

THE COUNSELOR, THE COMPUTER, AND CREATIVE FINANCING

by Robert J. Spiegel, C.R.E.,
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In this day of double-digit inflation, "out of this world" interest rates, and impossible mortgage terms, it's no wonder that lenders, investors, brokers and developers hardly know which way to turn. Market data on projects sold as recently as four to six months ago are hardly relevant to circumstances today. Changing political conditions as well as uncertainties regarding fuel and energy availabilities and rising construction costs cause real estate values to fluctuate accordingly. More than ever before, the counselor is called upon to give clients the guidance and help that they seek and need.

Professional counseling is defined as providing competent and unbiased advice, guidance, and judgment on diversified real estate problems. Clients are looking for solutions in the form of alternatives to merchandising, leasing, management, planning, financing and appraising. In many of these areas, the counselor can develop the numbers on which decisions can be made. The counselor's function in many assignments is to prepare a list of alternative answers to one or more specific questions, from which the client can make a reasoned judgment and form a conclusion regarding his course of action. This procedure on the part of the counselor is known as "sensitivity analysis."

Computer Aid In Creative Financing Process

In the past, "sensitivity analysis" was time-consuming and required many hours of manual number mani-

pulating. With the advent of micro-computers or "personal computers" as they are called, this type of analysis for the counselor is no longer the chore it was a couple of years ago. Computers capable of handling extremely complicated software are now available for as little as \$1,500. As few as five years ago equivalent equipment would have sold for as much as \$15,000. By the time the cost of the program was added to the cost of the hardware, it wasn't economically feasible for the average analyst to make the investment required to "computerize."

Among recent and puzzling devices that today's developers and lenders struggle with is so-called creative financing. The scenario goes something like this:

1. The developer approaches the lender to finance a proposed subdivision, office building, shopping center, or industrial park.
2. The lender agrees to loan construction financing at current rates and also provides from 75 percent to 100 percent of the acquisition money for the underlying land.
3. In addition to the financing, the lender and the developer will split on a 50-50 basis whatever is left after all expenses and debt service are paid but before the developer earns any profit-on-sales or return on equity.
4. The participating lender reserves the right to — and often does — sell off in the secondary market all or part of the commitment. This action leverages the participating lender's position; wherever the lender is successful in selling or laying off all of the loans, he will be in the same position as the developer, with little or no money up front at risk.

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The author's recent assignment for a lender involved considerable "what if" analyses of a prospective development, including creative financing on the part of the lender. A series of assumptions was provided and alternatives requested. The Apple II Plus computer was used to assist in the analysis. The following describes the application of the micro-computer to the counseling problem.

In 1978 the American Institute of Real Estate Appraisers (AIREA) published an educational memorandum entitled *Subdivision Analysis*, which described seven methods for the valuation of a potential project.

One of the methods considered most applicable (Method No. 7) allows a potential investor or lender to recognize quickly the negative cash flows to be borne by the project, so that loans can be structured accordingly. This method accounts for all sources of revenue and expense, including mortgage loans, disbursements, interest charges, and loan amortization, in the period in which they occur.

The biggest problem with this method is the volume of "number crunching" required and the attendant potential for errors in the process. If one uses a hand calculator, at least six to eight hours of time are normally required. This effectively eliminates the possibility of doing any in-depth sensitivity analysis for a project. At the same time, it becomes increasingly evident in using this methodology that sensitivity analyses are urgently needed. The only way they can feasibly and economically be accomplished is through computerization.

The following computer hardware was obtained at a cost of approximately \$5,000: an Apple II Plus computer with one disc drive (48K memory), a Sanyo 15" CRT, and a Texas Instruments Model 810 dot matrix impact printer.

The Method No. 7 described in *Subdivision Analysis* was programmed and written in Apple Soft Basic contained on one floppy diskette. The program followed the exact format of Method No. 7; however, it has been expanded to include the features of participation lending.

The program can compute the market value analysis based on the method's assumptions and also divide the operating cash flows among the participating lender, the developer, and any third party investors. It indicates the amount of the development loan and of the acquisition loan the lender is carrying in the event all or part of the loans should be sold.

The fact that third party investors are purchasing the loans at interest rates different from those the project is paying also can be entered into the program. The program can eliminate any negative cash flows in a project so that the developer will not have to put up any money, if this is his arrangement with the participating lender.

