In [2]:

```
from IPython.display import Image
```

Who's dispersing and when

To see how the dispersal wave changes over a course of one run we scaled down on the variables plotted:

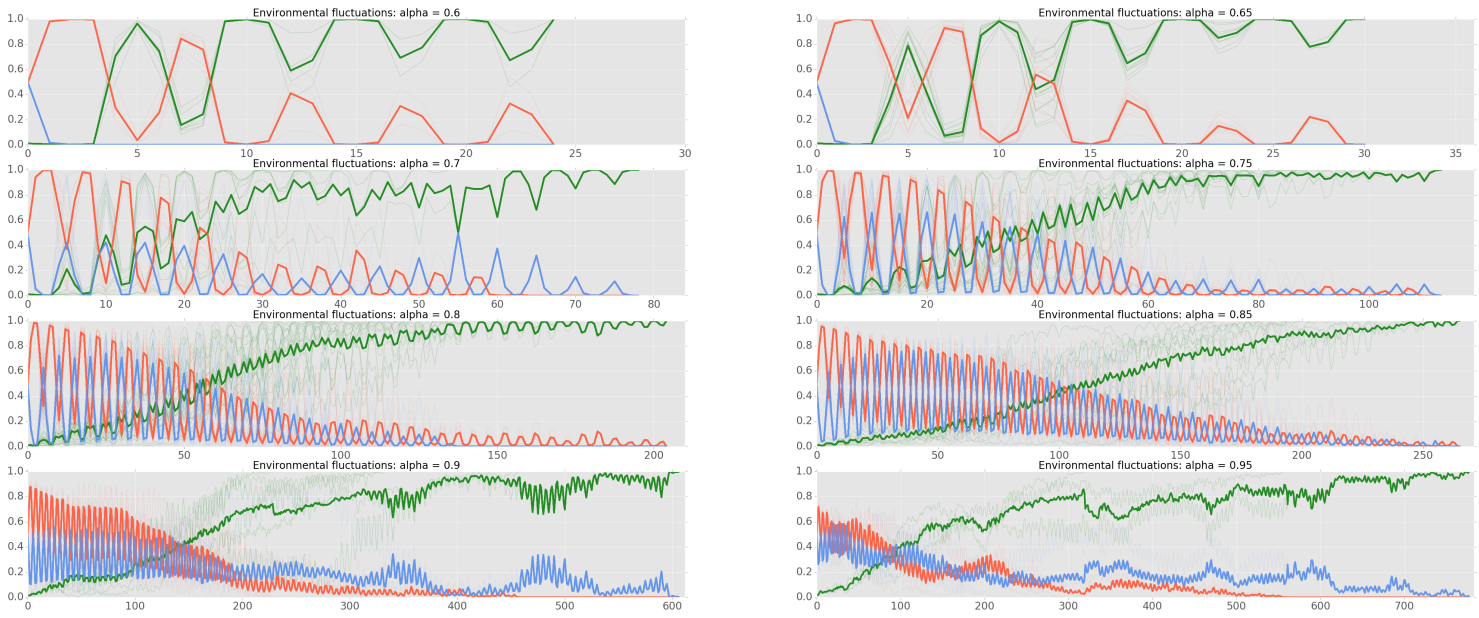
- middle value of the fitness booster
- all values for the environmental fluctuations

POPULATION CHANGES

In [1]:

```
from IPython.display import Image
Image(filename='/Users/iar1g09/Dropbox/IZA/PHD/case_studies/variability_case_study/change_pop_all.png')
```

Out[1]:



