

# The Irish 1990 presidential election, won by Mary Robinson

## "Success" or "failure" for Instant Runoff Voting (IRV)?

by Warren D. Smith, Sept. 2007. (Conclusions [1](#) [2](#) [3](#) [4](#) have pink background.)

1990 Presidential Election - 7th November 1990							
Electorate: 2,471,303		Turnout: 64.10%		Total #Voters: 1,584,095		Quota: 787,326	
Candidate	Party	1st Preference	%	Transfer of Currie's vote	%	Final Result	%
Mary Robinson	Labour	<b>612,265</b>	38.89	+205,565	76.73	<b>817,830</b>	52.79 <b>wins</b>
Brian Lenihan	Fianna Fail	<b>694,484</b>	44.10	+36,789	13.73	<b>731,273</b>	47.21
Austin Currie	Fine Gael	<b>267,902</b>	17.01	-267,902		-----	
<b>Non-transferable votes</b>				25,548	9.54		
<b>Totals</b>		1,574,651	100.00			1,549,103	100.00

[This election](#) is often cited by [IRV](#) proponents as an example of a great success for IRV. But let us examine it. It turns out that *despite* the very-partial report above from the Irish Election authority, we still can discern pathologies.

### "Participation failure" pathology (& also "favorite-betrayal" failure)

Suppose we magically added a new "Currie County" to Ireland comprising 344,364 *new identical voters*, each voting Currie>Robinson>Lenihan. [This is fairly realistic, since Currie-top voters did in fact prefer Robinson over Lenihan by a 6:1 ratio; the Currie votes split (77%, 14%, 9%) for (R, L, untransferable).]

Then Robinson would have been eliminated in round 1.

Let us assume that the Robinson votes would have transferred

( $\leq 52$ ,  $\geq 39$ , 9)% to (Currie, Lenihan, untransferable),

or let us merely assume that those numbers were only (upper, lower, equal) bounds, respectively, as I've indicated with the " $\leq$ " and " $\geq$ " signs. This also is realistic.

**Irish politics interlude** [from Irishman Ivan Ryan]:

Lenihan was the subject of a controversy, so it is reasonable to assume that his support was substantially party based (core FF voters are probably in the region of 35-40%... perhaps less so now). An FF-core voter would likely vote against an FG candidate. The flip side of this was seen when the FG candidate (Currie) was eliminated; 77% voted 2nd choice against FF.

However, FG/Labour have closer ties than FF/Labour as FG has no hope of forming a

government without Labour. FF on the other hand has a realistic chance of forming a government with the support of either smaller parties (or Labour). So there probably would be at least a 2-1 split in FG second-place votes in favour of Robinson. [End of Ryan quote]

Finally, Lenihan was considerably more popular than Currie as we see from both the vote and a poll in the 10 October *Irish Times* indicating FF-over-FG support by about 49% to 24%. Hence the majority of Robinson's 2nd-preference votes probably would have gone to Lenihan.

So this ( $\leq 52$ ,  $\geq 39$ , 9) assumption seems quite plausibly realistic. It is actually probable Lenihan would get considerably more than 39% of Robinson transfers, so our assumption seems quite comfortably satisfied.

OK. Under this assumption, the first round totals

Currie	612266	would have become after	Currie	$\leq 930644$
Lenihan	694484	the Robinson-transfers	Lenihan	$\geq 933267$ (wins)
				untransferable=dumped=61227.

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**Conclusion:** In this case the new Currie voters would have made a *big mistake* by voting honestly, since their Lenihan-last votes would have made the hated Lenihan win. They would have been better off "staying home" and not voting (as, in fact, they did) or better off "betraying" their favorite Currie and voting Robinson top instead (as, in fact, considerable numbers of them perhaps did). This election thus had (what voting theorists call) a "**no-show paradox**."

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## Monotonicity failure and/or Favorite-betrayal failure

Consider the 694,484 Lenihan voters. Some voted Lenihan>Robinson>Currie; others voted Lenihan>Currie>Robinson. *Suppose* that 344,364 (i.e. 49.6%) of them had voted the latter way.

**Warning:** This is not a very realistic assumption. As we said, most FF voters would be inclined against FG, so assuming this many Lenihan voters has chosen FG second, is unlikely. Nevertheless, let us explore the consequences of this assumption, then only later [re-examine](#) the assumption itself.