Example Of Project

The following example describes an actual project consisting of 1,074 acres. A tentative map of this property indicates that 303 dwelling sites averaging 2½ acres each can be built on the subject property. It is the developer's opinion, supported by market investigation, that in the first year of development no lots would be sold; in the second year, 117 lots would be sold; in the third year, another 117; and in the fourth and final year, the last 69 would be sold. In the first year of sales (the second year of development), lots would average \$127,500. In the following two years, lots would average \$147,000 and \$169,000 respectively.

Estimates of the development loan advances and certain expenses over each of these years are as follows:

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>
Development loan advance	\$2,980,596	\$4,378,582	\$3,612,330	\$3,973,562
Engineering costs	245,000	4,378,852	3,612,330	3,973,562
Overhead and sales expense	150,000	1,193,400	1,375,920	932,880
Real estate taxes	29,000	29,000	17,400	7,400
Management and supervision costs	50,000	172,500	201,250	230,000

An appraisal based on market data indicated the current value for the subject property was \$13,000,000, which, according to the computer analysis, came to \$13,031,342. Because this presentation deals with participation financing, it was determined that a profit of approximately 16.32 percent on each lot would be required to support the total value as based on other variables that were analyzed.

The development loan was based on an interest rate of 16 percent with repayment accelerated at 110 percent of projected anticipated sales. The acquisition loan was made on the basis of 100 percent loan-to-value ratio at 15 percent interest; its repayment also was to be accelerated at 110 percent out of escrows. Based on the market data analysis, the developer would require a 15 percent return on equity.

In addition to the interest on the development and acquisition loans, the lender and the developer will each receive 50 percent of the operating cash flow after payment of expenses, development costs, and loan amortization.

It is assumed that the participating lender will sell off two-thirds of the acquisition loan, retaining one-third each of the development and acquisition loans. Further, these loans were to be sold in the secondary

TABLE 1
LANDEV Participation Program Input Form

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
NUMBER OF UNITS SOLD	0	117	117	69	
AVERAGE PRICE PER UNIT	0	127,500	147,000	169,000	
DEVELOPMENT LOAN ADVANCE	2,980,596	4,378,582	3,612,330	2,973,562	
OVERHEAD AND SALES EXPENSE	150,000	1,193,400	1,315,920	932,880	
REAL ESTATE TAXES ESTIMATED	29,000	29,000	12,400	7,400	
MANAGEMENT AND SUPERVISION	50,000	172,500	201,250	230,000	
DEVELOPMENT COSTS	245,000	4,378,852	3,612,330	3,913,562	
MISC./CONSULTANTS/ATTYS, ARCHITECTS/ENGINEERS, ETC.	75,000	0	0	0	

PROFIT (% OF SALES)	16.317495
DEVELOPMENT LOAN REPAYMENT ACCELERATION RATE	10%
DEVELOPMENT LOAN INTEREST RATE	16%
ACQUISITION LOAN TO VALUE RATIO	100%
ACQUISITION LOAN REPAYMENT ACCELERATION RATE	10%
ACQUISITION LOAN INTEREST RATE	15%
RETURN ON EQUITY	15%
VALUE/PRICE	
DEVELOPER'S % OF OPERATING CASH FLOW	50%
PARTICIPATING LENDER'S % OF OPERATING CASH FLOW	50%
PARTICIPATING LENDER'S % OF DEVELOPMENT LOAN	33.3333%
PARTICIPATING LENDER'S % OF ACQUISITION LOAN	33.3333%
THIRD PARTY INVESTOR'S DEVELOPMENT LOAN INTEREST RATE	14%
THIRD PARTY INVESTOR'S ACQUISITION LOAN INTEREST RATE	13%

ONE UNIT = 1 RESIDENTIAL LOT.

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market at rates lower than that being paid to the participating lender. It was assumed that the development loan would be sold at an interest rate of 14 percent and the acquisition loan at a rate of 13 percent.

The preceding data was entered by hand on the form shown in Table 1. This input sheet details the specified variables, allowing one blank space for the market value, which is computed by the computer.