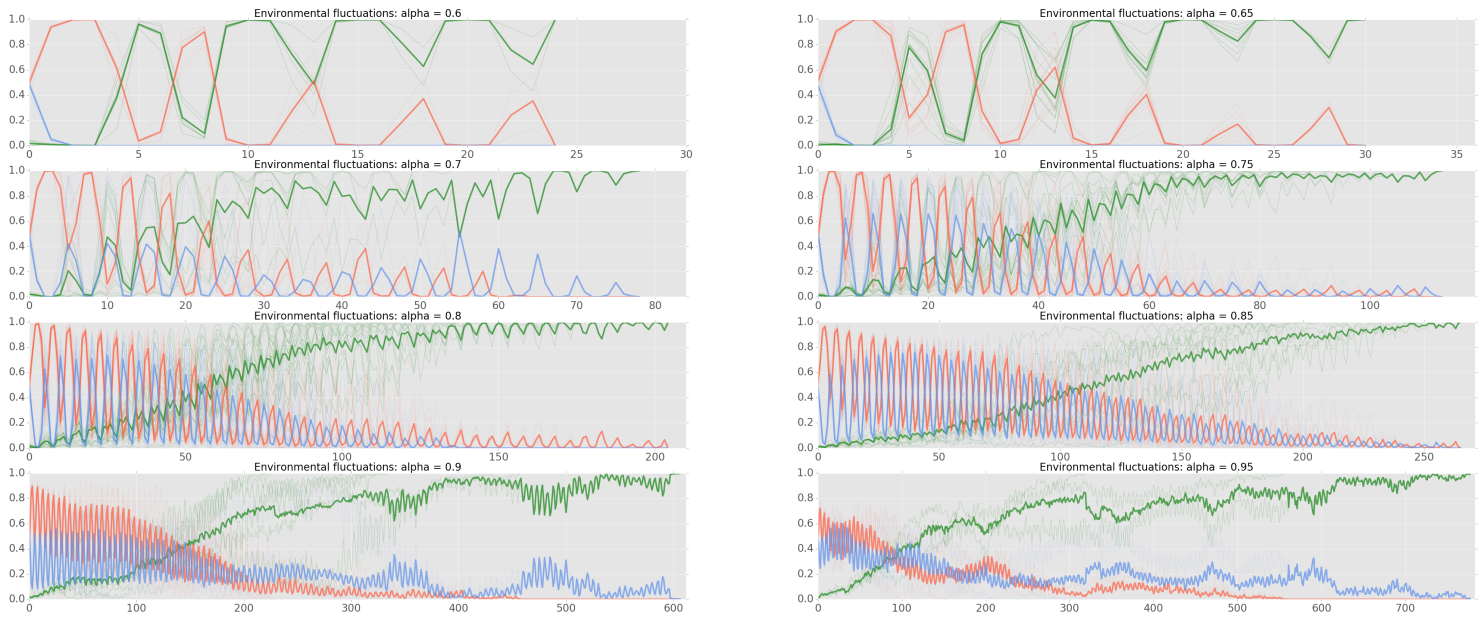
MIGRATION CHANGES IN THE DISPERSING WAVE

This scenario is set up in such a way that the probability of migrating is inversly correlated with the fitness. That is the weakest agents migrate.

In [4]:

```
Image(filename='/Users/iar1g09/Dropbox/IZA/PHD/case_studies/variability_case_study/change_migr_all_k5.png')
```

Out[4]:

