

Future improvements in yield evaluation

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Status: new yield model

- not yet taken into use
- some problems unsolved
 - large changes for some cows
 - cows with high or low protein/fat content TDs
 - problems with covariance functions in explaining some parts of the lactation?

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Changes in the new model

- revised genetic parameters
- revised variance adjustment across time/herds/countries
- slightly revised model (herd effect)

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Genetic parameters re-estimated

- **HOL**
 - **DNK, SWE**
- **RDC**
 - **FIN, SWE, DNK**
- **JER**
 - **DNK**
- **No big differences across countries within breeds -> same parameters used for all countries**

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Changes in heritabilities

- **increased heritability means**
 - **more weight on cow's own record**
 - **less weight on pedigree**
 - **increased reliability**

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Changes in heritabilities (%)

trait	RDC			HOL			JER
	DNK	FIN	SWE	DNK	FIN	SWE	DNK
milk1	7,3	15,8	7,3	-4,8	5,3	-4,8	-15,2
milk2	22,9	65,4	22,9	0,0	34,6	0,0	-15,0
milk3	4,9	59,3	4,9	5,5	5,6	5,5	-18,9
protein1	37,5	10,0	37,5	0,0	-3,3	0,0	-6,9
protein2	66,7	66,7	66,7	0,0	8,7	0,0	4,0
protein3	21,4	30,8	21,4	3,4	1,1	3,4	0,0
fat1	70,0	17,2	70,0	6,9	-3,3	6,9	-24,1
fat2	89,5	71,4	89,5	7,4	17,4	7,4	-20,0
fat3	44,0	63,6	44,0	0,0	20,8	0,0	-20,0
milk123	17,5	23,7	17,5	2,2	12,5	2,2	-4,5
protein123	34,3	80,8	34,3	0,0	30,0	0,0	11,4
fat123	14,3	65,5	14,3	2,3	33,0	2,3	-5,3

Variance adjustment across countries

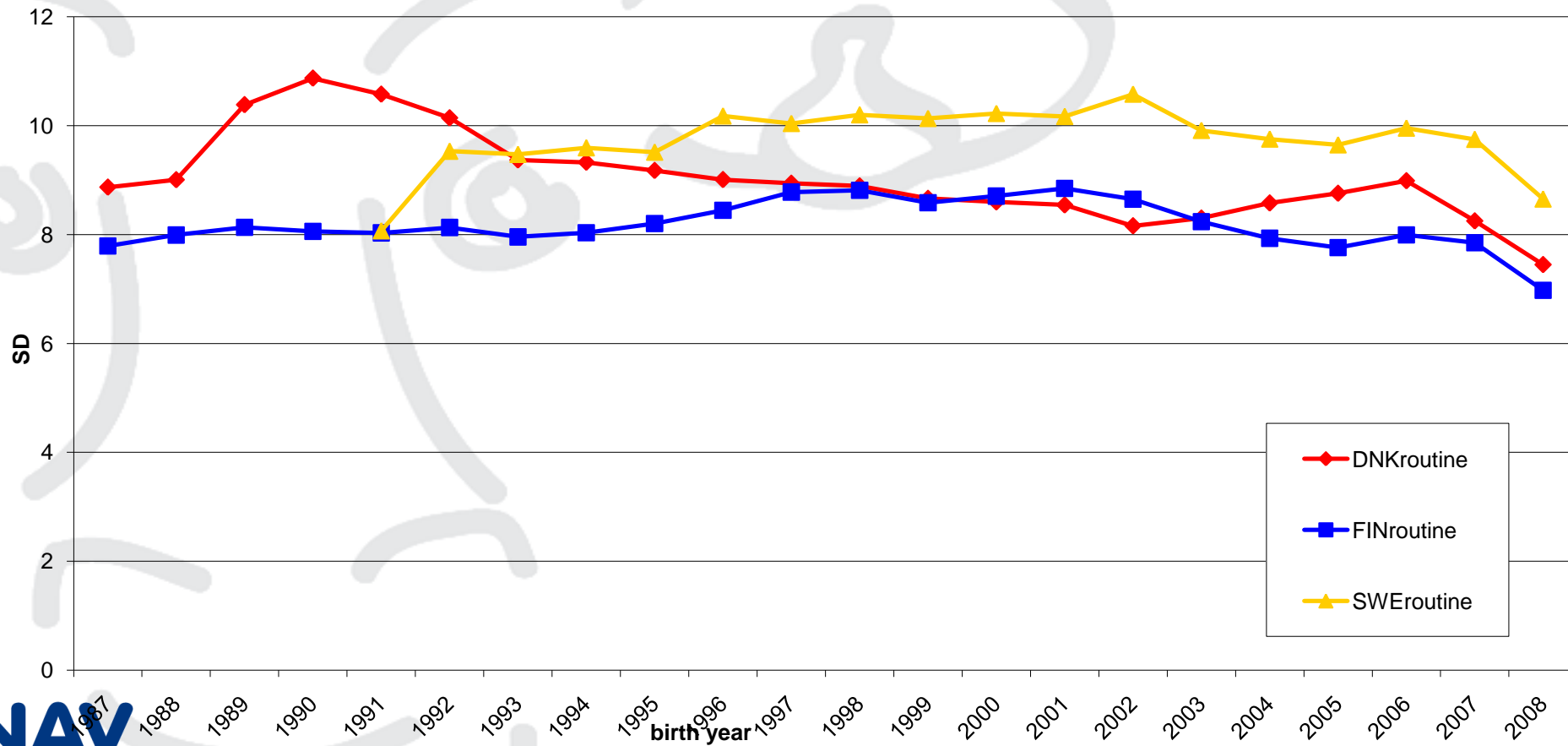
- currently based on bulls
 - differences across countries for cows
 - variance for SWE cows higher than DNK and FIN
 - SWE cows "over-presented" in top lists
- in future adjustment is based on cows
 - variances much more similar across countries
 - changes in top lists of cows

