

Simple Corp valuation model

FINANCE TOYS

This is a valuation of a simple company. Let's call it "Simple corp"
 The company produces and sells funny T-shirts with the smiling face
 This is a start-up project.
 We have RUB300,000 of our own money and borrow RUB150,000

Steps:

First we need to construct the model and it should simply work. It's not necessary to make it realistic. You can change everything later when all the connections and links in the model will be done

1. Make Macro assumptions (not only macroeconomic figures but also prices for your goods and services, basic wages etc)
2. Copy all the data from company's fillings for several periods (balance sheet, P&L, cash flows statement) if it is not a new project but existing company
3. Make operational forecast (it shouldn't be very real, just the basis for calculation. You can change any inputs later when model is done)
4. Build a model based on your assumptions. Start with P&L, continue with balance sheet and cash flows statement

Short description of the project:

We purchase t-shirt producing machine for RUB120,000
 We hire 1 employee
 We ignore rent costs assuming that we produce t-shirts in the garage. With rent costs such a small business is doomed
 We start t-shirt production
 One machine can produce 8 t-shirts per day (full capacity)
 We assume that in 2010 we produce only 3 t-shirts per day (capacity utilization)
 In 2012 we purchase 1 more machine and hire one more employee
 Thus in 2012 we have negative cash flows and have to borrow RUB350,000 due to high capex and salaries costs
 After that our business runs smoothly

MACRO ASSUMPTIONS	2010E	2011E	2012E	2013E	2014E	2015E
End-year exchange rate (RUB/USD)	29.5	29.0	28.7	28.5	28.2	28.0
Average exchange rate (RUB/USD)	30.5	30.0	29.0	28.5	28.4	28.2
End-year inflation (%)	10.5	10.5	10.0	9.5	9.0	8.5
Average inflation (%)	10.8	10.8	10.3	9.8	9.3	8.8
Cost per one unit	2010E	2011E	2012E	2013E	2014E	2015E
Empty T-shirt cost, RUB	100	111	122	134	147	160
T-shirt machine cost, RUB	120 000	132 960	146 655	161 027	176 003	191 491
Paint cost (per 1 shirt), RUB	20.0	22.2	24.4	26.8	29.3	31.9
Salary of one employee, RUB/month	30 000	34 740	40 055	45 983	52 559	59 812
Price	2010E	2011E	2012E	2013E	2014E	2015E
Funny T-shirt price, RUB	590	708	850	1 020	1 223	1 468
OPERATIONAL INPUTS	2010E	2011E	2012E	2013E	2014E	2015E
# of machines	1	1	2	2	2	2
Annual machine capacity	2080	2080	4160	4160	4160	4160
Annual production	780	1040	1040	1248	1560	1560
Annual sales rate	97%	97%	97%	97%	97%	97%
Annual sales	757	1032	1040	1242	1551	1560
Inventories	23	31	31	37	47	47
P&L	2010E	2011E	2012E	2013E	2014E	2015E
Revenue	446 394	730 798	883 584	1 265 999	1 897 090	2 290 250
Cost of production	-93 600	-138 278	-152 521	-200 962	-274 564	-298 726
# of employees	1	1	2	2	2	2
Salaries	-360 000	-416 880	-961 325	-1 103 601	-1 261 416	-1 435 492
DD&A	-17 143	-17 143	-38 094	-38 094	-38 094	-38 094
Marketing costs	-30 500	-15 000	-16 545	-18 166	-19 856	-21 603
Operating income	-54 849	143 496	-284 901	-94 824	303 160	496 335
Interest income	15 750	9 530	11 116	-2 742	-7 540	-268
Interest expense	-30 000	-15 000	-20 000	-10 000	0	0
P&T	-69 099	138 026	-293 784	-107 566	295 621	496 067
Tax rate	0%	20%	0%	0%	20%	20%
Income tax	0	-27 605	0	0	-59 124	-99 213
Net income	-69 099	110 421	-293 784	-107 566	236 497	396 854
BALANCE SHEET 2009	2010E	2011E	2012E	2013E	2014E	2015E
Current assets						
Cash	272 281	317 613	-78 352	-215 418	-7 667	408 958
Inventories	2 808	4 148	4 576	6 029	8 237	8 962
Total current assets	275 089	321 762	-73 776	-209 389	570	417 920
Non-current assets						
PP&E (cost)	120 000	120 000	266 655	266 655	266 655	266 655
PP&E (new eq)	120 000	0	146 655	0	0	0
Total PP&E	240 000	120 000	266 655	266 655	266 655	266 655
Accumulated DD&A	17 143	34 286	72 379	110 473	148 566	186 660
PP&E	222 857	85 714	194 276	156 182	118 089	79 995
Total non-current assets	222 857	85 714	194 276	156 182	118 089	79 995
TOTAL ASSETS	497 946	407 476	120 499	-53 207	118 658	497 915
EQUITY						
Paid-in capital	300 000	417 045	291 154	272 962	256 821	242 191
Retained earnings		-69 099	41 322	-252 462	-360 029	-123 532
Total equity		347 946	332 476	20 499	-103 207	118 658
Short term liabilities						
Short term debt	0	0	0	0	0	0
Long term liabilities						
Long term debt	150 000	150 000	75 000	100 000	50 000	0
TOTAL LIABILITIES	150 000	150 000	75 000	100 000	50 000	0
EQUITY AND LIABILITIES		497 946	407 476	120 499	-53 207	118 658
check		0	0	0	0	0
working capital		2 808	4 148	4 576	6 029	8 237
CASH FLOW STATEMENT	2010E	2011E	2012E	2013E	2014E	2015E
Net income	-69 099	110 421	-293 784	-107 566	236 497	396 854
DD&A	17 143	17 143	38 094	38 094	38 094	38 094
Change in inventories	2 808	1 340	-427	1 453	2 208	725
CFO	-49 148	128 904	-255 264	-68 020	276 798	435 672
Maintenance capex	-8 571	-8 571	-19 047	-19 047	-19 047	-19 047
Purchases of PP&E	-120 000	0	-146 655	0	0	0
CFI	-128 571	-8 571	-165 702	-19 047	-19 047	-19 047
Change in ST debt		0	-75 000	25 000	-50 000	-50 000
Change in LT debt		0	-75 000	25 000	-50 000	-50 000
CFF	0	0	-75 000	25 000	-50 000	0
Change in cash	-177 719	45 333	-395 965	-137 066	207 751	416 625
Cash at the beginning	450 000	272 281	317 613	-78 352	-215 418	-7 667
Cash at the end	272 281	317 613	-78 352	-215 418	-7 667	408 958