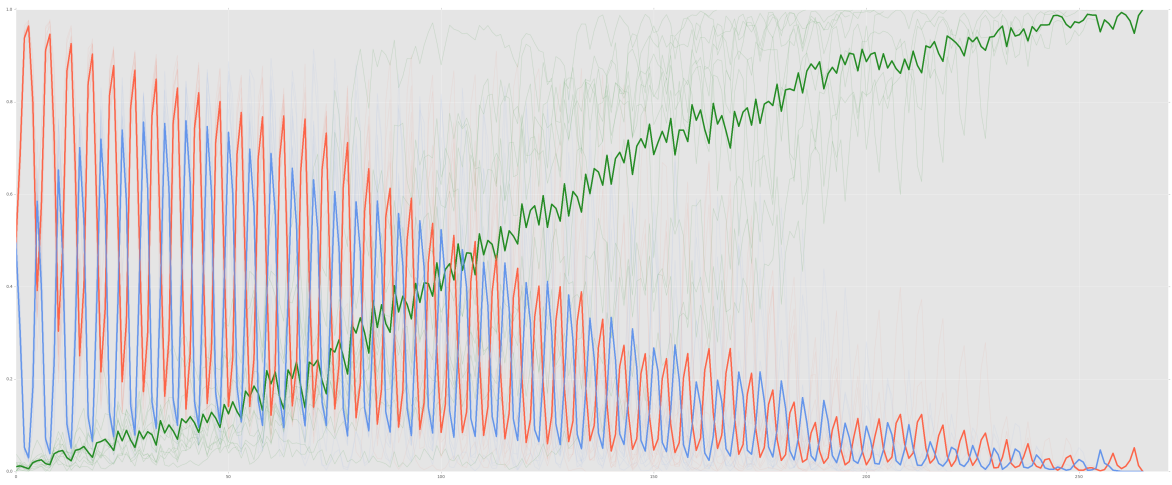


Let's zoom in. This is a graph of the migration during moderately strong environmental fluctuations.

In [5]:

```
Image(filename='/Users/iar1g09/Dropbox/IZA/PHD/case_studies/variability_case_study/change_migr0.85.png')
```

Out[5]:

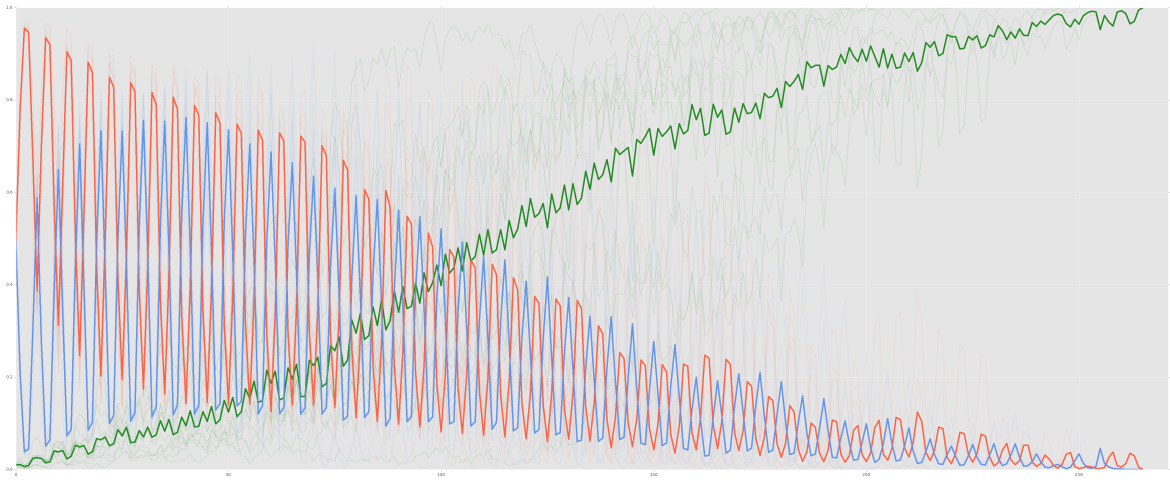


It obviously closely mirrors the population graph. Although there are some differences in the shape when you look at the transition periods.

In [6]:

```
Image(filename='/Users/iar1g09/Dropbox/IZA/PHD/case_studies/variability_case_study/change_pop0.85.png')
```

Out[6]:

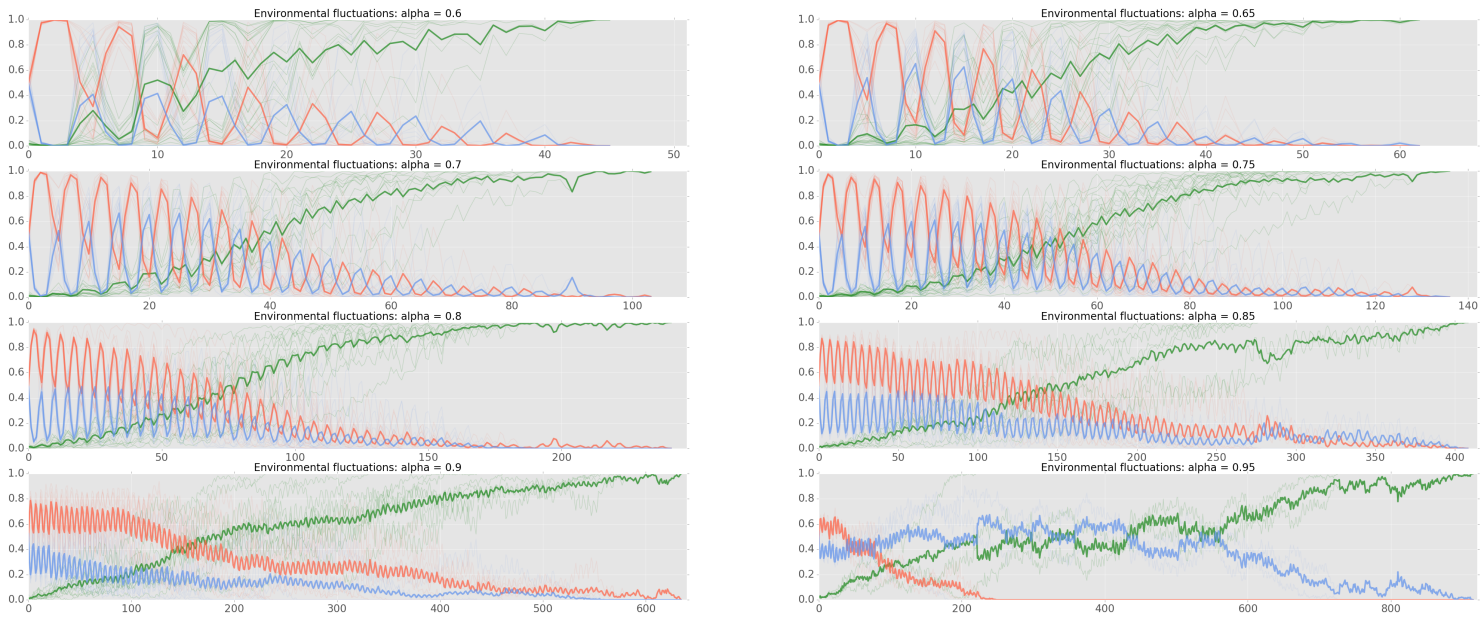


This scenario is set up in such a way that the probability of migrating is directly correlated with the fitness. That is the strongest agents migrate.

In [5]:

```
Image(filename='/Users/iar1g09/Dropbox/IZA/PHD/case_studies/variability_case_study/change_migr_all_k-5.png')
```

Out[5]:

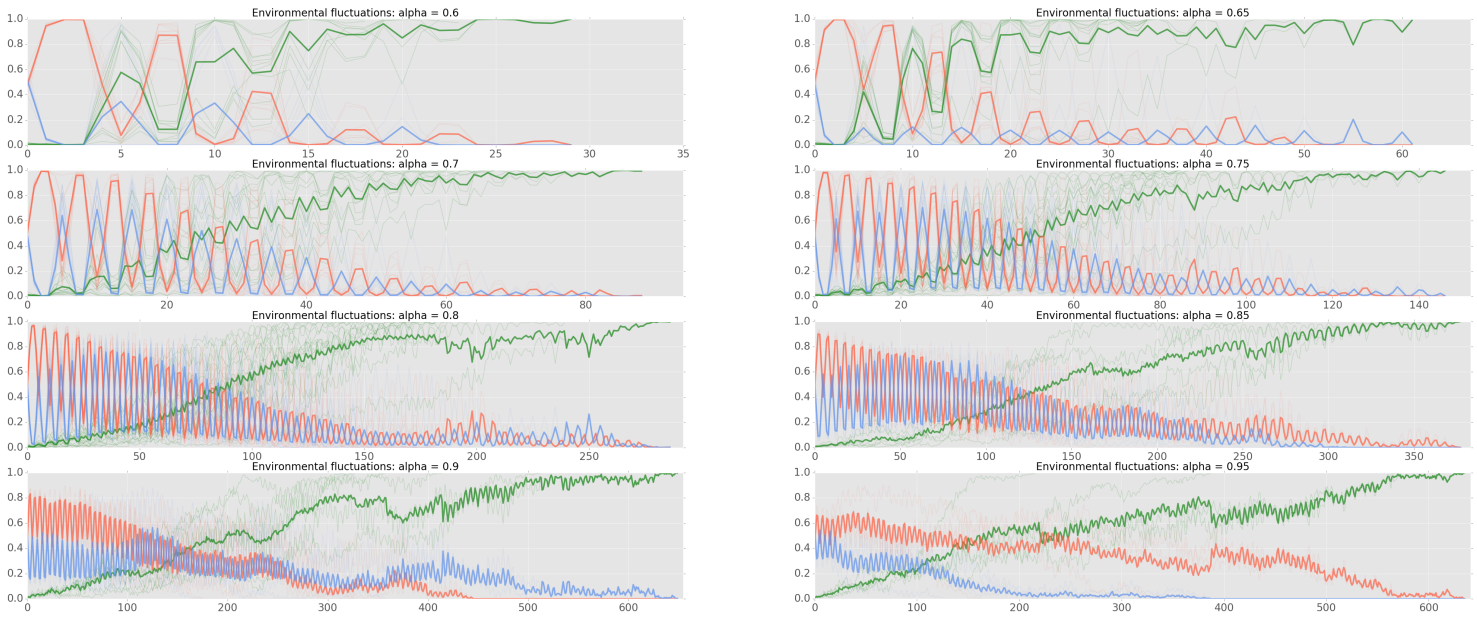


This scenario is set up in such a way that the probability of migrating is NOT correlated with the fitness. That is the random agents migrate.

In [6]:

```
Image(filename='/Users/iar1g09/Dropbox/IZA/PHD/case_studies/variability_case_study/change_migr_all_random.png')
```

Out[6]:



MIGRATION: CHANGES IN THE DISPERSING WAVE AS A PROPORTION OF POPULATION

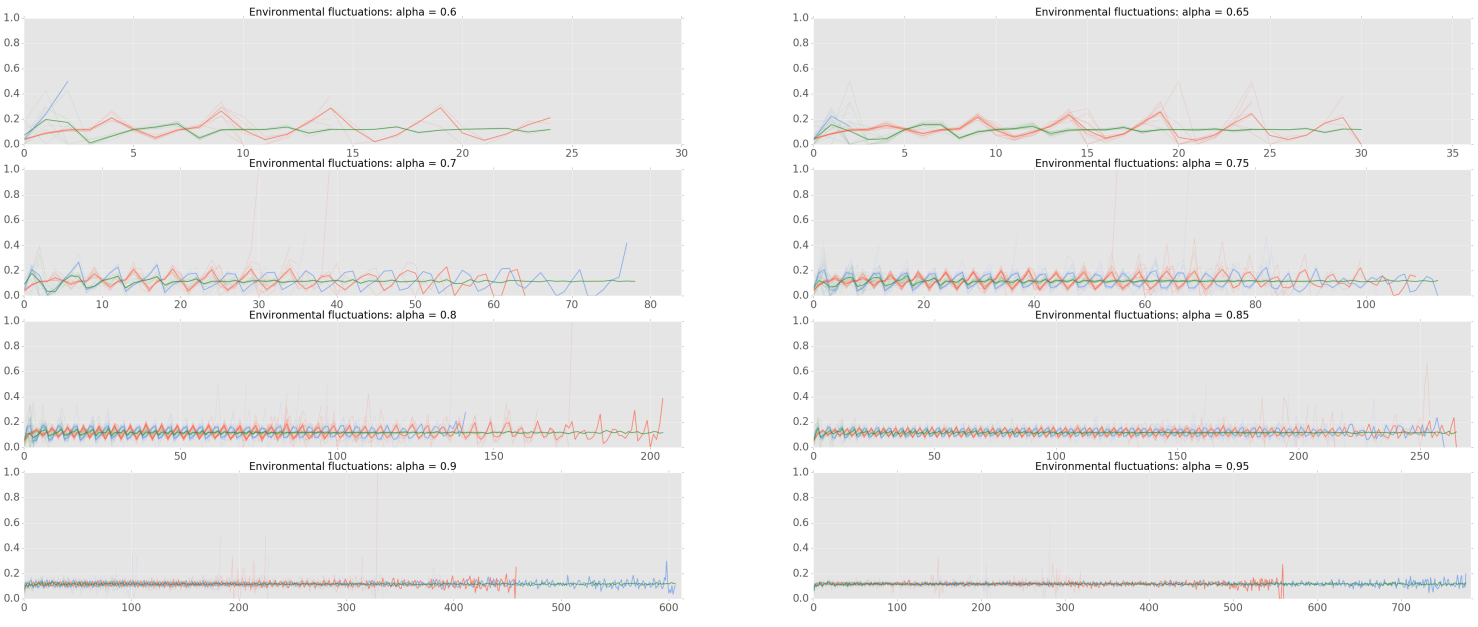
Now let's look at the relative migration. So, what proportion of the population with a given gene migrated.