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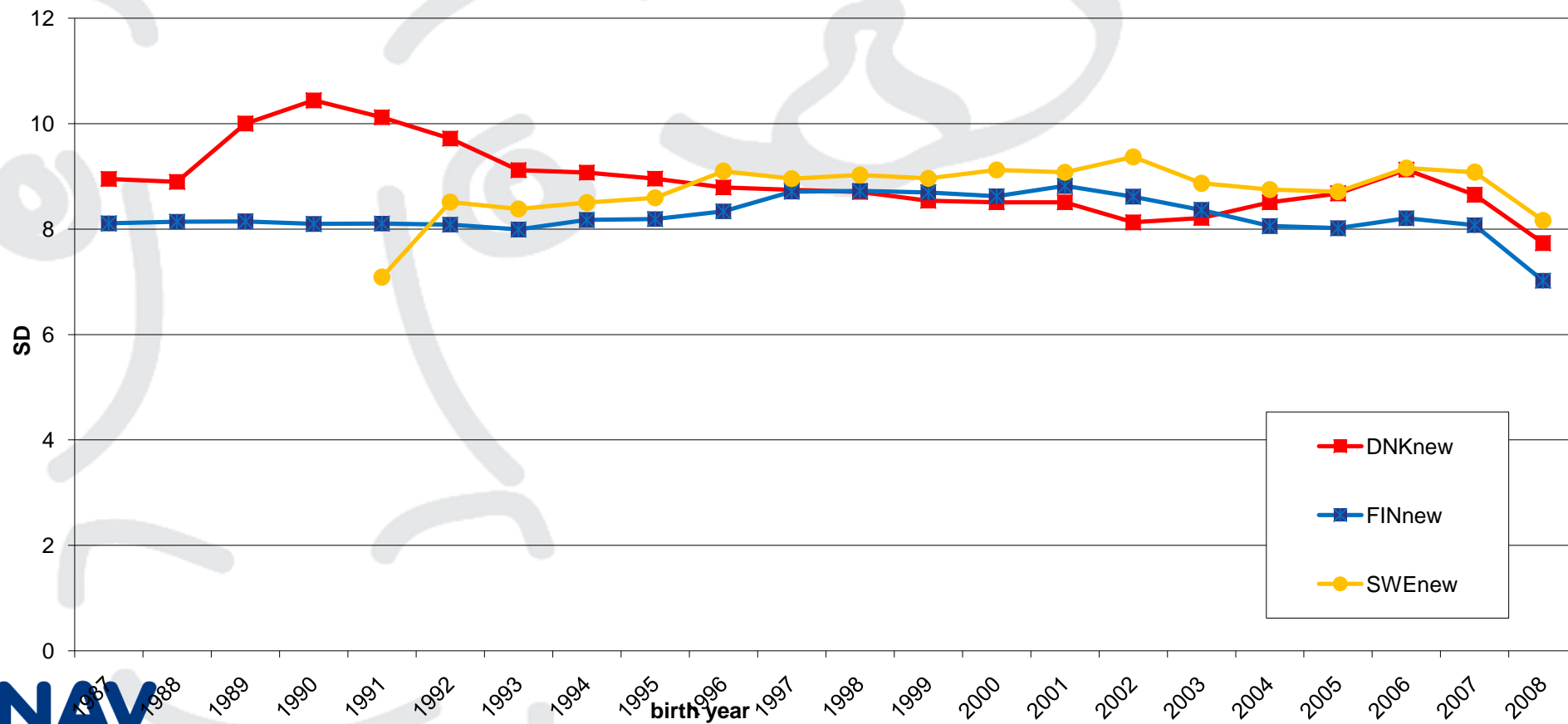
SD of yield index in **current** model

