16,520	16,646
Tivozanib penetration	*0%*	*0%*	*0%*	*0%*	*1%*	*7%*	*13%*	*16%*	*19%*	*20%*
Patients treated	0	0	0	0	217	1,380	2,288	2,678	3,139	3,329
Cost per month	NA	NA	NA	NA	$6,077	$6,077	$6,077	$6,077	$6,077	$6,077
Average cost per patient					$6,077	$9,116	$15,193	$18,231	$21,270	$24,308
Total second-line EU RCC sales					**$1,319**	**$12,583**	**$34,766**	**$48,819**	**$66,760**	**$80,924**
Total EU RCC Sales					**$9,075**	**$72,500**	**$219,909**	**$328,509**	**$407,219**	**$474,307**
Total EU Other Indication Sales								**$15,000**	**$40,000**	**$60,000**
Total EU Sales					**$9,075**	**$72,500**	**$219,909**	**$343,509**	**$447,219**	**$534,307**
Royalty to Aveo					**$2,269**	**$18,125**	**$54,977**	**$96,182**	**$125,221**	**$149,606**
Total WW sales in RCC			**$0**	**$10,432**	**$109,294**	**$273,043**	**$513,258**	**$694,761**	**$837,689**	**$964,775**
Other Indication Sales			**$0**	**$0**	**$0**	**$0**	**$15,000**	**$75,000**	**$135,000**	**$200,000**
WW sales				**$10,432**	**$109,294**	**$273,043**	**$528,258**	**$784,761**	**$1,012,689**	**$1,224,775**

Source: Company data, Morgan Stanley Research estimates

Debate 3: What Is Value of the Technology Platform?

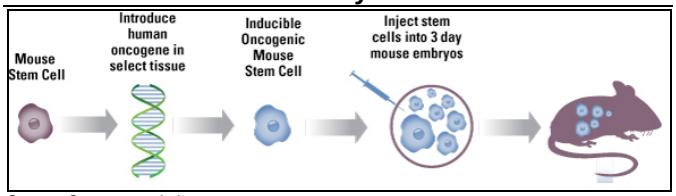
Aveo's other key asset, beyond tivozanib, is its Human Response Platform (HRP) technology. This platform provides a unique method of building preclinical models of human cancer that more accurately reflect human disease. The Street currently attributes little value to this technology platform. Aveo has one drug in the clinic to date that was derived from the Human Response Platform, but it is too early for proof of concept data (and we do not yet include even risk-adjusted estimates in our model). Beyond this drug, we believe the Street is overlooking Aveo's ability to secure non-dilutive financing from early stage antibody and technology deals.

Aveo's Human Response Platform improves upon traditional models of human cancer.
Traditional methods of modeling human cancer generally have not been able to accurately predict the success of drugs once they enter the clinic, and the success rates for development of novel cancer drugs have historically been quite low.

The historical preclinical standard model for human cancer is the xenograft model. A xenograft model is created by adapting cells from a human tumor to grow in a petri dish and injecting these cells under the skin of an immuno-compromised mouse where they grow into a tumor. These models are often poor predictors of the success of drugs in human clinical trials, as they do not accurately model the development and microenvironment of a human cancer.

Aveo's platform may offer improvements on these traditional methods. Aveo's Human Response Platform involves isolating a human oncogene, introducing this oncogene into a mouse stem cell, and injecting these stem cells into a mouse embryo (see Exhibit 12). Some of these mice develop human-like tumors, which then become the backbone for the company's experimentation. This method allows the tumors to grow naturally in an *in vivo* setting, leading to several advantages over other methods: 1) preserves normal interactions between tumors and the tissues around them; 2) enables the cancer cells to grow alongside normal cells; 3) allows cancer-causing mutations to be turned on after the animals are born, replicating what is seen in many human cancers; and 4) enables development of populations of tumors that exhibit different genetics (various mutations will arise spontaneously).

