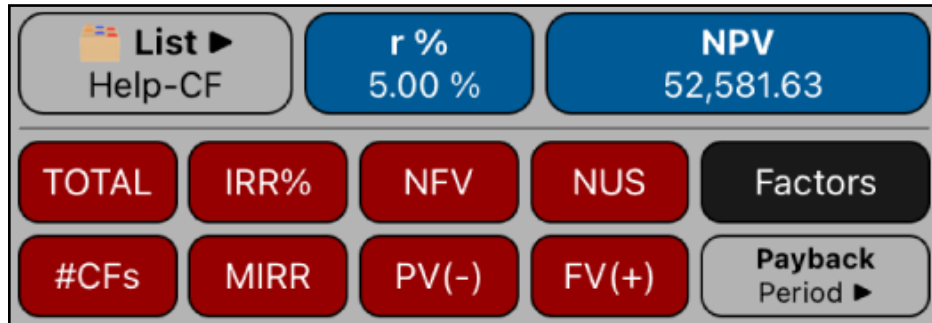


# Equal Periods Cash Flows Worksheet



This worksheet allows to perform cash flows calculations that occurs at equal periods over a previously created list. The list is in the form of : cash flow value with a number of consecutive repetitions ( a “**(X,N) List**”).

Cash Flows Actions	
[  List ► ]	Unequal Periods Cash Flows action menu.
New	Opens the “ <b>(X,N) List Editor</b> ” to create a new list.
Edit	Opens the “ <b>(X,N) List Editor</b> ” to edit the current list.
> Load	Shows a menu to load a previously saved list.
Delete	Deletes the current (X,N) List.
[ r % ]	Stores or calculates the “Rate of Return” ( r% ) in percent.
[ NPV ]	Stores or calculates the “Net Present Value” ( NPV ).
[ TOTAL ]	Calculates the total sum of the current list.
[ IRR% ]	Calculates the Internal Rate of Return of the current list in %.
[ NFV ]	Calculates the Net Future Value at r% rate of return.
[ NUS ]	Calculates the Net Uniform Series at r% rate of return.
[ #CFs ]	Calculates the sum of frequencies ( 'N' column ) of the current list.
[ MIRR ]	Calculates the Modified Internal Rate of Return. The investment rate is r% and the risk free rate % is the displayed number.
[ PV(-) ]	Calculates the Present Value of Negative Cash Flows at the displayed number interest rate percent."
[ FV(+) ]	Calculates the Future Value of Positive Cash Flows at the displayed number interest rate percent.

Cash Flows Actions	
[ Factors ]	Show or hide the SPPV, SPFV, USPV and USFV calculation buttons.
[ i % ]	Stores the Interest rate to calculate SPPV, SPFV, USPV and USFV.
[ n ]	Stores the N° of periods to calculate SPPV, SPFV, USPV and USFV.
[ SPPV(i%,n) ]	Single Payment Present Value factor: $SPPV = ( 1 + r\% / 100 )^{-(\#CF's - 1)}$
[ SPFV(i%,n) ]	Single Payment Future Value factor: $SPPV = ( 1 + r\% / 100 )^{-(\#CF's - 1)}$
[ USPV(i%,n) ]	Uniform Series Present Value factor: $USPV = [ 1 - SPPV ] / ( r\% / 100 )$
[ USFV(i%,n) ]	Uniform Series Future Value factor: $USFV = [ SPFV - 1 ] / ( r\% / 100 )$
[ Payback Period ► ]	Shows a menu to choose the type of payback period to calculate (Discounted or Simple).
Discounted	Calculates the Discounted Payback Period (the number of periods required to recover the initial cost of an investment using the present values of the cash flows).
Simple	Calculates the Payback Period (the number of periods required to recover the initial cost of an investment just summing the cash flows).

### Example:

Considering the following cash flow schedule:

Year	Cash Flow	Year	Cash Flow	Year	Cash Flow
0	-79.000	4	10.000	8	9.000
1	14.000	5	10.000	9	4.500
2	11.000	6	9.100	10	100.000
3	10.000	7	9.000		


Create the list for the cash flow schedule and calculate:

1. The Net Present value at 5% rate of return.
2. The rate necessary to obtain a Net Present value of 1000.
3. The Internal rate of return (IRR%).
4. Net Uniform Series (NUS) at 9% rate of return.
5. Net Future Value at 5% rate of return.
6. Cash Flows average value.
7. MIRR at 8% safe rate and 13% investment rate.
8. Present Value of negative cash flows, PV(-), at 5% rate.