1. weakest agents migrate.

In [9]:

```
Image(filename='/Users/iar1g09/Dropbox/IZA/PHD/case_studies/variability_case_study/change_relative_all_k5.png')
```

Out[9]:

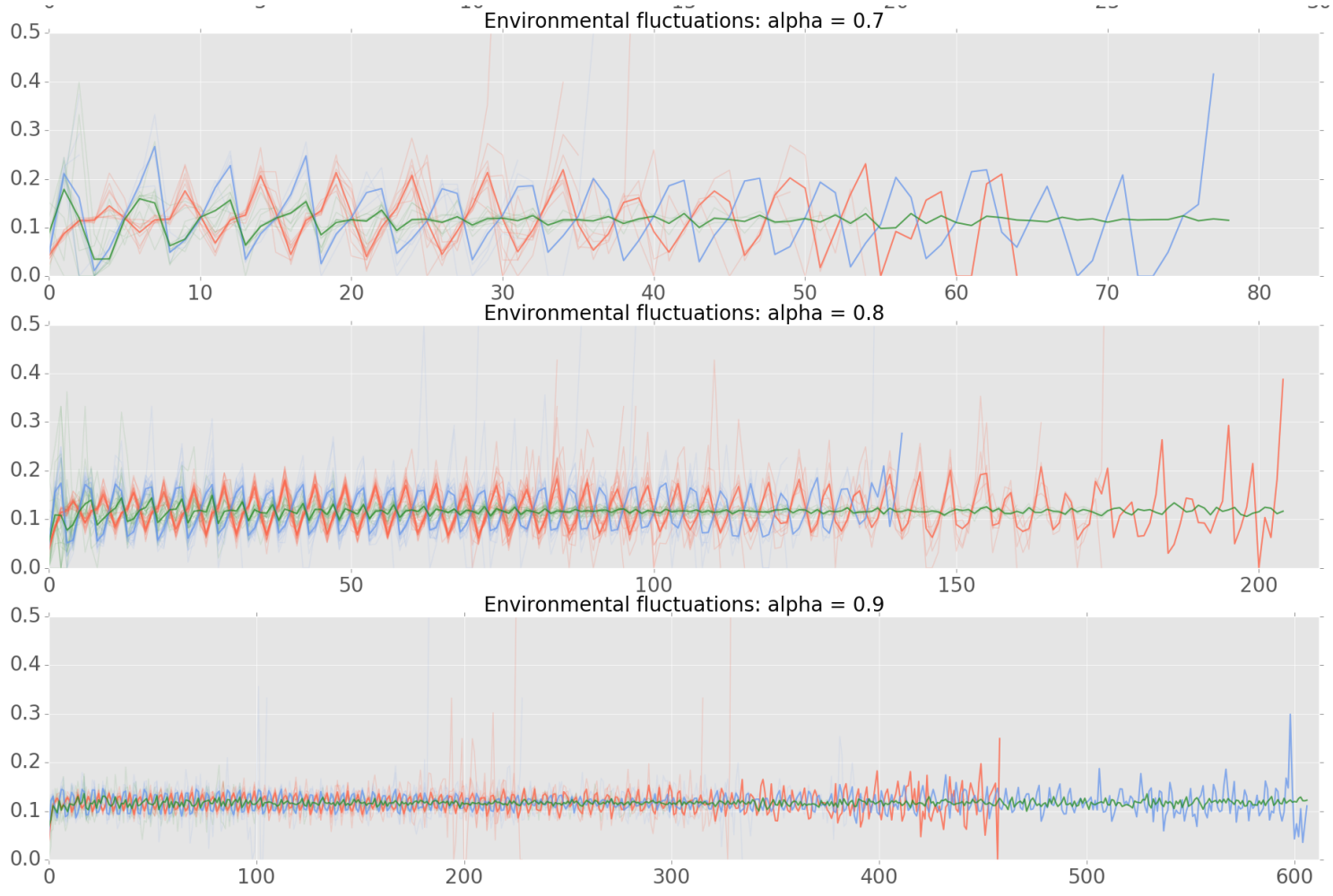


And let's zoom in.