Exhibit 12
Aveo's HRP allows for development of preclinical models that more accurately reflect human disease



Source: Company website

Aveo's technology platform has been a key source of financing
To date, Aveo has received $160mn+ in revenue through a number of strategic collaborations in which partners have been granted rights to certain aspects of the Human Response Platform and related antibody products (Exhibit 13). Both Schering Plough (now Merck) and Biogen Idec have rights to internally discovered antibodies; Merck and OSI Pharmaceuticals have access to Aveo's proprietary technology platform. Aveo is currently eligible to receive $100s of millions in potential future milestones from these collaborations. We expect Aveo will continue to monetize its technology through new strategic partnerships and model ~$150mn in revenue from new collaborations over the next eight years, which may prove conservative.

Exhibit 13
Deals base on the HRP technology have been a significant source of non-dilutive financing

Partner	Asset	Terms for Aveo
Merck	Research Platform	Upfront payment plus annual research funding, milestones and royalties
OSI Pharmaceuticals	Research Platform	$35mn upfront cash and equity; research funding, milestones, royalties
Schering Plough (now Merck)	AV-299	$17.5mn upfront and equity plus 100% research funding, milestones, royalties (partnership worth $477mn plus royalties)
Biogen Idec	ErbB3	Upfront and milestones

Source: Company data, Morgan Stanley Research

Solid technology and IP create potential for long-term sustainable business
Aveo's Human Response Platform is covered by several issued and pending patents. The company has issued US patents on spontaneous inducible tumors to 2022 (with potential term extension to 2026), several patents around chimeric model technology with human relevant oncogenes and directed complementation technology (into 2020s), and has exclusively licensed certain patent rights covering a

method of using inducible cancer models to identify new targets for cancer drugs. In addition, know-how is a big barrier. Of course, any drug generated through this technology will have its own intellectual property estate.

Aveo's technology has led to a pipeline of monoclonal antibodies that may be the future growth drivers of the company. AV299 is Aveo's next most advanced product candidate after tivozanib and the first derived from the company's HRP. AV299 is an antibody that binds hepatocyte growth factor (HGF), which is thought to play a broad role in cancer. Several companies are also pursuing this target, but none have advanced far enough yet to provide clear clinical proof of concept for the target or to differentiate between the drugs (Amgen is ahead of Merck/Aveo with an antibody already in Phase II).