9. Future Value of positive cash flows, FV(+), at 13% rate.
10. Payback period and the Discounted Payback period for 13% rate.
11. SPPV, SPFV, USPV and USFV at 9.0% rate.

**Solution:**

First, follow the next sequence to create the list using the “(X,N) List Editor” view.

Keys	Comment
[  List ► ]  New	Show the “(X,N) List Editor” to create de list.
[ Add ] Type 79000 [ + / - ] [ Enter ]	Adds a new list entry. Enters the initial cash flow in the list.
[ Add ] Type 14000 [ Enter ]	Adds a new list entry. Enters the cash flow #1 in the list.
[ Add ] Type 11000 [ Enter ]	Adds a new list entry. Enters the cash flow #2 in the list.
[ Add ] Type 10000 [ Enter ] Type 3 [ Enter ]	Adds a new list entry. Enters the cash flow #3 in the list. Enters the Number of consecutive repetitions.
[ Add ] Type 9100 [ Enter ]	Adds a new list entry. Enters the cash flow #4 in the list.
[ Add ] Type 9000 [ Enter ] Type 2 [ Enter ]	Adds a new list entry. Enters the cash flow #5 in the list. Enters the Number of consecutive repetitions.
[ Add ] Type 4500 [ Enter ]	Adds a new list entry. Enters the cash flow #6 in the list.
[ Add ] Type 100000 [ Enter ]	Adds a new list entry. Enters the cash flow #7 in the list.
[  List ► ]  Name...	Shows a Name entry form to name the list
Type “Help-CF” and [ Done ]	Name the list “Help-CF”
[ Save ]	Save the “Help-CF” list and close the editor

Once the list is created and you are back to the “Equal Periods Cash Flows” worksheet, follow the next sequence to answers all the questions:

Keys	Comment
[  List ► ] > Load  Help-CF	If the “Help-CF” list is not already shown in the “  List ►” button, select the “Help-CF” list from the Load sub-menu.
5 [ r% ] [ NPV ]	1) NPV(r% = 5) => <b>NPV = 52,581.63</b>
1000 [ NPV ] [ r% ]	2) r%(NPV = 1000) => <b>r% = 13.48%</b>
[ IRR ]	3) Internal Rate of Return => <b>IRR = 13.72%</b>
9 [ r% ] [ NUS ]	4) NUS(r% = 9) => <b>NUS = 3,675.34</b>
5 [ r% ] [ NFV ]	5) NFV(r% = 5) => <b>NFV = 85,649.94</b>
In ‘ALG’ or ‘CHN’: [ TOTAL ] [ ÷ ] [ #CFs ] [ = ]  In ‘RPN’ mode: [ TOTAL ] [ #CF’s ] [ ÷ ]	6) Cash Flows Mean. <b>Result = 9,781.82</b>
13 [ r% ] 8 [ MIRR ]	7) Modified Rate of return. <b>MIRR = 13.43%</b>
5 [ PV(-) ]	8) PV(- ) with r% = 5. <b>PV(-) = -79,000.00</b>
13 [ FV(+) ]	9) FV(+) with r% = 13. <b>FV(+) = 278,469.88</b>
5 [ r% ] [ Payback Period ► ] Simple [ Payback Period ► ] Discounted	10) Payback periods: Show the payback menu Calculates the Simple Payback: <b>PB = 7.66</b> Shows the payback menu Calculates the Discounted Payback. <b>DPB = 9.14</b>
[ Factors ] 9 [ i% ] [ SPPV(i%,n) ] [ SPFV(i%,n) ] [ USPV(i%,n) ] [ USFV(i%,n) ]	11) Shows the Factors calculation buttons Enter the interest rate SPPV(9%,10) => <b>SPPV = 0.4224</b> SPFV(9%,10) => <b>SPFV = 2.3674</b> USPV(9%,10) => <b>USPV = 6.4177</b> USFV(9%,10) => <b>USFV = 15.1929</b>