In [15]:

```
Image(filename='/Users/iar1g09/Dropbox/IZA/PHD/case_studies/variability_case_study/change_relative_all_k5_cropped.png')
```

Out[15]:

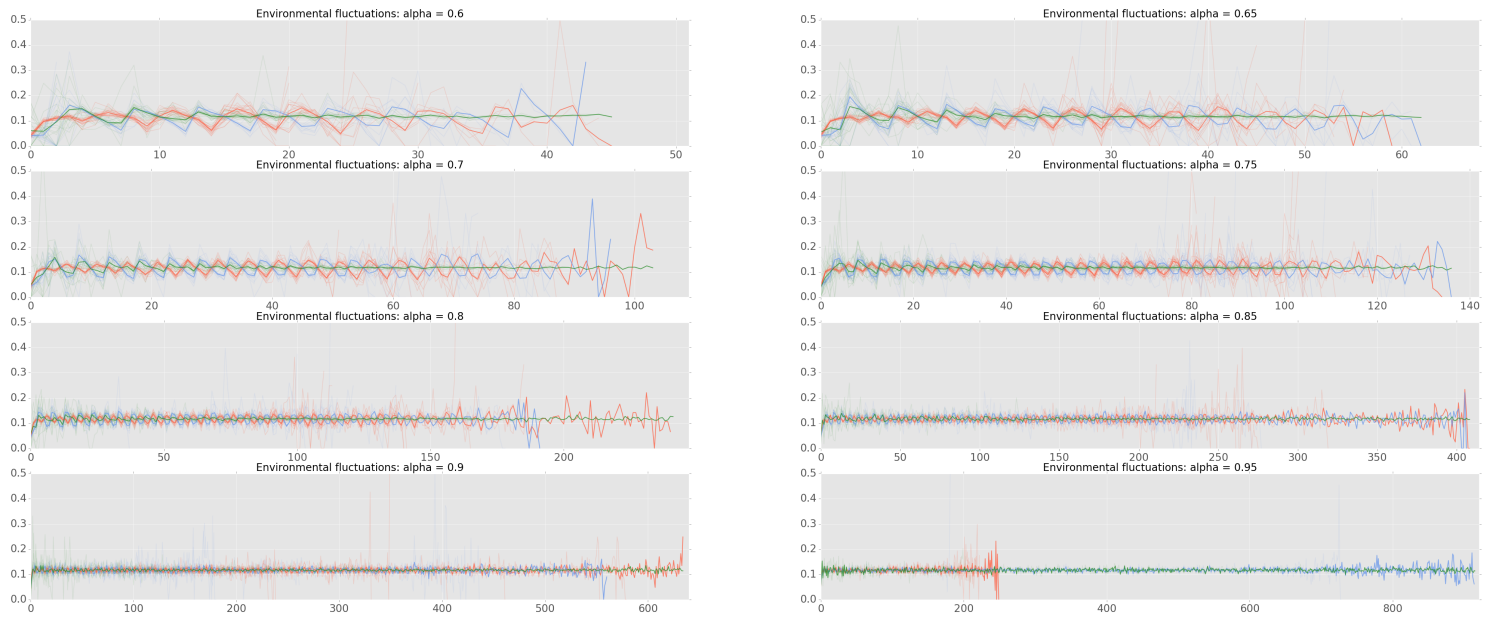


2. strongest agents migrate.