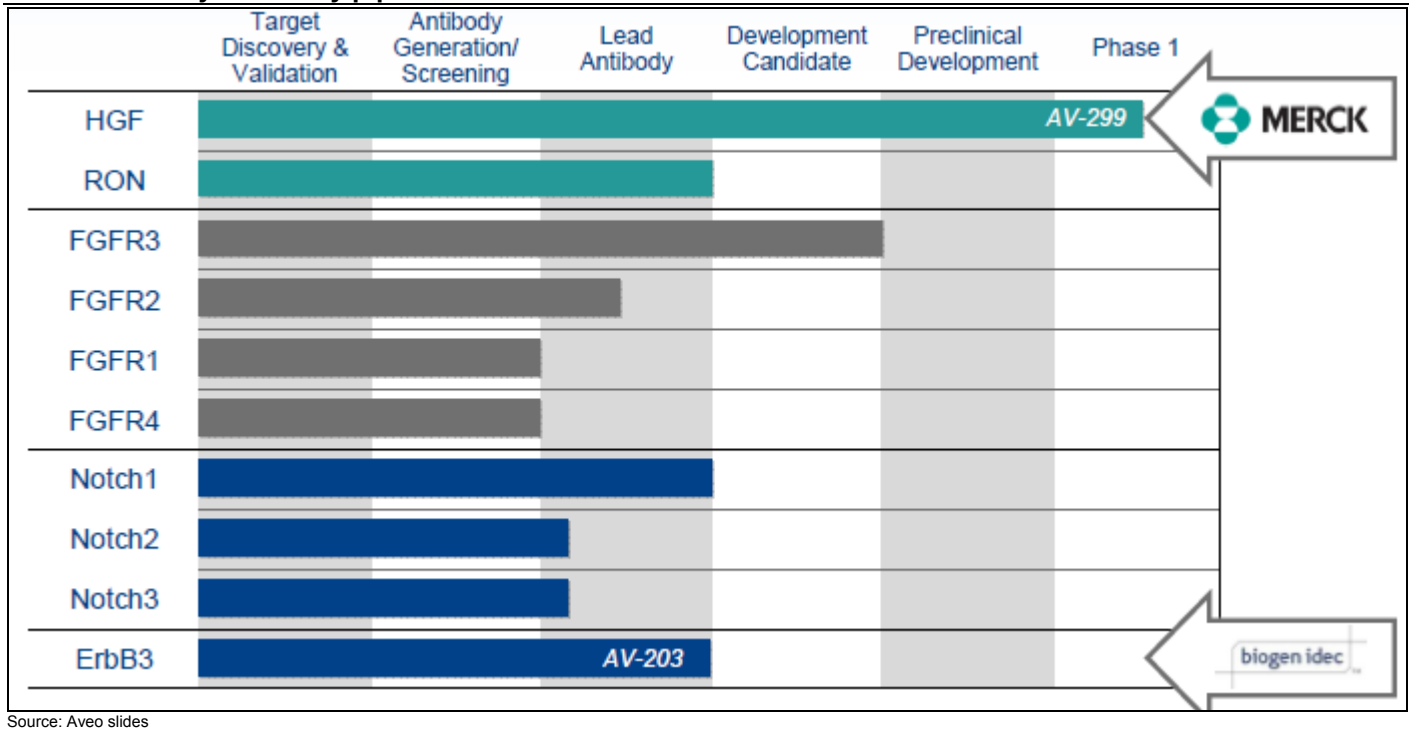
AV299 was partnered with Schering Plough (now Merck) in 2007. Under the 2007 agreement, Schering Plough was granted WW rights to co-develop and commercialize AV299, and is responsible for funding all development post proof of concept and manufacturing. Aveo retains the option to co-promote AV299 in the US for the first large oncology indication for which Merck files for marketing approval in the US.

Aveo has completed a Phase I clinical trial of AV299 in patients with a variety of solid tumors. The Phase I clinical trial showed good tolerability with no dose limiting toxicities up to the highest dose tested, 20mg/kg (full data will be presented at ASCO in June). Merck expects the drug to enter Phase II trials in multiple cancer types (non-small cell lung cancer will be the first) in the first half of 2010. We do not model any sales of AV299 as data are early and we cannot yet accurately determine this drug's potential. However, AV299 could be a potential long-term addition to the top-line (composition of matter patent in the US until 2028), and with Merck paying all costs post proof of concept, the return on investment to Aveo could be substantial.

Aveo also has preclinical antibody discovery programs focusing on ErbB3 (Biogen Idec is partner), Notch and fibroblast growth factor. While preclinical data for these drugs are interesting, they have yet to begin human testing, making them difficult to value. Importantly, Aveo's pipeline has been almost all self-financed from strategic collaborations.

Exhibit 14

Aveo's antibody discovery pipeline



Source: Aveo slides

Debate 4: Can Current Balance Sheet and IPO Proceeds Get the Company Through the Tivozanib Phase III Trial?

A key Street concern is that Aveo will have to come back to the public market prior to completion of the Phase III trial for tivozanib in 2H11. Aveo ended 2009 with ~$51mn in cash. With the addition of $81mn in IPO proceeds, Aveo ended 2009 with pro forma ~$130m on its balance sheet. We estimate that this capital will fund the current investment in research and development until 1H 2012, **assuming no further partnerships.** Given that Phase III tivozanib data are expected in 2H2011, there is not an adequate capital buffer to do nothing. Fortunately, we see three mechanisms to control this burn, and as one or more of them are potentially triggered, we expect the stock to act well as it becomes clear the company will not need to issue equity prior to Phase III data (after data, it will, but we believe investors will be happy to pay for commercialization if the trial is successful, as we expect).