HOL cows



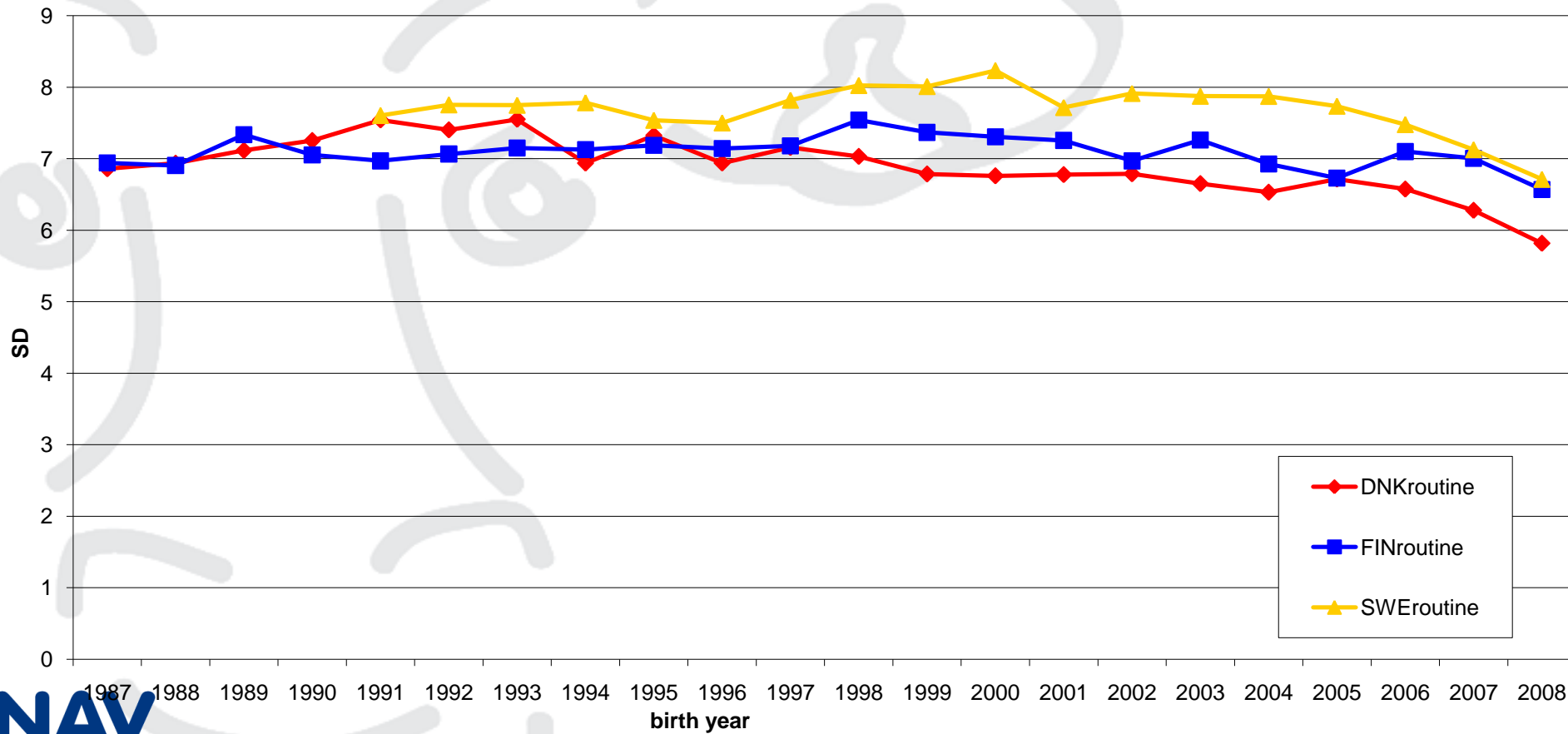
SD of yield index in **new** model

HOL cows



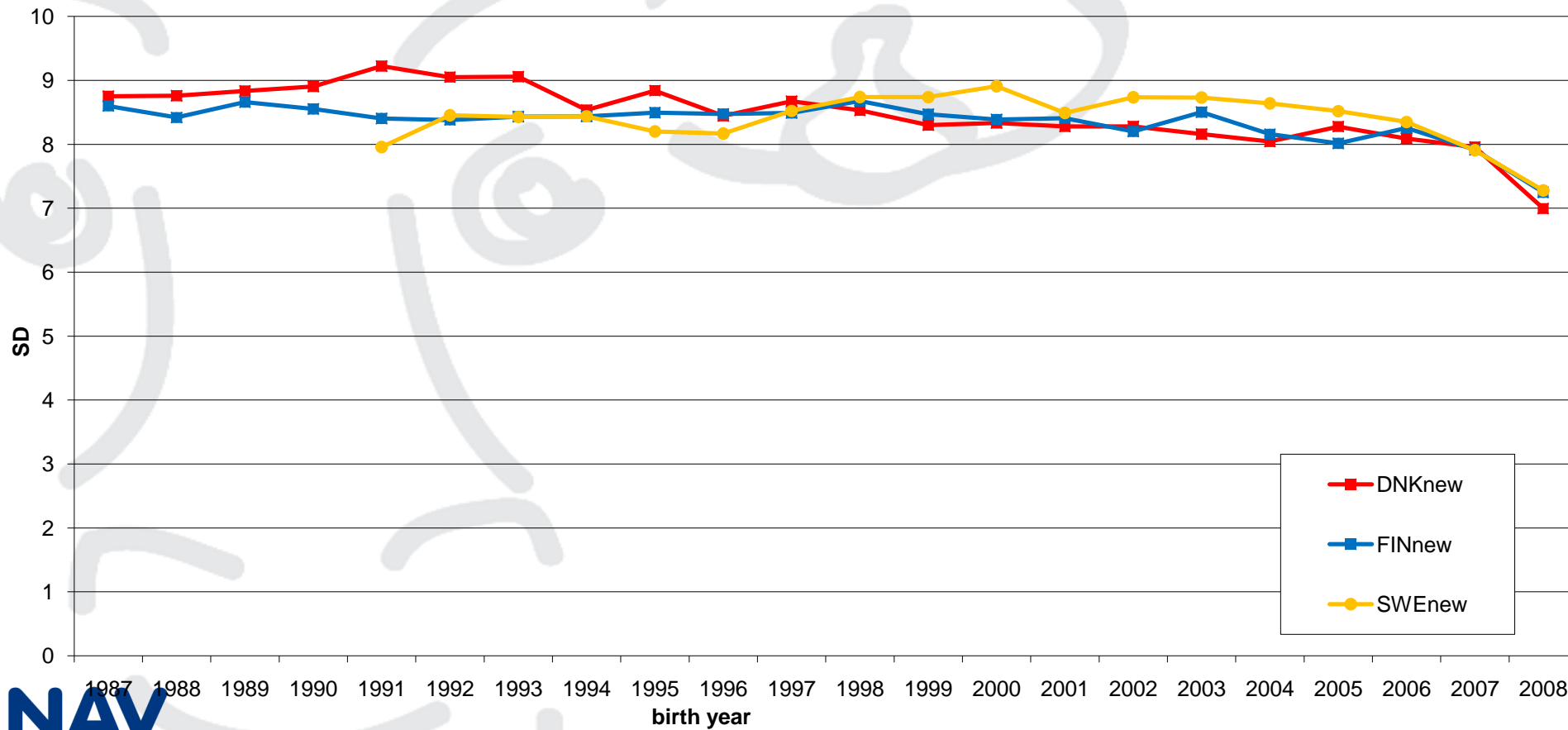
SD of yield index in **current** model

RDC cows



SD of yield index in **new** model

RDC cows



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Cows in top1000 list in yield index

	HOL			RDC		
	DNK	FIN	SWE	DNK	FIN	SWE
current model	692	21	282	115	395	490
new model	813	34	148	134	599	267

Notice! Changes in top lists of yield means changes in toplists of NTM, but to a minor degree than for yield – yield is only a part of NTM!

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Implementation of new model?

- NAV is working hard to identify and correct the problems
- the new model will be implemented as soon as possible
 - risk that it needs to be submitted to Interbull test run
 - next possibility September 2011, after that January 2012

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