FX_PERTURB_LOGN Perturb Parameter with Logn Scalar

back to Fan's Intro Math for Econ, Matlab Examples, or Dynamic Asset Repositories

This is the example vignette for function: **ff_perturb_logn** from the **MEconTools Package.** This function randomly perturb some existing parameter. See Randomly Perturb Some Parameter Value with Varying Magnitudes.

Test FX_PERTURB_LOGN Defaults

Call the function with defaults.

```
ff_perturb_logn();
```

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xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
CONTAINER NAME: mp_container_map Scalars
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
                        i    idx     value
                        _    ___    _______

    ar_logn_sd          1     1     0.20534
    fl_draw_znorm       2     2      -0.343
    logn_coef_of_var    3     3       24.35
    param_original      4     4           5
    param_perturbed     5     5      4.9296
    scaler_0t1          6     6      0.1008
```

Test FX_PERTURB_LOGN with Different Draws and How much to Perturb

Call the function with defaults.

```
% Collect
mp_container_map = containers.Map('KeyType','char', 'ValueType','any');
% Loop over different scalars
param_original = 5;
ar_scaler_0t1 = linspace(0,1,11);
it_scalar_ctr = 0;
for scaler_0t1=ar_scaler_0t1
    it_scalar_ctr = it_scalar_ctr + 1;
    % Generate differently perturbed parameters
    ar_param_perturbed = NaN(1,5000);
    for it_rand_seed=1:5000
        param_perturbed = ff_perturb_logn(param_original, it_rand_seed, scaler_0t1);
        ar_param_perturbed(it_rand_seed) = param_perturbed;
    end
    % Collect
    mp_container_map(['PERTURB_SCALAR_' num2str(scaler_0t1)]) = ar_param_perturbed;
end
% Display
ff_container_map_display(mp_container_map);
```

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xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
CONTAINER NAME: mp_container_map ND Array (Matrix etc)
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

	i	idx	ndim	numel	rowN	colN	sum	mean	std	coef
PERTURB_SCALAR_0	1	1	2	5000	1	5000	25000	4.9999	0.0022357	0.000
PERTURB_SCALAR_0_1	2	2	2	5000	1	5000	24963	4.9926	0.20802	0.0
PERTURB_SCALAR_0_2	3	3	2	5000	1	5000	24889	4.9779	0.62106	0.
PERTURB_SCALAR_0_3	4	4	2	5000	1	5000	24756	4.9512	1.3692	0.
PERTURB_SCALAR_0_4	5	5	2	5000	1	5000	24521	4.9041	2.6921	0.
PERTURB_SCALAR_0_5	6	6	2	5000	1	5000	24098	4.8196	5.0651	1
PERTURB_SCALAR_0_6	7	7	2	5000	1	5000	23303	4.6606	9.5301	2
PERTURB_SCALAR_0_7	8	8	2	5000	1	5000	21664	4.3328	18.737	4
PERTURB_SCALAR_0_8	9	9	2	5000	1	5000	17645	3.529	41.309	1
PERTURB_SCALAR_0_9	10	10	2	5000	1	5000	3041.2	0.60824	123.33	2
PERTURB_SCALAR_1	11	11	2	5000	1	5000	-2.0181e+06	-403.62	11475	-2