1) Early-stage research partnerships – As mentioned above, the company has received >$165 mn to date (with future milestones and royalties possible) from its early-stage partnerships on its technology platform and drugs. The company will likely either partner early-stage drugs or license its technology to additional parties over the next two years. We believe these deals can bring in >$50 mn in capital, which should de-risk the balance sheet. Such an outcome would be positive for the stock.

2) Partner tivozanib – The decision on whether, where, and when to partner tivozanib is complex. First, cancer drugs generally generate greater revenue ex-US than in the US, but US companies have a natural affinity for their domestic market. An ex-US partnership, though, could generate significant near-term cash **and** decrease R&D spending. Additionally, tivozanib's greatest long-term opportunities are outside of RCC, but given the company's constrained resources, it will likely have to develop new markets sequentially rather than in parallel, slowing time to peak sales (especially risky in a competitive market). Therefore, a partner may be able to accelerate development and increase NPV of the drug. Second, the company would likely receive greater long-term economics if it waited until after Phase III data to partner, but again, this would entail greater pressure on the balance sheet and slower development. Overall, we would not be surprised to see the company partner tivozanib over the next 12-18 months, and it is the base case in our model. While deal terms will determine if a deal is value creating in the long-term, a deal that de-risked the balance sheet and maintained a reasonable share of EU economics would almost certainly be welcomed by investors in the near-term.

It is worth noting that Aveo in-licensed tivozanib from Kyowa Hakko Kirin in Japan, who retains Asian rights. Aveo will owe Kirin up to $60mn in milestones for clinical success (will increase capital requirement in 2012 and beyond modestly, and is in our model) and low double-digit royalties on US and EU sales.

3) Cut R&D – The company expects to spend about $70 mn on tivozanib between now and the end of the Phase III RCC trial. The rest of its costs go toward its early-stage R&D investments. Historically, these investments have been self-funded through partnerships. We believe that the company can cut its R&D investment if it is unable to find partnerships at the right price and insure that it does not need to return to the capital markets before Phase III data. While cutting R&D will be viewed as a neutral near-term (decreased investment, but no near-term dilution), for most investors, it is likely a preferable alternative to returning to the capital markets before data and it keeps the upside in place after the data.

Company Description

Aveo Pharmaceuticals is a biopharmaceutical company focused on discovering, developing, and commercializing novel cancer therapeutics. Tivozanib, Aveo's lead product candidate, is an oral inhibitor of VEGF currently in Phase III trials for renal cell cancer. In addition to Tivozanib, Aveo has a pipeline of monoclonal antibodies derived from the company's Human Response Platform technology, a novel method of building preclinical models of human cancer.