TABLE 2

	YEAR 1	YEAR 2	YEAR 3	YEAR 4
NUMBER OF UNITS SOLD	0	117	117	69
AVERAGE PRICE PER UNIT	0	127,500	147,000	169,000
DEVELOPMENT LOAN ADVANCE	2,980,596	4,378,582	3,612,330	3,973,562
OVERHEAD AND SALES EXPENSE	150,000	1,193,400	1,375,920	932,880
REAL ESTATE TAXES ESTIMATED	29,000	29,000	17,400	7,400
MANAGEMENT AND SUPERVISION	50,000	172,500	201,250	230,000
DEVELOPMENT COSTS	245,000	4,378,852	3,612,330	3,973,562
MISC./CONSULTANTS/ATTYS. ARCHITECTS/ENGINEERS, ETC.	75,000	0	0	0
.....				
PROFIT (% OF SALES)			16.317495%	
DEVELOPMENT LOAN REPAYMENT ACCELERATION RATE			10%	
DEVELOPMENT LOAN INTEREST RATE			16%	
ACQUISITION LOAN TO VALUE RATIO			100%	
ACQUISITION LOAN REPAYMENT ACCELERATION RATE			10%	
ACQUISITION LOAN INTEREST RATE			15%	
RETURN ON EQUITY			15%	
VALUE/PRICE			\$13,031,342	
DEVELOPER'S % OF OPERATING CASH FLOW			50%	
PARTICIPATING LENDER'S % OF OPERATING CASH FLOW			50%	
PARTICIPATING LENDER'S % OF DEVELOPMENT LOAN			33.3333%	
PARTICIPATING LENDER'S % OF ACQUISITION LOAN			33.3333%	
THIRD PARTY INVESTOR'S DEVELOPMENT LOAN INTEREST RATE			14%	
THIRD PARTY INVESTOR'S ACQUISITION LOAN INTEREST RATE			13%	
ONE UNIT = 1 RESIDENTIAL LOT				

TABLE 3

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	TOTAL
SOURCES OF CASH					
NUMBER OF UNITS SOLD	0	117	117	69	303
AVERAGE PRICE PER UNIT	0	\$127,500	\$147,000	\$169,000	
INCOME FROM UNIT SALES	0	14,917,500	17,199,000	11,661,000	43,777,500
PERCENTAGE OF TOTAL INCOME	0	34.08%	39.29%	26.64%	
DEVELOPMENT LOAN ADVANCE	2,980,596	4,378,582	3,612,330	3,973,562	14,945,070
TOTAL CASH AVAILABLE	2,980,596	19,296,082	20,811,330	15,634,562	58,722,570
CASH REQUIREMENTS, OPERATIONS					
OVERHEAD AND SALES EXPENSE	150,000	1,193,400	1,375,920	932,880	3,652,200
REAL ESTATE TAXES ESTIMATED	29,000	29,000	17,400	7,400	82,800
MANAGEMENT AND SUPERVISION	50,000	172,500	201,250	230,000	653,750
DEVELOPMENT COSTS	245,000	4,378,852	3,612,330	3,973,562	12,209,744
MISC./CONSULTANTS/ATTYS. ARCHITECTS/ENGINEERS, ETC.	75,000	0	0	0	75,000
TOTAL CASH REQUIREMENTS	549,000	5,773,752	5,206,900	5,143,342	16,673,494
CASH FLOW BEFORE DEBT SERVICE	2,431,596	13,522,330	15,604,430	10,490,720	42,049,076
DEVELOPMENT LOAN REPAYMENT SCHEDULE					
BEGINNING OF PERIOD BALANCE	2,980,596	7,359,178	5,368,900	2,888,352	
REPAYMENT ACCELERATED @ 10%	0	5,602,603	6,459,110	2,883,332	14,945,070
END OF PERIOD BALANCE	2,980,596	1,756,570	<1,090,210>	0	
AVERAGE BALANCE	2,980,596	4,557,374	2,139,345	1,441,676	
INTEREST @ 16%	476,895	729,260	342,295	230,668	1,779,119
TOTAL DEVELOPMENT LOAN REPAYMENT	476,895	6,331,868	6,801,405	3,114,021	16,724,189
CASH FLOW BEFORE ACQUISITION LOAN REPAYMENT	\$1,954,701	\$7,190,462	\$8,803,025	\$7,376,699	\$25,324,887

Table 2 is the computer printout of the data gathered on the handwritten input sheet; it includes the value of the property.