Then those 344,364 voters would have been *foolish* to have thus-voted honestly since (as the official election results show) that caused the hated Robinson to win. If they had instead *strategically betrayed* their favorite Lenihan to instead vote Currie top, then

1. Lenihan would have been eliminated in round 1 whereupon
2. Currie would have won, which these voters (either way) would have preferred.
3. Indeed – assuming (now entirely realistically) that the Robinson voters would have 2nd-choiced Lenihan more often than Currie – then (in a situation just like this but featuring enough extra Currie voters so that fewer Lenihan voters had to be dishonest) their favorite *Lenihan* would have *won!*

So this election is an example of **favorite-betrayal failure**: under our assumption about the composition of Lenihan voters, the act of honestly voting for their favorite (Lenihan) was a stupid mistake that caused their most-hated candidate (Robinson) to win. Smarter was to dishonestly vote Currie.

**But it gets crazier.** The altered-version of this election with 612264 Currie voters (the extras added from "Currie County") would have been an example of **monotonicity-failure**:

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**Conclusion:** These 344,364 Lenihan voters actually made Lenihan+Currie lose by voting for them and would have made Currie win [which they preferred over what happened] by strategically voting against Lenihan. Further, in the altered-election with extra (in total 612264 due to 344362 from a "new County") Currie voters (which Lenihan still wins), if anywhere between 2 and 82221 Lenihan voters (in percentage terms 0-12% of them) choose to vote strategically for Currie instead of Lenihan, that actually would have made *Lenihan* win!

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**Re-examination:** Note in the altered election it *doesn't matter* whether our 49.6%-assumption was unrealistic. The fact is, *whether or not* it was valid, 12% of Lenihan's supporters *still* could have made Lenihan win by instead voting for Currie. They would have been strategically stupid to all vote for Lenihan. That's just a fact.

## What kind of pathology was that last one, anyhow?

It seems clearest to regard this election as suffering from a *hybrid* form of the "non-monotonicity" ([type-II](#)) and "no-show" paradoxes. Specifically, if

- (a) 344362 new "Currie>Robinson>Lenihan" voters had appeared *and*
- (b) 2-to-82221 Lenihan-top voters had switched to Currie-top  
(the non-top parts of their votes don't matter, so we can if we want make them switch from "Lenihan>Currie>Robinson" to "Currie>Robinson>Lenihan"),  
leaving everything else unchanged, that would have made Lenihan win.

The (a) part is the no-show component of the paradox, and the (b) part is the non-monotonicity.

We therefore are *certain* that either this election yielded the wrong winner (Robinson) or that the thus-modified election would have yielded the wrong winner (Lenihan) or both.

## Conclusion

In the whole of (central govt, i.e. not counting lower level such as county and town, elections) Irish history so far (up to 2007) there has only been a single IRV election in which the winner differed from the plain-plurality winner, i.e. in which the Irish use of IRV vote-transfers actually directly *mattered*.

This (1990) was it. (And actually, Irish mayors are not directly elected and nor are county heads, so it may be that the President is the *only* IRV-elected post in the country at any level of government, in which case this is the only IRV election where IRV made a difference in all of Irish history.)

In this single example of Irish IRV success, the election exhibited several pathologies. Lenihan could quite justifiably have complained (if he had realized this!) that he deserved to win:

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1. If a whole new county had magically appeared with 344364 new voters, all of them supporting my most-hated rival and ranking me in last place... then I would have won!
  2. If (in *addition* to having that new county now packed with 344362 Currie supporters) 12% of *my* supporters had switched their vote to my most-hated rival Currie while ranking me *last* – then I would have won! (Although: *without* my supporters switching over to Currie in this way, I would have lost?!?!)
  3. So why the heck didn't I win?
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Mind you, we aren't complaining that Robinson won. That [worked out well](#) for Ireland. We are complaining that IRV malfunctioned, or at least, that its legitimacy was dubious in this case. If [approval](#) or [range](#) voting had been used, there would have been no such dubiousness; we believe Robinson would have clearly won (or perhaps Lenihan?), *and* definitely, none of these three pathologies are even *possible* with approval and range.

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January 2008: I thank Phil McKenna for pointing out an error in an earlier version of this page. It has now, hopefully, been corrected.

[Analogous look at Australia's 2007 election cycle](#)

[Puzzle 55d: the presumed underlying theoretical reason this pathology is so common](#)

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