Exhibit 15

Annual Income Statement

	2008A	2009A	2010e	2011e		2012e		2013e		2014e		2015e		2016e		2017e		2018e	
Tivozanib WW Sales		**$0**	**$0**	**$0**		**$10,432**		**$109,294**		**$273,043**		**$528,258**		**$784,761**		**$1,012,689**		**$1,224,775**	
US Tivozanib Sales			$0	$0		$10,432		$100,219		$200,543		$308,349		$441,253		$565,469		$690,468	
EU Tivozanib Sales			$0	$0		$0		$9,075		$72,500		$219,909		$343,509		$447,219		$534,307	
US sales		$0	$0	$0		$10,432		$100,219		$200,543		$308,349		$441,253		$565,469		$690,468	
EU royalty			$0	$0		$0		$2,269		$18,125		$54,977		$96,182		$125,221		$149,606	
Collaboration revenue	$19,660	$20,719	$53,000	$46,694		$24,867		$68,200		$24,533		$30,500		$30,500		$30,500		$30,500	
Total Revenue	**$19,660**	**$20,719**	**$53,000**	**$46,694**		**$35,299**		**$170,688**		**$243,201**		**$393,826**		**$567,935**		**$721,191**		**$870,574**	
Operating Expenses:																			
Cost of Sales			$0	$0		$1,669		$17,033		$40,062		$73,526		$116,234		$159,923		$193,744	
% total product sales			*NA*	*NA*		*16%*		*17%*		*20%*		*24%*		*26%*		*28%*		*28%*	
R&D	$41,821	$51,792	$105,000	$68,250	*105%*	$95,075	*-35%*	$85,568	*39%*	$94,124	*-10%*	$101,184	*10%*	$108,772	*8%*	$116,930	*8%*	$122,777	*8%*
% of revenue			*198%*	*146%*		*269%*		*50%*		*39%*		*26%*		*19%*		*16%*		*14%*	
SG&A	$9,165	$10,120	$13,000	$15,129		$54,642		$85,669		$98,056		$100,575		$128,227		$129,611		$126,038	
% of revenue			*25%*	*32%*		*155%*		*50%*		*40%*		*26%*		*23%*		*18%*		*14%*	
Other																			
Total Operating Expenses	$50,985	$61,912	$118,000	$83,379		$151,386		$188,270		$232,242		$275,284		$353,233		$406,464		$442,559	
Operating Income (Loss)	**($31,325)**	**($41,193)**	**($65,000)**	**($36,685)**		**($116,088)**		**($17,582)**		**$10,960**		**$118,542**		**$214,702**		**$314,726**		**$428,015**	
Operating Margin			*-123%*	*-79%*		*-329%*		*-10%*		*5%*		*30%*		*38%*		*44%*		*49%*	
Interest, Other Income	$1,186	$144	$390	$1,063		$1,503		$1,094		$214		$1,114		$4,649		$9,657		$15,639	
Interest, Other Expense	($2,335)	($3,144)	($1,800)	$0		$0		$0		$0		$0		$0		$0		$0	
Pretax Income (Loss)	**($32,473)**	**($44,193)**	**($66,410)**	**($35,622)**		**($114,585)**		**($16,488)**		**$11,174**		**$119,656**		**$219,351**		**$324,383**		**$443,654**	
Fully taxed net income	**($20,783)**	**($28,284)**	**($42,502)**	**($22,798)**		**($73,335)**		**($10,553)**		**$7,152**		**$76,580**		**$140,385**		**$207,605**		**$283,939**	
Provision for Income Taxes	0	($100.1)	0	0		0		$0		$447		$4,786		$8,774		$113,534		$155,279	
Effective Tax Rate										4%		4%		4%		35%		35%	
Net Income (Loss)	**($32,473)**	**($44,093)**	**($66,410)**	**($35,622)**		**($114,585)**		**($16,488)**		**$10,727**		**$114,870**		**$210,577**		**$210,849**		**$288,375**	
EPS, basic		($27.33)	($2.24)	($1.12)		($3.27)		($0.43)		$0.28		$2.91		$5.25		$5.18		$6.99	
EPS, diluted		($27.33)	($2.24)	($1.12)		($3.27)		($0.43)		$0.27		$2.84		$5.15		$5.10		$6.91	
EPS, diluted, fully taxed		($17.76)	($1.45)	($0.73)		($2.13)		($0.28)		$0.17		$1.85		$3.35		$3.32		$4.49	
Options Expense		$1,857	$3,540	$2,501		$4,542		$5,648		$6,967		$8,259		$10,597		$12,194		$13,277	
% of operating expense		3.00%	3.0%	3.0%		3.0%		3.0%		3.0%		3.0%		3.0%		3.0%		3.0%	
Tax Benefit from Options		$0	$0	$0		$0		$0		$279		$330		$424		$4,268		$4,647	
Net Income	**($32,473)**	**($45,951)**	**($69,950)**	**($38,124)**		**($119,127)**		**($22,137)**		**$4,039**		**$106,941**		**$200,404**		**$202,923**		**$279,745**	
EPS, diluted		($28.48)	($2.36)	($1.20)		($3.40)		($0.58)		$0.10		$2.65		$4.90		$4.91		$6.70	
Basic Shares Outstanding	ND	1,614	29,679	31,684		34,988		38,311		38,893		39,481		40,074		40,674		41,279	
Diluted Shares Outstanding	ND	1,614	29,679	31,684		34,988		38,311		39,928		40,406		40,871		41,321		41,754	