In [12]:

```
Image(filename='/Users/iar1g09/Dropbox/IZA/PHD/case_studies/variability_case_study/change_relative_all_k-5.png')
```

Out[12]:

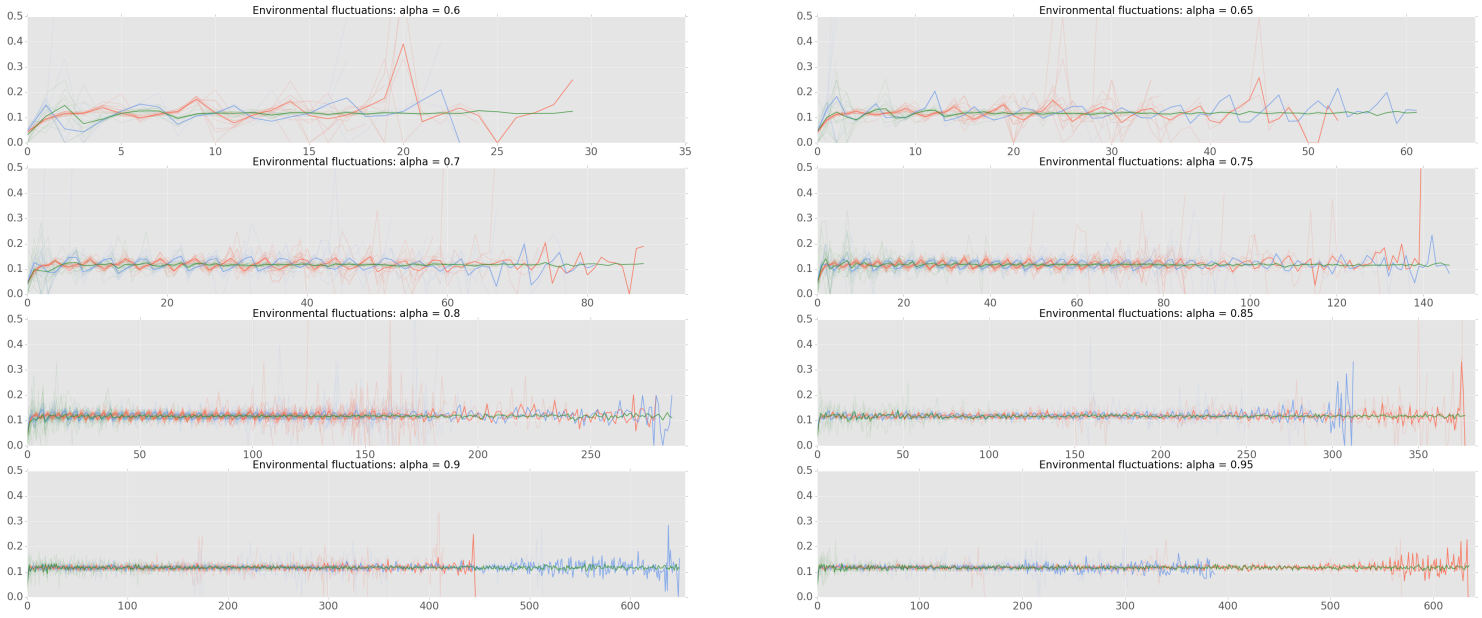


3. random agents migrate.

In [14]:

```
Image(filename='/Users/iar1g09/Dropbox/IZA/PHD/case_studies/variability_case_study/change_relative_all_random.png')
```

Out[14]:



In [ ]:

```

```