Table 3 is an annualized pro forma estimate of cash sources, cash requirements, and development loan repayment schedule. Final line shows the cash flow remaining before debt service on the acquisition loan and after debt service on the development loan.

In Table 4 the property value is computed as follows:

the cash flows shown in Table 3 (after deducting the profit that is computed as a percentage of sales) are each discounted at the developer's desired rate of return on investment and totalled to give an indication of the present worth of the residual cash flows. This figure is divided by the total of the percentage of value that has been repaid on the acquisition loan, including principal and interest, also discounted at the developer's desired rate of return on investment. The resulting figure represents the value of the property.

TABLE 4
Repayment of Acquisition Loan and
Computation of Value

YEAR 1		NET INCOME	PERCENT PAID	AVERAGE BALANCE	RATE
BOP	1	(\$1,954,701 -	(0*1*1.1)V -	(2*1-0)V/2 *	.15)
% PAID	0	(\$1,954,701 -	(0)V -	(1)V *	.15)
EOP	1	(\$1,954,701 -	(0)V -	(.15)V	
DISCOUNTED	15%	\$1,699,740 -	.130435 V		
YEAR 2					
BOP	1	(\$4,756,300 -	(.3408*1*1.1)V -	(2*1-.37488)V/2 *	.15)
% PAID	.37488	(\$4,756,300 -	(.37488)V -	(.81256)V *	.15)
EOP	.62512	(\$4,756,300 -	(.37488)V -	(.121894)V	
DISCOUNTED	15%	\$3,596,446 -	.375625 V		
YEAR 3					
BOP	.62512	(\$5,996,579 -	(.3929*1*1.1)V -	(2*.62512-.43219)V/2 *	.15)
% PAID	.43219	(\$5,996,579 -	(.43219)V -	(.409025)V *	.15)
EOP	.19293	(\$5,996,579 -	(.43219)V -	(.061354)V	
DISCOUNTED	15%	\$3,942,848 -	.324513 V		
YEAR 4					
BOP	.19293	(\$5,473,916 -	(.19293*1*1)V -	(2*.19293-.19293)V/2 *	.15)
% PAID	.19293	(\$5,473,916 -	(.19293)V -	(.096465)V *	.15)
EOP	0	(\$5,473,916 -	(.19293)V -	(.01447)V	
DISCOUNTED	15%	\$3,129,729 -	.118582 V		
P.W. OF OV =		\$12,368,763 -	.949155 V		
.949155V =		\$12,368,763	V = \$12,368,763/.949155	VALUE = \$13,031,342	

TABLE 5
Acquisition Loan Debt Service and Division of Cash Flows

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	TOTAL
CASH FLOW BEFORE ACQUISITION LOAN REPAYMENT	\$1,954,701	\$7,190,462	\$8,803,025	\$7,376,699	\$25,324,887
ACQUISITION LOAN REPAYMENT SCHEDULE					
BEGINNING OF PERIOD BALANCE	13,031,342	13,031,342	8,146,153	2,514,137	13,031,342
REPAYMENT ACCELERATED @ 10%	0	4,885,189	5,632,016	2,514,137	0
END OF PERIOD BALANCE	13,031,342	8,146,153	2,514,137	0	0
AVERAGE BALANCE @ 15%	1,954,701	1,588,312	799,522	188,560	4,531,095
TOTAL ACQUISITION LOAN REPAYMENT	1,954,701	6,473,502	6,431,537	2,702,697	17,562,437
OPERATING CASH FLOW	\$<1>	\$716,961	\$2,371,488	\$4,674,002	\$7,762,450
.....					
DEVELOPER'S CASH FLOW @ 50%	0	\$358,480	\$1,185,744	\$2,337,001	\$3,881,225
.....					
PARTICIPATING LENDER'S @ 50%	0	\$358,480	\$1,185,744	\$2,337,001	\$3,881,225
.....					
PARTICIPATING LENDER'S NET DEVELOPMENT LOAN CASH FLOW	<794,825>	711,866	1,091,549	<267,291>	741,299
PARTICIPATING LENDER'S NET ACQUISITION LOAN CASH FLOW	825,318	2,299,015	2,214,912	917,659	6,256,904
PARTICIPATING LENDER'S TOTAL CASH FLOW	\$30,493	\$3,369,362	\$4,492,205	\$2,987,369	\$10,879,428
.....					
PARTICIPATING LENDER'S			DEVELOPER'S		
ORIGINAL INVESTMENT	= \$4,343,776	:	ORIGINAL INVESTMENT	= 0	:
TOTAL \$ RETURN	= \$10,879,428	:	TOTAL \$ RETURN	= \$3,881,225	:
INTERNAL RATE OF RETURN	= 37.78%	:			:

Table 5 shows the debt service on the acquisition loan including interest and principal with acceleration. The resulting cash flow is available to the developer and participating lender on a 50-50 basis in this instance. The lender's cash flow from operations, as well as the net cash flow from the development loan and the acquisition loan are then totalled to give the lender's total cash flow for the project. At the bottom of Table 5 is the lender's original investment, total dollar return, and internal rate of return based on the original investment. Next to this is the developer's original investment, which in this case was zero, and the total dollar return over the period of the projection.

In Table 5 there are no negative cash flows. The computer has been programmed to spread the cash flows over the project period so that the developer will not have to come up with any money. The project is financed completely by the participating lender who, in turn, has leveraged his position by selling off

two-thirds of the acquisition and development loans. The computations indicate that the participating lender has an initial "upfront" investment of one-third the value of the underlying land amounting to \$4,343,776. The computed cash flows projected for the lender on an annual basis are:

Year 1	\$ 30,493
Year 2	3,369,362
Year 3	4,492,205
Year 4	2,987,369
	<u>\$10,879,429</u>

In this exercise the internal rate of return is that rate which discounts the total returns of the four years to equal the original investment of \$4,343,776. It is that discount rate that equates the present value of the benefits to the present value of the capital outlays. As indicated in Table 5, the participating lender has an internal rate of return on his "upfront" investment of

37.78 percent over the four-year span of the project's development and sellout. Thus, by leveraging his position by selling off two-thirds of his loans and at the same time taking one-half of the anticipated profits, the participating lender is getting a far better return (37.78 percent) on his "upfront" money than the nominal 16 percent on the development loan and 15 percent on the acquisition loan that he was charging.

At the same time, the developer partner, with no investment in the property at all during the entire four-year period of development and sellout, will have a projected cash flow as follows:

Year 1	\$	0
Year 2		358,480
Year 3		1,185,744
Year 4		<u>2,337,001</u>
		\$3,881,225

In the event that the developer had a capital outlay in the property, the computer would have calculated the developer's internal rate of return using the same methodology described for the participating lender. If the developer had no capital outlay but shared the burden of any first-year negative cash flows, the computer would have calculated the developer's internal rate of return using the developer's share of the first-year negative cash flow as the capital outlay basis.

Summary And Conclusion

The LANDEV Participation Program accounts for all sources of revenues and expense including mortgage loan disbursements, interest charges, and loan amortization in the period in which they occur. It is available on inexpensive equipment. It identifies for the participating lender and the developer their total

cash flows and internal rates of return on investment, which is shown as the last statistic on Table 5.

By changing any or all of the variables, new values can be computed quickly. All of the input data can, of course, be saved for future reference by means of convenient disk storage. Any desired set of input data can be retrieved instantly.

A review of the types of analyses recently done shows the multiplicity of applications for which the LANDEV Participation Program has been used to assist in estimating present worth values and/or highest and best use:

1. Proposed construction of a condominium development.
2. Proposed apartment conversion to condominium units.
3. Proposed office/warehouse/industrial park.
4. Proposed rehabilitation of an older structure and conversion to an office building.
5. Proposed land development project with multiple use commercial, industrial, and residential vacant land.
6. Proposed rehabilitation of an outdated hotel.
7. Proposed high-rise office building.

In the case of analyses 1, 3, 5, 6, and 7, an indication of the present worth of the underlying land was developed. In cases 2 and 4, present worth of land and existing improvements were estimated.

LANDEV, based on the method described in AIREA's *Subdivision Analysis* educational memorandum, is an exciting new tool, now available on an inexpensive computer to anyone engaged in developmental analysis. The process and the equipment should simplify and speed up the analysis of potential development projects of all kinds.