Source: Company data, Morgan Stanley Research estimates

Exhibit 16

Balance Sheet

	2008A	2009A	2010e	2011e	2012e	2013e	2014e	2015e	2016e	2017e	2018e
Assets											
Cash and cash equivalents	$20,814	$45,289	$44,376	$52,268	$72,951	$14,554	$2,601	$86,528	$285,396	$487,136	$763,989
Marketable securities	$11,550	$6,011	$6,011	$6,011	$6,011	$6,011	$6,011	$6,011	$6,011	$6,011	$6,011
Inventory	$0	$0	$0	$0	$706	$5,121	$8,512	$15,753	$22,717	$28,848	$34,823
Accounts receivable	$2,081	$487	$2,650	$3,269	$2,824	$13,655	$17,024	$27,568	$39,755	$50,483	$60,940
Prepaid expenses and other current assets	$1,162	$1,306	$3,180	$2,802	$2,118	$10,241	$14,592	$23,630	$25,557	$28,848	$34,823
Total current assets	**$35,607**	**$53,094**	**$56,217**	**$64,350**	**$84,610**	**$49,582**	**$48,741**	**$159,490**	**$379,438**	**$601,326**	**$900,587**
Restricted cash	$607	$607	$547	$492	$443	$399	$359	$323	$291	$261	$235
Property and equipment, net	$3,752	$4,197	$5,417	$6,261	$6,501	$11,515	$16,681	$25,821	$33,982	$44,529	$57,233
Other assets	$121	$1,946	$1,060	$1,401	$1,059	$1,707	$2,432	$3,151	$4,543	$5,048	$6,094
Total assets	**$40,087**	**$59,844**	**$63,240**	**$72,504**	**$92,613**	**$63,202**	**$68,212**	**$188,785**	**$418,254**	**$651,165**	**$964,149**
Liabilities and stockholders' equity											
Accounts payable	$3,854	$7,490	$8,260	$5,837	$10,597	$13,179	$16,257	$19,270	$24,726	$28,453	$30,979
Accrued expenses	$3,409	$7,389	$8,260	$5,837	$10,597	$13,179	$16,257	$19,270	$24,726	$28,453	$30,979
Loans payable, net of discount	$5,037	$7,467	$12,278	$0	$0	$0	$0	$0	$0	$0	$0
Deferred revenue	$7,092	$11,782	$12,527	$19,033	$23,200	$19,533	$10,500	$5,500	$5,500	$5,500	$5,500
Deferred rent	$141.1	$176.1	$176.1	$176.1	$176.1	$176.1	$176				
Total current liabilities	**$19,533**	**$34,305**	**$41,501**	**$30,883**	**$44,570**	**$46,067**	**$43,190**	**$44,040**	**$54,953**	**$62,405**	**$67,458**
Loans payable, less current portion and discount	$16,018	$12,278	$0	$0	$0	$0	$0	$0	$0	$0	$0
Deferred revenue, net of current portion	$6,048	$23,320	$15,267	$67,567	$57,700	$38,000	$27,500	$22,000	$16,500	$11,000	$5,500
Deferred rent, net of current portion	$995	$819	$819	$819	$819	$300					
Other long-term liabilities	$1,250	$1,250	$1,250	$1,250	$1,250	$1,250	$1,250	$1,250	$1,250	$1,250	$1,250
Restricted common stock liability											
Warrants to purchase preferred stock	$1,211	$1,459	$1,459	$1,459	$1,459	$1,459	$1,459	$1,459	$1,459	$1,459	$1,459
Total liabilities	**$45,055**	**$73,430**	**$60,295**	**$101,977**	**$105,798**	**$87,075**	**$73,398**	**$68,748**	**$74,161**	**$76,113**	**$75,666**
Preferred stock	123,720	156,705	0	0	0	0	0	0	0	0	0
Common stock	$6.25	$6.56	$6.56	$6.56	$6.56	$6.56	$6.56	$6.56	$6.56	$6.56	$6.56
Additional paid-in capital	$4,920	$7,428	$250,613	$256,319	$391,734	$403,182	$417,831	$436,112	$459,764	$487,800	$521,486
Accumulated deficit	($133,631)	($177,725)	($247,675)	($285,798)	($404,925)	($427,062)	($423,023)	($316,081)	($115,677)	$87,246	$366,991
Accumulated other comprehensive income	$18	($0)	($0)	($0)	($0)	($0)	($0)	($0)	($0)	($0)	($0)
Total stockholders' equity	**($4,968)**	**($13,586)**	**$2,945**	**($29,473)**	**($13,184)**	**($23,873)**	**($5,186)**	**$120,037**	**$344,093**	**$575,052**	**$888,483**
Total liabilities and stockholder's equity	**$40,087**	**$59,844**	**$63,240**	**$72,504**	**$92,613**	**$63,202**	**$68,212**	**$188,785**	**$418,254**	**$651,165**	**$964,149**