Nobody is able to predict inflation rate. Let's be realistic.
 So we just make assumption about its smooth decrease

T-shirt is a simple, non-essential good. I assume its price will grow with inflation rate (in Russia)
 Took it from my head. I don't even know how it looks like
 Cost are often based on inflation

In Moscow salaries usually grow faster than inflation. I assumed additional 5% to inflation rate per year

I believe that my T-shirts are exclusive and I will increase their prices as I want
 Value added tax = 18%

Change it in a way you want it, but don't forget to add new machine purchase to assets, capex etc
 Let's assume that we'll be successful and purchase the second machine in 2012

Assumed number of t-shirts per week multiplied by 52 (# of weeks in a year)

Just a preliminary assumption. I start to produce when
 I assume that 3% of customers will refuse to buy the T-shirts when they see them

We hire another person to operate the second machine in 2012

Web site maintenance. Internet ad

I assume that only 50% of my cash in the beginning of the year can be put on deposit account
 Linked to debt (balance). Cost of debt is 20%

Usually analysts don't pay much attention to equity decomposition.
 It is often calculated as Assets - Liabilities

To fix different malfunctions. For us it is equal to 50% of depreciation

This is one of the most important rows in Cash Flow Statement, because here you can
 add some cash from debt if your company does not generate enough operating cash flows

Cash at the end of the year must be positive.
 Regulate it with debt or shareholders' capital additions

DEPRECIATION		2010E	2011E	2012E	2013E	2014E	2015E
Cost of 1 machine	120000	120 000	132 960	146 655	161 027	176 003	191 491
Useful life	7						
Capex		120 000	0	146 655	0	0	0
Depreciation	2009	0	0	0	0	0	0
	2010	17 143	17 143	17 143	17 143	17 143	17 143
	2011		0	0	0	0	0
	2012			20 951	20 951	20 951	20 951
	2013				0	0	0
	2014					0	0
	2015						0
Total DD&A		17 143	17 143	38 094	38 094	38 094	38 094
Accumulated DD&A		17 143	34 286	72 379	110 473	148 566	186 660

Usually an asset has a salvage value, but not necessarily.
We assume that after 7 years we'll just throw the machine away

Do not use this simple formula in complex models. If machine's useful life was less than 6 years, for example 3 years, we would stop depreciating the asset in 2013

VALUATION		2010E	2011E	2012E	2013E	2014E	2015E
EBIT		-54 849	143 496	-284 901	-94 824	303 160	496 335
Tax		0	-28 699	0	0	-60 632	-99 267
Fully taxed EBIT		-54 849	114 797	-284 901	-94 824	242 528	397 068
DD&A		17 143	17 143	38 094	38 094	38 094	38 094
Capex		-128 571	-8 571	-165 702	-19 047	-19 047	-19 047
Change in working capital		-2 808	-1 340	-427	-1 453	-2 208	-725
Free cash flows		-169 085	122 028	-412 936	-77 230	259 367	415 390
Terminal value							2 622 151
Net Debt		-150 000	-122 281	-242 613	178 352	265 418	7 667
							-408 958
WACC		2010	2011	2012	2013	2014	2015
Share of equity							67%
Cost of equity (for us it is normal rate of return)							15.5%
Share of debt							33%
Cost of debt							20%
Terminal growth rate							1%
WACC							17.0%

2016

5% above inflation rate

Cost of credit in Russian bank for small business
Just a guess

NPV (at the beginning of the year)	1 244 095	1 724 221	1 433 101	2 032 918	2 758 617	3 386 144
01.01.2011						
02.06.2011 Later this sell should be changed to =TODAY()						151
31.12.2011						209

Current fair value of business, RUB 1 555 210

Note: we determined a fair value of the business as of 02.06.2011
Well, I hope that everything is correct and I've calculated the cost of t-shirt business without mistakes
Let's imagine that we want to sell our business in 2014
It will worth RUB 2 758 617 in 2014 money or RUB 1 722 399 in the beginning of 2011