Source: Company data, Morgan Stanley Research estimates

Exhibit 17

Cash Flow Statement

	2008A	2009A	2010e	2011e	2012e	2013e	2014e	2015e	2016e	2017e	2018e
Net loss	($32,473)	($44,093)	($69,950)	($38,124)	($119,127)	($22,137)	$4,039	$106,941	$200,404	$202,923	$279,745
Depreciation and amortization	$1,321	$1,289	$1,431	$1,491	$1,524	$1,814	$2,130	$2,674	$3,198	$3,877	$4,708
Stock-based compensation expense	$2,306	$2,387	$3,540	$2,501	$4,542	$5,648	$6,689	$7,928	$10,173	$7,926	$8,630
Non-cash interest expense	$476.2	$686.0									
Loss on disposal of PPE	$10.2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loss on loan extinguishment	$248.6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Remeasurement of warrants to purchase preferred stock	($7.43)	$333									
Amortization of (premium) discount on investments	($496)	$373									
Changes in operating assets liabilities:											
Accounts receivable	($1,460)	$1,594	($2,163)	($619)	$445	($10,831)	($3,369)	($10,544)	($12,188)	($10,728)	($10,457)
Inventory	$0	$0	$0	$0	($706)	($4,415)	($3,391)	($7,241)	($6,964)	($6,130)	($5,975)
Prepaid expenses and other current assets	($211.49)	($155)	($1,874)	$378	$684	($8,123)	($4,351)	($9,037)	($1,928)	($3,291)	($5,975)
Other noncurrent assets	($146.05)	($1,825)	$946	($286)	$391	($604)	($685)	($683)	($1,361)	($476)	($1,020)
Accounts payable	$1,436.84	$3,636	$770	($2,423)	$4,760	$2,582	$3,078	$3,013	$5,456	$3,726	$2,527
Accrued expenses	$417.22	$3,981	$871	($2,423)	$4,760	$2,582	$3,078	$3,013	$5,456	$3,726	$2,527
License fee payable	$0.00	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Deferred rent	($116.02)	($141)	$0	$0	$0	($519)	($300)	($176)	$0	$0	$0
Deferred revenue	($6,606.52)	$21,962	($7,308)	$58,806	($5,700)	($23,367)	($19,533)	($10,500)	($5,500)	($5,500)	($5,500)
Net cash used in operating activities	**($35,301)**	**($9,973)**	**($73,738)**	**$19,301**	**($108,426)**	**($57,369)**	**($12,617)**	**$85,389**	**$196,748**	**$196,054**	**$269,209**
Investing Activities:											
Purchases of PPE	($1,357)	($1,734)	($2,650)	($2,335)	($1,765)	($6,828)	($7,296)	($11,815)	($11,359)	($14,424)	($17,411)
Purchases of available-for-sale securities	($28,645)	($35,927)									
Sales and maturities of available-for-sale securities	$58,152	$41,075									
Net cash used in investing activities	**$28,151**	**$3,414**	**($2,650)**	**($2,335)**	**($1,765)**	**($6,828)**	**($7,296)**	**($11,815)**	**($11,359)**	**($14,424)**	**($17,411)**
Financing activities:											
Proceeds from issuance of convertible preferred stock, n	$0	$32,862	$0	$0	$0	$0	$0	$0	$0	$0	$0
Proceeds from exercise of stock options and issuance of	$34	$159	$82,941	$3,204	$130,874	$5,800	$7,615	$9,999	$13,128	$17,237	$22,632
Tax benefit from stock options	$0	$0	$0	$0	$0	$0	$345	$355	$351	$2,873	$2,423
Disbursements from repurchase of common stock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Proceeds from borrowings	$20,795	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Payments on borrowings	($13,948)	($1,986)	($7,467)	($12,278)	$0	$0	$0	$0	$0	$0	$0
Net cash provided by financing activities	**6,881**	**31,035**	**75,474**	**-9,073**	**130,874**	**5,800**	**7,960**	**10,353**	**13,479**	**20,110**	**25,055**
Increase in cash and cash equivalents	**($269)**	**$24,476**	**($914)**	**$7,893**	**$20,683**	**($58,397)**	**($11,953)**	**$83,927**	**$198,868**	**$201,740**	**$276,853**
Cash and equivalents at beginning of year	$21,083	$20,814	$45,289	$44,376	$52,268	$72,951	$14,554	$2,601	$86,528	$285,396	$487,136
Cash and equivalents at end of year	**$20,814**	**$45,289**	**$44,376**	**$52,268**	**$72,951**	**$14,554**	**$2,601**	**$86,528**	**$285,396**	**$487,136**	**$763,989**

Source: Company data, Morgan Stanley Research estimates

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Industry Coverage:Biotechnology

Company (Ticker)	Rating (as of)	Price* (04/20/2010)
Steven Harr, M.D.		
Aveo Pharmaceuticals (AVEO.O)	O (04/21/2010)	$9.39
Affymax Inc (AFFY.O)	E (01/29/2009)	$24.56
Amgen (AMGN.O)	O (07/28/2008)	$60.18
Amicus (FOLD.O)	E (12/20/2007)	$3.3
Amylin Pharmaceuticals (AMLN.O)	E (10/27/2008)	$21.05
Biocryst Pharmaceuticals, Inc. (BCRX.O)	E (12/21/2009)	$7.63
Biogen Idec (BIIB.O)	U (07/30/2007)	$53.91
Celgene Corporation (CELG.O)	O (09/10/2009)	$61.11
Genzyme Corporation (GENZ.O)	U (12/21/2009)	$53.58
Gilead Sciences, Inc. (GILD.O)	E (09/10/2009)	$45.07
Human Genome Sciences Inc. (HGSI.O)	O (12/21/2009)	$29.61
Ironwood Pharmaceuticals (IRWD.O)	O (03/15/2010)	$14.2
OSI Pharmaceuticals (OSIP.O)	O (08/13/2002)	$59.36
Onyx Pharmaceuticals (ONXX.O)	U (10/27/2008)	$30.03
Regeneron (REGN.O)	E (06/05/2008)	$25.15
Vertex Pharmaceuticals (VRTX.O)	O (11/04/2009)	$40.5
XenoPort (XNPT.O)	E (02/18/2010)	$10.8
Marshall Urist, M.D., Ph.D.		
AMAG Pharmaceuticals, Inc. (AMAG.O)	E (11/16/2007)	$37.48
Auxilium Pharmaceuticals (AUXL.O)	O (11/16/2007)	$35.51

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* Historical prices are not split adjusted.